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INTERNATIONAL TELECOMMUNICATION UNION

CCITT

THE INTERNATIONAL
TELEGRAPH AND TELEPHONE
CONSULTATIVE COMMITTEE

YELLOW BOOK

VOLUME II - FASCICLE II.1

GENERAL TARIFF PRINCIPLES CHARGING AND ACCOUNTING IN INTERNATIONAL TELECOMMUNICATIONS SERVICES

RECOMMENDATIONS OF THE D SERIES



VIITH PLENARY ASSEMBLY
GENEVA, 10-21 NOVEMBER 1980

Geneva 1981

Corrigendum to Fascicle II.1 of the Yellow Book

1. Recommendation D.300 R, p.160, 26th and 27th lines should read:

— for the semiautomatic or automatic exchange in the country of
destination..... 12 gold centimes^{b)}

2. Recommendation D.310 R, p. 188, 8th line should read:

tions D.1, D.2 and D.4, fixes the rentals for the lease of international sound- and television-programme circuits for



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CONTENTS OF THE CCITT BOOK
APPLICABLE AFTER THE SEVENTH PLENARY ASSEMBLY (1980)

YELLOW BOOK

- Volume I**
- Minutes and reports of the Plenary Assembly.
 - Opinions and Resolutions.
 - Recommendations on:
 - the organization and working procedures of the CCITT (Series A);
 - means of expression (Series B);
 - general telecommunication statistics (Series C).
 - List of Study Groups and Questions under study.

Volume II

- FASCICLE II.1 – General tariff principles – Charging and accounting in international telecommunications services. Serie D Recommendations (Study Group III).
- FASCICLE II.2 – International telephone service – Operation. Recommendation E.100 - E.323 (Study Group II).
- FASCICLE II.3 – International telephone service – Network management – Traffic engineering. Recommendations E.401 - E.543 (Study Group II).
- FASCICLE II.4 – Telegraph and “telematic services”¹⁾ operations and tariffs. Series F Recommendations (Study Group I).

Volume III

- FASCICLE III.1 – General characteristics of international telephone connections and circuits. Recommendations G.101 - G.171 (Study Group XV, XVI, CMBD).
- FASCICLE III.2 – International analogue carrier systems. Transmission media – characteristics. Recommendations G.211 - G.651 (Study Group XV, CMBD).
- FASCICLE III.3 – Digital networks – transmission systems and multiplexing equipments. Recommendations G.701 - G.941 (Study Group XVIII).
- FASCICLE III.4 – Line transmission of non telephone signals. Transmission of sound programme and television signals. Series H, J Recommendations (Study Group XV).

Volume IV

- FASCICLE IV.1 – Maintenance; general principles, international carrier systems, international telephone circuits. Recommendations M.10 - M.761 (Study Group IV).
- FASCICLE IV.2 – Maintenance; international voice frequency telegraphy and facsimile, international leased circuits. Recommendations M.800 - M.1235 (Study Group IV).
- FASCICLE IV.3 – Maintenance; international sound programme and television transmission circuits. Series N Recommendations (Study Group IV).
- FASCICLE IV.4 – Specifications of measuring equipment. Series O Recommendations (Study Group IV).

¹⁾ “Telematic services” is used provisionally.

Volume V – Telephone transmission quality. Series P Recommendations (Study Group XII).

Volume VI

- FASCICLE VI.1 – General Recommendations on telephone switching and signalling. Interface with the maritime service. Recommendations Q.1 - Q.118 *bis* (Study Group XI).
- FASCICLE VI.2 – Specifications of signalling systems Nos. 4 and 5. Recommendations Q.120 - Q.180 (Study Group XI).
- FASCICLE VI.3 – Specifications of signalling system No. 6. Recommendations Q.251 - Q.300 (Study Group XI).
- FASCICLE VI.4 – Specifications of signalling systems R1 and R2. Recommendations Q.310 - Q.480 (Study Group XI).
- FASCICLE VI.5 – Digital transit exchanges for national and international applications. Interworking of signalling systems. Recommendations Q.501 - Q.685 (Study Group XI).
- FASCICLE VI.6 – Specifications of signalling system No. 7. Recommendations Q.701 - Q.741 (Study Group XI).
- FASCICLE VI.7 – Functional Specification and Description Language (SDL). Man-machine language (MML). Recommendations Z.101 - Z.104 and Z.311 - Z.341 (Study Group XI).
- FASCICLE VI.8 – CCITT high level language (CHILL). Recommendation Z.200 (Study Group XI).

Volume VII

- FASCICLE VII.1 – Telegraph transmission and switching. Series R, U Recommendations (Study Group IX).
- FASCICLE VII.2 – Telegraph and “telematic services”¹⁾ terminal equipment. Series S, T Recommendations (Study Group VIII).

Volume VIII

- FASCICLE VIII.1 – Data communication over the telephone network. Series V Recommendations (Study Group XVII).
- FASCICLE VIII.2 – Data communication networks; services and facilities, terminal equipment and interfaces. Recommendations X.1 - X.29 (Study Group VII).
- FASCICLE VIII.3 – Data communication networks; transmission, signalling and switching, network aspects, maintenance, administrative arrangements. Recommendations X.40 - X.180 (Study Group VII).

Volume IX – Protection against interference. Series K Recommendations (Study Group V). Protection of cable sheaths and poles. Series L Recommendations (Study Group VI).

Volume X

- FASCICLE X.1 – Terms and definitions.
- FASCICLE X.2 – Index of the Yellow Book.

1) “Telematic services” is used provisionally.

CONTENTS OF FASCICLE II.1 OF THE YELLOW BOOK

Part I — Recommendations D.1 to D.195

General tariff principles charging and accounting in international telecommunications services Recommendations for general application

Rec. No.		Page
 SECTION 1 — <i>Private leased telecommunications facilities</i>		
D.1	General principles for the lease of international (continental and intercontinental) private leased telecommunication circuits	3
D.2	Special conditions for the lease of continental telecommunication circuits for private service	10
D.3	Special conditions for the lease of intercontinental telecommunication circuits for private service	13
D.4	Special conditions for the lease of international programme (sound or television) circuits for private service	15
D.5	Costs and value of services rendered as factors in the fixing of rates	15
D.6	General principles for the provision of international telecommunications facilities to organizations formed to meet the specialized international communication needs of their members	16
D.9	Private leasing of transmitters or receivers	18
 SECTION 2 — <i>Tariff principles applying to data communication services over dedicated networks</i>		
D.10	General tariff principles for international public data transmission on public data networks dedicated to this type of transmission	19
D.11	Special tariff principles for international packet-switched public data transmission services by means of the virtual call facility	21
D.12	Measurement unit for charging by volume in the International packet-switched data transmission service	24
D.20	Special tariff principles for the international circuit-switched public data transmission service by means of public data networks	25
 SECTION 3 — <i>Charging and accounting in the international public telegram service</i>		
D.40	General tariff principles applicable to telegrams exchanged in the international public telegram service	27
D.41	Introduction of accounting rates by zones in the international public telegram service	31

Rec. No.		Page
D.42	Charging, accounting and refunds in the international public telegram service	45
D.51	Accounting procedure to be applied when a circuit carrying VH telegraphy is replaced by another having a different routing	45
 SECTION 4 – <i>Charging and accounting in the international telex service</i>		
D.60	Guiding principles to govern the apportionment of accounting rates in intercontinental telex relations	47
D.61	The chargeable duration of a telex call	48
D.67	Charging and accounting in the international telex service	48
 SECTION 5 – <i>Charging and accounting in the international facsimile service</i>		
D.70	General tariff principles for the international public facsimile service between public bureaux (bureaufax service)	49
D.71	General tariff principles for the public facsimile service between subscriber stations (telefax service)	51
 SECTION 6 – <i>Charging and accounting in the international phototelegraph service</i>		
D.80	Provisions about phototelegrams	53
D.81	Provisions relating to private phototelegraph calls	53
D.83	Rates for phototelegrams and private phototelegraph calls	53
D.85	Rules for international phototelegraph communications to multiple destinations	53
 SECTION 7 – <i>Charging and accounting in the maritime mobile service</i>		
D.90	Charging, accounting and refunds in the maritime mobile service	55
 SECTION 8 – <i>Transferred account service</i>		
D.98	The transferred account telegraph service	75
 SECTION 9 – <i>Charging and accounting in the international telephone service</i>		
9.1	Charging (determination of collection charges) in the international telephone service	
D.100	Charging for international calls in manual or semiautomatic operating	77
D.101	Charging in automatic international telephone service	78
D.103	Charging in automatic service for calls terminating on special services for suspended, cancelled or transferred subscribers	80
D.104	Charging for calls to subscriber's station connected either to the absent subscriber's service or to a device substituting a subscriber in his absence	80
D.105	Charging for calls from or to a public call office	80
D.106	Introduction of reduced rates during periods of light traffic in the international telephone service	80
9.2	Charging and accounting of calls with special services	
D.110	Conference calls	81

Rec. No.		Page
9.3	Procedures for remuneration of Administrations for facilities made available	
D.150	New system for accounting in international telephony	82
D.151	Old system for accounting in international telephony	94
D.152	Mode of application of the flat-rate price procedure set forth in Recommendation D.150 for remuneration of facilities made available to the administrations of other countries	95
9.4	Establishment and exchange of international telephone accounts	
D.170	Monthly telephone accounts	99
D.171	Adjustments and refunds	105
D.172	Accounting for calls circulated over international routes for which accounting rates have not been established	105
D.173	Defaulting subscribers	106
D.174	Conventional transmission of information necessary for billing and accounting regarding collect and credit card calls	106
D.176	Transmission in encoded form of telephone reversed charge billing and accounting information	107
SECTION 10 – <i>International sound- and television-programme transmissions</i>		
D.180	International sound- and television-programme transmissions	111
SECTION 11 – <i>Transmission of monthly international accounting information</i>		
D.190	Transmission in encoded form of monthly international accounting information	125
SECTION 12 – <i>Settlement of international telecommunication balances of accounts</i>		
D.195	Settlement of international telecommunication balances of accounts	131

Part II – Recommendations D.200 R to D.401 R

Recommendations for regional application

Standard rates applicable in the international telecommunication services

SECTION 1 – *Recommendations applicable to the African region*

D.200 R	Determination of accounting rate shares and collection charges in telephone relations between countries in Africa	135
D.201 R	Determination of accounting rate shares and collection charges in telex relations between countries in Africa	146

SECTION 2 – *Recommendations applying in Europe and the Mediterranean Basin*

D.300 R	Determination of accounting rate shares and collection charges in telephone relations between countries in Europe and the Mediterranean Basin	157
---------	---	-----

Rec. No.		Page
D.301 R	Determination of accounting rate shares and collection charges in telex relations between countries in Europe and the Mediterranean Basin	166
D.302 R	Determination of the accounting rate shares and collection charges for the international public telegram service applicable to telegrams exchanged between countries in Europe and the Mediterranean Basin	174
D.303 R	Determination of accounting rate shares and collection charges applicable to occasional sound- and television-programme transmissions between countries in Europe and the Mediterranean Basin	179
D.310 R	Determination of rentals for the lease of international programme (sound- and television-) circuits for private service in relations between countries in Europe and the Mediterranean Basin	188
D.390 R	Accounting system in the international automatic telephone service	189
D.391 R	Charges for calls carried by emergency routes	191
D.392 R	Utilization by public utilities of continental telephone connections which are their property	191
SECTION 3 — <i>Recommendations applicable in Latin America</i>		
D.400 R	Accounting rates applicable in telephone relations between countries in Latin America .	193
D.401 R	Accounting rates applicable to telex relations between countries in Latin America . . .	194

Part III — Supplements to series D Recommendations

Supplement No. 1	Cost and tariff study method	199
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REMARK

The Questions entrusted to each Study Group for the Study Period 1981-1984 can be found in Contribution No. 1 to that Study Group.

CCITT NOTE

In this Volume, the expression "Administration" is used for shortness to indicate both a telecommunication Administration and a recognized private operating agency, except for Recommendation D.90 where account should be taken of introductory Note 7 to that Recommendation.

PART I

Recommendations D.1 to D.195

GENERAL TARIFF PRINCIPLES CHARGING AND ACCOUNTING IN INTERNATIONAL TELECOMMUNICATIONS SERVICES

RECOMMENDATIONS FOR GENERAL APPLICATION

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SECTION 1

PRIVATE LEASED TELECOMMUNICATIONS FACILITIES

Recommendation D.1

GENERAL PRINCIPLES FOR THE LEASE OF INTERNATIONAL (CONTINENTAL AND INTERCONTINENTAL) PRIVATE LEASED TELECOMMUNICATION CIRCUITS

Preamble

This Recommendation sets out the general principles and conditions applicable to all international (continental and intercontinental) private leased telecommunication circuits. The charging in the terminal countries for the national extensions of an international private leased circuit is subject to any regulations that may be applied by the Administrations of those countries. The diagram included as Annex A to this Recommendation, extracted from Recommendation M.1010 [1] relating to the constitution and nomenclature of international private leased circuits and supplemented for tariff requirements, indicates what is to be understood by the terms international private leased circuit and national extension.

1 General principles

1.1 The international telecommunication private leased circuit service consists of making one or more international telecommunication circuits available to a customer¹⁾ for his dedicated use on the terms and conditions which may be set out in a lease agreement between the customer and the Administration of the country at each terminal of the circuit.

In providing this service, account should be taken of:

- a) the provisions of this Recommendation,
- b) such other terms and conditions as may be mutually agreed upon between the Administrations participating in the provision of the particular service arrangement,
- c) the desirability of facilitating the advance of technology and the use of modern methods of operation and management,
- d) the need to meet the specific requirements of customers.

1.2 An international private leased circuit transiting one or more countries shall be charged for as if it were one circuit if no intermediate station exists in any transit country to which a customer or user²⁾ may have access.

If, however, a customer or user station is connected to the circuit in any transit country, normally the circuit shall be divided into separate sections for charging purposes, each station being charged for as a separate circuit. Exceptionally, Administrations may agree among themselves to apply a different basis of charging taking into account the provisions of § 3.3 below.

¹⁾ The *customer* is the individual or entity who, or which, leases an international circuit from an Administration and is responsible for payment of all charges or rentals due to that Administration.

²⁾ The *user* is the individual or entity designated by the customer, individually or by class, as having access to the leased circuit and having such authorization, individually or by class, as may be required by the Administrations concerned.

1.3 When a private leased circuit has been established, the connection between the terminal stations is set up for the period of the lease in such a way that the international centres at the extremities of the leased circuit do not need to intervene. However, arrangements must be such as to enable the appropriate staff at these centres to perform necessary supervision and maintenance.

1.4 Administrations may temporarily withdraw a private leased circuit from operation in order to perform such tests, adjustments and routine maintenance as is necessary to ensure that the circuit is kept in proper working condition. Administrations shall endeavour to make such a withdrawal only after consultation with the customer and at a time mutually agreeable to all parties.

1.5 The leased circuit service is normally authorized in international relations where telecommunication circuits remain available after the needs of the public telecommunication services have been satisfied. However, Administrations should recognize the requirements for leased circuits in their planning.

1.6 Administrations reserve the right to withdraw a private leased telecommunication circuit if, in their opinion, this is required in the public interest; for example, because of force majeure or threat of imminent technical harm from the continued operation of the circuit involved. If necessary, because of such conditions, withdrawal may be made at very short notice, without Administrations having to observe the period of notice prescribed in § 2.2 below.

1.7 With the limits fixed by Administrations in each case, private leased circuits may be used only to exchange communications relating to the business of the customer. When the circuit is used to route communications from (to) one or more users other than the customer, these communications must be concerned exclusively with the activity for which the circuit is leased.

1.8 Within the limits fixed by Administrations, the customer may derive telecommunication channels from a private leased telephone-type circuit. These channels, or some of them, may be extended by means of other circuits leased by the same customer. The channels so derived must not be sub-leased. The equipment for such sub-division shall be provided, installed and maintained by or at the expense of the customer.

1.9 Equipment connected to a private leased circuit must meet the technical conditions laid down by each Administration concerned. Where consultation would assist in expediting type-approval of equipment, Administrations should consult with each other. Moreover, the equipment in customer or user premises should not allow the circuits to be used in conditions other than those authorized.

1.10 Administrations shall refuse to provide an international private leased circuit when the customer's proposed activity would be regarded as an infringement of the functions of an Administration in providing telecommunication services to others.

1.11 Administrations shall be entitled to take all steps, appropriate in the circumstances, to ensure that the provisions governing the lease of international circuits are respected.

1.12 In the event of a violation of these provisions, Administrations reserve the right to cancel the lease of the telecommunication circuit concerned; they must, however, give the customer immediate and adequate notice of their intention to take such action and sufficient opportunity to respond thereto.

2 Duration of the lease, charging, cancellation

2.1 Except as provided in § 2.5 below for temporary services, the lease shall last for a minimum of one month.

2.2 The lease shall be continued thereafter by tacit agreement until cancelled by either party. Notice of cancellation must normally be given seven days in advance of the effective date of cancellation. However, an Administration may require a different period of notice. The charges for fractional parts of a month beyond the first month shall be in accordance with §§ 2.4.1 and 2.4.2 below.

2.3 The lease should normally be payable one month in advance.

2.4 In calculating the duration of the lease, one month shall mean one calendar month. Moreover, the day on which the circuit is made available ready for service to the customer, shall not be reckoned. The day on which the circuit is withdrawn shall be reckoned as a full day. However, in cases where customer-provided equipment is necessary for operation of the circuit and the customer equipment is not ready for use, Administrations should take into consideration particular circumstances in determining the date of start of service. Thus, a period of lease covering one month or more is calculated as follows:

- a) count the number of days beginning on the day following the day on which the circuit was made available until the end of the month;
- b) thereafter count the number of full calendar months, if any; and
- c) count the number of service days in the last month, including the day on which the circuit was withdrawn.

2.4.1 As regards charging:

- full calendar months are subject to the monthly rental;
- fractions of a month shall be subject to a daily charge equal to 1/30th of the monthly rental.

2.4.2 *Examples:*

Life of a lease from the day of availability until the day of withdrawal	Chargeable time	Charge
30 October - 15 December 30 October not counted 31 October = 1 day November = 1 month 1-15 December = 15 days	1 month 16 days	1 monthly rental + 16/30th of this rental
30 November - 15 January 30 November not counted December = 1 month 1-15 January = 15 days	1 month 15 days	1 monthly rental + 15/30th of this rental
4 January - 10 February 4 January not counted 5 January - 31 January = 27 days 1 February - 10 February = 10 days	37 days	37/30th of monthly rental

2.5 By agreement between the Administrations concerned, a temporary lease service may be granted for a period of less than one month.

2.5.1 In calculating the life of a temporary lease, one day shall mean a period of 24 consecutive hours.

The life of a lease should be calculated in multiples of 24 hours, the period starting from the time at which the circuit is made available until the time at which it is withdrawn. If the number of days thus obtained contains a fraction of 24 hours, it should be rounded up to the next whole number.

Examples:

Circuit made available on 1 June, at 09.00 hours, cleared on 5 June at 09.00 hours:

4 × 24 hours, i.e. 4 chargeable days.

Circuit made available on 1 June at 09.00 hours, cleared on 5 June at 11.00 hours:

(4 days + 2/24 day) i.e. 5 chargeable days.

2.5.2 In this case (temporary lease), the charges shall be calculated as follows:

- a) for the first day of lease: 10% of the monthly rental;
- b) for the second day of lease: 10% of the monthly rental;
- c) for the next 8 days of lease: 5% of the monthly rental, per day;
- d) after the first 10 days: 4% of the monthly rental, per day, the total amount in no case being more than monthly rental.

2.6 The leases considered in §§ 2.1 and 2.5 above are full-time leases, i.e. for 24 hours per day.

2.6.1 However the Administrations concerned may in some cases permit part-time leases.

2.6.2 The conditions of lease and the charges shall then be fixed by agreement between the Administrations.

3 Collection of charges; accounting

3.1 When the private leased circuit does not pass through a transit country, two methods are generally recognized:

3.1.1 Each Administration of the two terminal countries collects its own share of the international private leased circuit rental from the customer resident in its own country.

3.1.2 Subject to mutual agreement by Administrations concerned, either terminal Administration may collect the rental for the private leased circuit; in this case, the collecting Administration credits the other terminal Administration through the international accounts with the share due to it.

3.2 If the private leased circuit passes through one or more transit countries, the terminal Administrations shall agree with the transit Administration(s) on the method to be adopted for collecting and international accounting of the charges due to it (them).

3.3 When leasing a series of circuits forming a private leased circuit network, the terminal and transit Administrations involved may agree upon an equitable division of revenues for the private leased circuits and should endeavour to grant the best possible charging conditions to the customer.

4 Allowances for interruptions

4.1 In the event of an interruption of a private leased circuit for which a customer or user is not responsible, an allowance shall normally be made to the customer if there has been an initial period of interruption of:

- a continental circuit for not less than 180 consecutive minutes,
 - an intercontinental circuit for not less than 60 consecutive minutes.
- a) Any interruption or operating trouble shall be promptly reported by the customer or user. However, in cases of facility failures known to the Administration such report may not be required.
 - b) Any requirement that customers specifically request allowances should be in accordance with the practices of each Administration concerned.
 - c) For the calculation of the allowance, the reporting time shall normally be the starting time for the duration of the interruption. If, however, a report is not required because the facility failure is known to the Administration, the time of the failure is taken as starting time for calculating the allowance.

4.2 For each hour of the initial period of interruption mentioned in § 4.1 above and for each subsequent consecutive hourly period or fraction of at least 30 minutes, the amount of the allowance should be equivalent to 1/24th of a day's rental for a full-time circuit.

In the case of circuits leased on a part-time basis as described in § 2.6 above, the allowance for interruption shall be *pro rata* to the number of hours of the lease per day.

4.3 For the purpose of computing allowances for interruptions, a month is considered to be 30 days. When the lease is for less than one month, the charge for a day's lease shall be calculated by dividing the total rental by the number of days reckoned in the lease.

4.4 Administrations need not consider requests for allowances for interruptions resulting from unfavourable propagation conditions on HF radio circuits.

4.5 In principle, an allowance should be given for all components of the through circuit between the customers' operating terminals regardless of where the interruption occurs, except as provided for in § 4.7 below. Where the interrupted circuit forms part of a private leased circuit network, the allowance would apply only to the affected circuit.

Note — It is recognized that some Administrations are in a position to make allowances only in respect of failures in the intercontinental portion of private leased circuits.

4.6 Requests for refund of charges for the use of public telecommunication services during the period when the private leased circuit is not available shall not be considered.

4.7 No allowance shall be granted when an interruption (regardless of its duration) or the non-operation of the private leased circuit, is due to the negligence of the customer or to a fault of equipment provided by the customer or user for which the Administration is not responsible.

4.8 Normally, no allowance shall be granted when a private leased circuit is withdrawn in order for Administrations to perform tests, adjustments and routine maintenance as provided in § 1.4 above.

5 Private leased circuit network

5.1 Recognizing the principle that (circuits and message) switching and transmission are the exclusive function of Administrations, the establishment of a private leased circuit network may be authorized to meet the specific technical and operational requirements of certain customers, if requirements cannot be met by the public network or by specialized networks set up by Administrations as in § 5.2 below.

5.2 In this connection, Administrations reserve the right to provide specialized networks to meet specific requirements of customers.

5.3 The authorization in § 5.1 above is subject to prior consultation and agreement between the Administrations concerned as to conformity of the proposed network with the provisions in this Recommendation.

5.4 The establishment of a private leased circuit network is subject upon demand to provision of the following information to all Administrations concerned (in this connection one Administration may, after consulting with other Administrations concerned, act as a coordinator for the supply of this information to those Administrations):

- a) technical equipment to be installed for the operation of the network and the mode of operation of the network, with all the necessary details in order to ensure its proper technical operation;
- b) the list of international circuits forming the network to be leased by the customer;
- c) the scope of usage for which the circuits are required.

Note — For example, information required by Administrations may include details on the following points:

- i) intended usage and mode of operation:
 - telephony, telegraphy, data transmission, facsimile or combined usage;
 - duplex or semi-duplex operation; any subdivision of the circuit into several channels;
 - transmission speed or data signalling rates;

ii) intended scope of usage:

- exclusive use by the customer or use in conjunction with other users, possibility of access ³⁾ to the public networks.

5.5 No substantive change may be made to the basic communications facilities or to the mode of operation or to the scope of usage of a private leased circuit network without the prior concurrence of Administrations leasing the circuits on which such changes are to be made. A substantive change is one which results:

- in the reconfiguration of a private leased circuit network involving an alteration in the scope of usage of its circuits, or
- in an increase in the transmission speed relative to the information originally provided by the customer to the Administrations concerned.

5.6 The interconnection of two or more private leased circuit networks shall not be permitted without the prior agreement of the Administrations concerned.

5.7 In certain circumstances Administrations may, after consultation with the customer, require that some of the equipment (e.g.: switching, concentration or multiplexing) to be used as part of the international private leased circuit network concerned:

- a) be located on the premises of the Administration, and/or
- b) be provided by it.

In such cases, the customer shall have a terminal station located on his own premises in the country in which this equipment is installed.

5.8 Administrations are not obliged to accept any responsibility for the end-to-end quality of transmissions over connected circuits which comprise a private leased circuit network.

Note – Administrations which otherwise accept responsibility for the quality of transmission over connected circuits which comprise a private leased circuit network need not do so for portions of the network which they do not provide or which are not operated within the applicable technical requirements for such connected use.

5.9 In addition to the provision in the present § 5, all of the general principles in § 1 above apply in the case of a private leased circuit network.

6 Use of public networks in conjunction with international private leased circuits

6.1 General principles

6.1.1 Use of public networks (telex, telephone, data) for transmitting or receiving information from or to international private leased circuits may be authorized subject to the condition that the Administrations concerned shall consult and agree on the extent to which such use may be permitted.

6.1.2 If the national law or established practices of an Administration participating in the establishment of the service do not allow access, the relevant Administration has the right to refuse such access on its side.

6.1.3 An international private leased circuit may be allowed access to the public network, provided that:

- a) this access shall be made on the customer's premises except in the cases listed in § 5.7 above;
- b) all information exchanged over a private leased circuit relates solely to the activities for which the circuit has been leased;
- c) such information is exchanged only with public network subscribers nominated by the customer and approved by the Administrations concerned. Upon demand of any individual Administration, a complete list of nominated subscribers will be made available, taking into account national law or established practices including those with respect to right of privacy.

³⁾ The term *access* covers the cases of direct physical interconnection (e.g., via private switching equipment) and of transfer of information by means of data processing or transmitting devices (computers, multiplexers, concentrators, message switching equipment and possibly manual transfer of torn tape or other types of transfer).

6.1.4 In addition to the private leased circuit charges, the customer (or subscriber) must pay the normal rate for the use of the public network service.

6.1.5 Administrations reserve the right to levy special charges for allowing the customer access to the public networks.

6.1.6 Administrations will not consider requests for interruption allowances for non-operation of a private leased circuit resulting from failures in public network facilities to which the private leased circuit has access.

6.1.7 Administrations are not obliged to guarantee the quality of the transmission of calls to or from users on the public network over a leased circuit.

6.2 *Additional principles applicable to access of an international private leased circuit to the public telex network*

6.2.1 In principle, access to the public telex network is allowed at only one terminal of the international private leased circuit. Nevertheless, by agreement among the Administrations concerned, access to the public telex network may be extended to both terminals of such a circuit.

6.2.2 Moreover, in principle, access to the public telex network is limited to communications exchanged with subscribers in the country in which the international private leased circuit terminates. By agreement among the Administrations concerned, in providing the leased service as well as the public service, an international private leased circuit may have access to subscribers of the telex networks outside the national territory in which such a circuit terminates.

6.3 *Additional principles applicable to access of an international private leased circuit to the public telephone network*

6.3.1 Access to the public telephone network may be allowed at one or the other terminals of the circuit, but not simultaneously at both terminals, and is strictly limited to the subscribers of the national public network in the country where the circuit terminates.

7 *Use of private leased circuits in conjunction with computers (data processing centres) operated by customers and providing data processing services to others*

7.1 Private leased circuits may be used in conjunction with computers (data processing centres) operated by customers and providing data processing services to others, provided that the conditions set out in §§ 7.2, 7.3 and 7.4 below are fulfilled.

7.2 The function of a computer used for data processing may depend upon the receipt of information partly from one user and partly from another. Moreover, the computer at a data processing centre might be used to transmit to one user intelligence which had been derived from the processing of basic data received from the same or from another user. Data processing involves the use of the computer for a combination of operations such as calculating data, merging, sorting, and so on, in accordance with programmed instructions, as distinguished from circuit, message or packet switching.

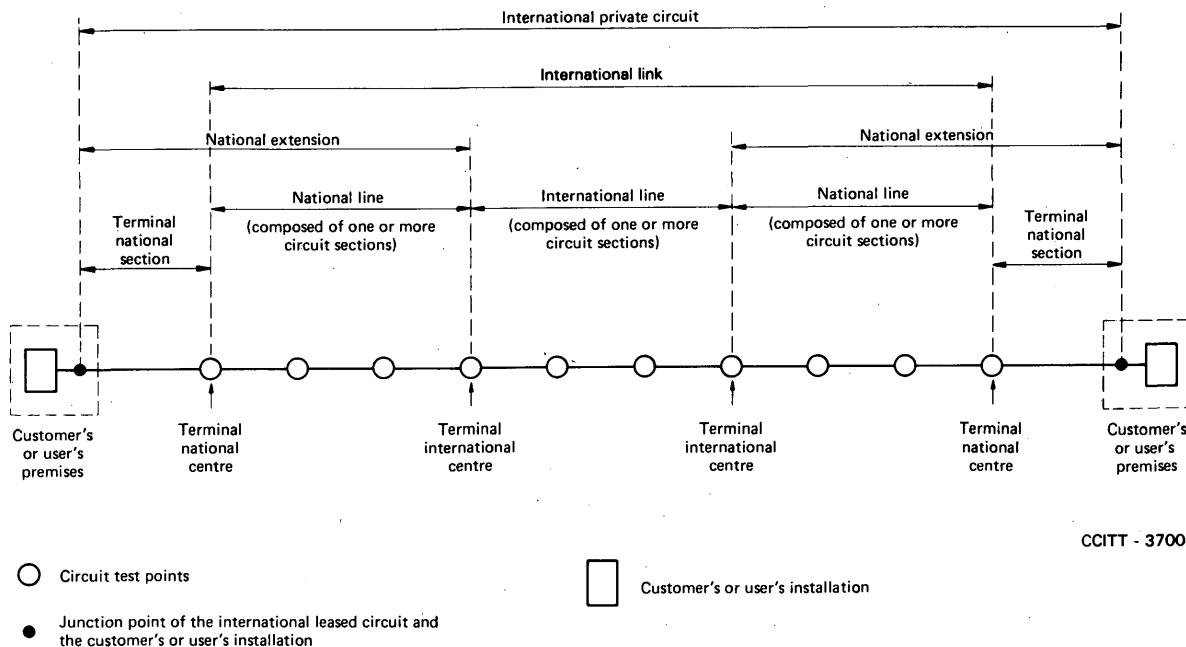
7.3 If a private leased circuit terminates at one end in a data processing centre, the other end may be allowed access to the public networks or to other private leased circuits, provided that:

- a) leased circuits connecting users with a data processing centre may not be used for the exchange of information between user terminals either directly or on a *store and forward* basis (see also § 7.2 above);
- b) the transmission of messages between users having access to a data processing centre shall not be permitted through that data processing centre;
- c) the list of users thus connected or having access through the public networks must, upon demand, be communicated for agreement to the Administrations of the countries of residence of these users. Such information shall be held in strict confidence, taking into account national law or established practices including those with respect to right of privacy;
- d) the customer shall not be permitted to operate in the manner of an Administration by providing telecommunication services to others.

7.4 In addition to the provisions of the present § 7, all of the provisions in § 6 above apply in the case of a private leased circuit which terminates at one end in a data processing centre and has access at the other end to the public network.

ANNEX A

(to Recommendation D.1)



Note - Figure taken from Recommendation M.1010 [1], with the addition of the term *national extension* for purposes of charging.

FIGURE A-1/D.1
Constitution of international private telecommunication circuits

Reference

- [1] CCITT Recommendation *Constitution and nomenclature of international leased circuits*, Vol. IV, Fascicle IV.2, Rec. M.1010.

Recommendation D.2

SPECIAL CONDITIONS FOR THE LEASE OF CONTINENTAL TELECOMMUNICATION CIRCUITS FOR PRIVATE SERVICE

Preamble

This Recommendation, which should be applied in conjunction with the provisions of Recommendation D.1, sets out the special conditions intended for application to telecommunication circuits leased for private service between terminal countries located *in the same continent*. The conditions stated here are the result of studies carried out on the European network and can serve as a guide to other Administrations with comparable networks. However, when the telecommunication structure or transmission characteristics within a continent are similar to those in intercontinental relations, Administrations may apply the arrangements set out in Recommendation D.3 to continental circuits.

1 General conditions

1.1 The rental for monthly leasing of a telephone-type circuit for all uses¹⁾, together with the facilities permitted within the limits of §§ 6 and 7 in Recommendation D.1, is taken as reference for the fixing of charges for leased circuits.

For certain types of use defined under §§ 2.1, 2.2, 2.3 and 2.4 below, special tariff conditions are permitted.

1.2 This rental is fixed on the basis of 9000 minutes per month and according to the rules defined for the calculation of accounting rates²⁾ in the automatic incoming³⁾ telephone service, the terminal accounting rate quota being multiplied by a variable coefficient of up to 1.8 to adapt the international tariffs to the national level of tariffs if necessary.

1.3 To determine the rental for different types of circuits, the following multiplication coefficients are applied:

2 Rates for the lease of telephone-type circuits of normal quality (Recommendation M.580 [1])

2.1 *Lease of a telephone-type circuit used solely for the exchange of telephone conversations (a single telephone channel)*

	Multiplication coefficient	Equivalent number of minutes
2.1.1 point-to-point ⁴⁾	0.667	6000
or		
2.1.2 forming part of an international private leased network, leased to a single customer and used exclusively by him	0.667	6000
or		
2.1.3 which allows access at one or both terminals to a single national private leased network, used exclusively by the customer	0.667	6000
2.2 <i>Lease of a telephone-type circuit point-to-point used solely for facsimile telegraphy (a single channel), the terminal equipment being provided and maintained by the customer</i>	0.667	6000
2.3 <i>Lease of a telephone-type circuit used solely for the exchange of telephone conversations (a single telephone channel) in cases not specified in §§ 2.1.1, 2.1.2 and 2.1.3 above</i>	0.833	7500
2.4 <i>Lease of a telephone-type circuit used solely for facsimile telegraphy (a single channel), the terminal equipment being provided and maintained by the customer, in cases not specified in § 2.2 above</i>	0.833	7500

¹⁾ A *telephone-type circuit for all uses* is a circuit used alternately or simultaneously for various telecommunication purposes (telephone calls, telegraph and phototelegraph transmissions, data transmission) including data processing. Such a circuit may also be divided by the customer into several telecommunication channels, on the understanding that the channels thus obtained may not be sub-leased.

²⁾ Definition of the accounting rate (from Recommendation D.150): the accounting rate is the rate per traffic unit agreed between the Administrations for a given relation which is used for the establishment of international accounts.

³⁾ Where, in automatic service, different rules are applied to the incoming and outgoing directions, for the purposes of § 1.2 the rules for the incoming direction should be used.

⁴⁾ A *point-to-point* circuit is a circuit connected at both ends to terminating equipments with no means of access to public networks or other leased circuits. Such a circuit may serve the same customer at both ends or a different customer at each end.

2.5 *Lease of a telephone-type circuit all uses:*

	Multiplication coefficient	Equivalent number of minutes
2.5.1 point-to-point or	0.833	7500
2.5.2 forming part of an international private leased network, leased to a single customer and used exclusively by him or	0.833	7500
2.5.3 which allows access at one or both terminals to a single national private leased network, used exclusively by the customer	0.833	7500
2.6 <i>Lease of a telephone-type circuit point-to-point for the establish- ment of a number of telecommunication channels exclusively for the customer, the necessary subdivision equipment being provided, installed and maintained by the customer or at his expense</i>	0.833	7500
2.7 <i>Lease of a telephone-type circuit for all uses in cases not specified in §§ 2.5 and 2.6 above</i>	1.00	9000
2.8 No reduction is made for the lease of more than one tele- phone-type circuit		

3 Charging for leased telephone-type circuits — special quality [2]

For the leasing of a special quality telephone-type circuit, in accordance with the Recommendation cited in [3], each terminal Administration shall make an additional monthly charge of 600 gold francs.

4 Charging for leased 48 kHz wideband circuits

The monthly charge for the lease of 48 kHz wideband circuits is equal to 10 times the charge made in the same relation and for the same period for a telephone-type circuit used under the conditions set out in § 2.1 above, i.e.:

	Multiplication coefficient	Equivalent number of minutes
48-kHz wideband circuit	6.667	60 000

5 Charging for leased telegraph-type circuits

	Multiplication coefficient	Equivalent number of minutes
5.1 Lease of a 50-baud telegraph-type circuit	0.25	2250
5.2 Lease of a 100-baud telegraph-type circuit	0.30	2700
5.3 Lease of a 200-baud telegraph-type circuit	0.40	3600

6 Lease of a bundle of telegraph-type circuits

6.1 A *bundle* of telegraph-type circuits means a group of two or more telegraph circuits requested and operated under the same conditions by the same customer, between the same two terminal points.

6.2 For the lease of a *bundle* of telegraph-type circuits, the following reductions are applied to the lease charge in force for a circuit of the same type:

- 20% for the second circuit,
- 30% for the third circuit,
- 40% for any additional leased telegraph circuits.

References

- [1] CCITT Recommendation *Setting-up and lining-up an international circuit for public telephony*, Vol. IV, Fascicle IV.1, Rec. M.580.
- [2] CCITT Recommendation *Characteristics of special quality international leased circuits with special bandwidth conditioning*, Vol. IV, Fascicle IV.2, Rec. M.1020.
- [3] *Ibid.*, § 2.

Recommendation D.3

SPECIAL CONDITIONS FOR THE LEASE OF INTERCONTINENTAL TELECOMMUNICATION CIRCUITS FOR PRIVATE SERVICE

Preamble

This Recommendation, which should be applied in conjunction with the provisions of Recommendation D.1, sets out the special conditions intended for application to telecommunication circuits leased for private service between terminal countries located *in different continents*. However, in some intercontinental relations, the Administrations may agree to apply the provisions of Recommendation D.2.

1 General conditions

1.1 The general principles and conditions contained in Recommendation D.1 apply to the lease of intercontinental telecommunication circuits.

1.2 Each terminal Administration shall establish its share of the monthly rental to be charged for the lease of telecommunication circuits.

1.3 When fixing rentals for intercontinental circuits, Administrations should take into account not only the cost of providing such services but also, among other factors, the need to harmonize the charges generally applied for leased circuit services with the rates for the corresponding public service.

2 Lease of telephone-type circuits of a standard bandwidth and of 48-kHz wideband analogue circuits

2.1 Monthly rentals shall be established by Administrations for the lease of such circuits used for the transmission of:

- a) speech,
- b) record communications, including telegraphy, facsimile telegraphy, VF telegraphy and data,
- c) alternate or simultaneous voice/record or record/record communications, in so far as combinations thereof are technically feasible.

2.2 No discount is allowed for the lease of two or more such circuits.

3 Lease of telegraph circuits

3.1 The lease of a standard 50-baud telegraph circuit is considered as the basis for fixing the charges for the lease of other types of telegraph circuits.

3.2 The lease of telegraph circuits with a transmission speed less than the 50 bauds full character rate may be permitted, allowing:

- a) half the standard character rate (*half-speed* circuit).
- b) a quarter of the standard character rate (*quarter-speed* circuit).

The monthly rental established for a *half-speed* circuit should be 2/3 of the monthly rental for a standard 50-baud telegraph circuit. The monthly rental established for a *quarter-speed* circuit should be 40% of the monthly rental for a standard 50-baud telegraph circuit.

3.3 When technical characteristics permit and subject to the agreement of Administrations, a standard 50-baud telegraph circuit may be operated at a modulation rate above 50 bauds, but not exceeding 75 bauds, for an additional charge of 10%.

3.4 The lease of telegraph circuits with the following modulation rates above 50 bauds may be permitted:

- a) 100 bauds,
- b) 200 bauds.

3.5 Administrations reserve the right to allow a discount for the lease of two or more telegraph circuits, requested and operated in the same circumstances by the same customer between the same two terminal points.

4 Lease of circuits for data transmission with a frequency bandwidth less than the standard telephone-type circuit bandwidth

4.1 The lease of circuits for data transmission with a bandwidth less than the standard telephone-type circuit bandwidth may be permitted as follows:

- a) 600 bits/s maximum,
- b) 1200 bits/s maximum,
- c) higher bit rate, if possible.

4.2 No discount is allowed for the lease of two or more data circuits.

5 Lease of 48 kHz wideband circuits

The monthly rental for 48-kHz wideband circuits should in principle be based on the application of a coefficient to the rental for a telephone-type circuit of standard bandwidth (used in the conditions specified in Recommendation D.3, § 2.1). The application of such a coefficient should normally result in a rental for these circuits between 8 and 12 times the telephone-type rental, although it is recognized that in particular instances coefficients not falling within this range may be appropriate. In establishing the specific coefficient, Administrations should take into consideration the principles set forth in § 1.3 above, as well as the value of the service to the customer, economies resulting from new or advanced technology, and other rate-making factors.

The rentals contemplated herein are for the circuit only, and may be supplemented, as appropriate, for special terminal arrangements and/or for special conditioning.

6 Leased circuits provided by high-frequency radio

Administrations may elect to make exceptions to the principles prescribed in §§ 2, 3 and 4 in the case of leased circuits which are provided by high-frequency radio facilities.

7 Leased circuits having special qualities

For the lease of a circuit having special qualities (for example, circuits meeting the technical specifications set out in Recommendation M.1020 [1]) a monthly flat-rate charge, fixed without relation to the circuit rental and added to it, may be applied by terminal Administrations to take into account the cost of providing and maintaining the circuit with the special qualities required.

Reference

- [1] CCITT Recommendation *Characteristics of special quality international leased circuits with special bandwidth conditioning*, Vol. IV, Fascicle IV.2, Rec. M.1020.

Recommendation D.4

SPECIAL CONDITIONS FOR THE LEASE OF INTERNATIONAL PROGRAMME (SOUND OR TELEVISION) CIRCUITS FOR PRIVATE SERVICE

Preamble

This Recommendation, which should be applied in conjunction with the provisions of Recommendation D.1, sets out the conditions intended for application to international sound- or television-programme circuits leased for private service.

1 General conditions

1.1 This Recommendation applies to leases for periods of 24 hours or more. The occasional use of sound- or television-programme circuits is dealt with in Recommendations D.180 and D.303 R.

1.2 The provisions of Recommendation D.180 apply as necessary to leased sound- or television-programme circuits.

1.3 Each Administration involved in providing a leased sound- or television-programme circuit shall establish its share of the monthly rental.

1.4 When fixing rentals for international sound- or television-programme circuits, Administrations should take into account not only the cost of providing such services, but also the need to harmonize rates for these circuits with those for other kinds of service and with the rates for the occasional use of sound- or television-programme circuits.

2 Special conditions

2.1 In general, conditions of lease for periods of less than one month as in Recommendation D.1 shall apply to these leases, unless otherwise agreed upon between Administrations.

2.2 The rentals for periods of less than one month should be calculated from the monthly rental as prescribed in Recommendation D.1, unless otherwise agreed upon between Administrations.

2.3 Interconnection between leased and occasional sound- or television-programme circuits is normally permitted.

Recommendation D.5

COSTS AND VALUE OF SERVICES RENDERED AS FACTORS IN THE FIXING OF RATES

1 The income from the totality of services provided by a telecommunication organization should cover all the costs incurred by that organization, namely:

- a) operating expenses;
- b) interest on capital involved;
- c) fiscal charges;
- d) depreciation of equipment;
- e) cost of research and development;
- f) capital investment (as required).

For political or social reasons the rates for certain services may be so arranged that they do not cover all the costs involved. In addition, the rates applied should not create harmful competition among the various telecommunication services.

2 The CCITT therefore considers that the rates for the various telecommunication services should be such that they cover the items of expenditure listed above.

However, in view of the difficulty of applying rates based on these criteria, in certain cases, for the political or social reasons mentioned above, the CCITT considers that the overall balance in the telecommunication services required should be achieved by applying an increase factor to the rates of other telecommunication services in the same telecommunication organization which will compensate for the deficit incurred by services run at a loss.

In determining this increase factor, the value of the service rendered to the user should be taken into consideration.

In any case the rates adopted should be such as to avoid harmful competition among the different types of service provided by the organization concerned.

Recognizing that a telecommunication service is of the greatest importance for the economic and social life of every country, the CCITT recommends that the surplus income from the telecommunication services considered as a whole should not be greater than the amount required for the efficient running of these services.

Recommendation D.6

GENERAL PRINCIPLES FOR THE PROVISION OF INTERNATIONAL TELECOMMUNICATIONS FACILITIES TO ORGANIZATIONS FORMED TO MEET THE SPECIALIZED INTERNATIONAL COMMUNICATION NEEDS OF THEIR MEMBERS

(Geneva, 1980)

Preamble

This Recommendation sets out the general principles and conditions applicable in exceptional circumstances where Administrations may provide international telecommunications facilities to organizations formed to meet the specialized international communication needs of their members.

Recognizing that the conditions stated here are set out for exceptional circumstances, when applying this Recommendation Administrations should always keep in mind their inherent responsibility for providing telecommunication services, and make their best effort to meet specific requirements as promptly as possible by their own public services or specialized networks.

The provisions of this Recommendation do not apply in the case of international leased circuits made available to customers under the provisions of Recommendations D.1, D.2 and D.3.

1 General principles

1.1 Considering that (circuit, message, packet, etc.) switching and transmission are the exclusive function of Administrations, they must continue to endeavour to meet the specific requirements of customers by providing a wide range of international public services or by setting-up specialized networks for customers.

1.2 However, Administrations may, exceptionally and subject to national legislation, make available international telecommunications facilities for a use which cannot be authorized under the provisions of Recommendations D.1, D.2 and D.3 and which cannot be met by existing public services. These facilities may be provided for a period until new public services or specialized networks which meet the reasonable requirements involved become available, as further specified in § 2.4.

1.3 Such facilities can be made available only by special arrangements between the Administrations concerned and the customer. These arrangements must specify in particular the facilities to be provided by the Administrations concerned. These facilities need not be limited to the provision of circuits, but may also include the supplying of multiplexing, concentration and switching facilities.

2 Conditions governing the provision of such facilities

2.1 Administrations may authorize the exceptional use of such facilities made available to those organizations formed to meet the specialized international communication needs of their members only if such members have common interests and exercise the same activities in areas other than telecommunications.

2.2 Such authorization should not lead to the setting-up of private networks for the benefit of separate entities which do not meet the requirements set out in § 2.1 above.

2.3 The Administrations concerned may establish by common or individual agreement the terms and conditions of use of the international telecommunication facilities provided to the above-mentioned organizations.

2.4 In principle, the authorization should be limited to a fixed period of time. Administrations concerned should agree collectively on this period. Administrations reserve the right to substitute for the facilities made available under this Recommendation services provided by them when such services have evolved to accommodate the customer requirements. For the purpose of ensuring that both technical and operational requirements are met and of establishing a suitable transition period, consultation with the customer would take place before the substitution.

2.5 If national legislation prohibits placing at the disposal of such organizations international telecommunication facilities, the Administration concerned has the right to refuse to grant the authorization to these organizations.

2.6 The provision of the international telecommunications facilities referred to in §§ 1.2 and 1.3 above is dependent on information being supplied on request to all the Administrations which would include:

- a) technical equipment to be installed,
- b) list of international circuits which should be made available,
- c) detailed description of the planned utilization of these circuits,
- d) a list of member users.

2.7 In certain cases the Administrations may, after consultation with the organization in question, require that certain equipment intended for the operation of the circuits concerned (for example, switching, concentration or multiplexing equipment):

- a) be installed on the Administration's premises and/or
- b) be provided by the Administration.

2.8 The Administrations are in no way held responsible for the quality of end-to-end transmission of the circuits made available when these circuits are interconnected and when the Administrations do not themselves operate the different parts of the network.

3 Charging principles

3.1 The provision of international telecommunication facilities is subject to tariffs which take account of the volume of information transmitted, the unit of traffic measurement chosen and the origin and destination of information transmitted. The charge may also include a fixed component, which takes into account the nature of the traffic and the facilities provided by the Administration.

The Administrations concerned reserve the right to apply a minimum charge for the facilities provided.

3.2 The Administrations determine by agreement the methods by which the traffic routed over these facilities must be measured, i.e.:

- unit of measurement chosen (for example, bit, character, segment, message),
- method of measuring the traffic carried (continuous records, samples).

3.3 Normally, the collection of information relating to the utilization component (i.e., time, character, packets, etc.) should be performed by the Administrations involved in provision of the facilities. However, the Administrations may require the customer to provide such data for charging purposes.

3.4 The level of charges is determined by the Administrations concerned, taking into account the provisions of Recommendation D.5 and certain factors such as the nature of the facilities provided to the customer and the tariffs which may be determined for international public services.

Recommendation D.9 ¹⁾

PRIVATE LEASING OF TRANSMITTERS OR RECEIVERS

1 There are no objections in principle to the lease of transmitters or receivers to users interested only in sending or receiving spoken messages or pictures, provided of course that such arrangements are compatible with the responsibilities which Administrations have accepted by their adherence to the International Telecommunication Convention and associated Regulations.

2 Charges for the lease of such equipment should be determined by the Administration concerned and they would not appear in international accounts.

3 Conditions to be met by lessees of transmitters or receivers should in principle be as follows:

- a) the radiocommunications in question must not contain any advertisement or message of a private character;
- b) names and addresses of senders and intended recipients must be made known to all Administrations, each one of which shall decide, in respect of recipients in its own territory, whether or not to permit participation. Any alterations should also be notified promptly;
- c) the Administrations concerned shall take all practicable steps to ensure that communications shall only be used by authorized recipients and that the provisions of the Convention as regards secrecy of telecommunications are observed;
- d) transmissions shall be at fixed times and, in the case of spoken messages, in pre-arranged languages;
- e) such other conditions as may be required by national law.

4 Where the lease of a transmitter in one country and a receiver in another country is required to provide a unidirectional circuit, or even where a multi-destination service is envisaged, Administrations concerned, although retaining the right to determine the charges for equipment leased in their own country may nevertheless, if they think it desirable, consult with each other in order to ensure that overall charges do not prejudice public service tariff scales.

Reference

- [1] CCITT Recommendation *Operation of intercontinental telephone services (initial system)*, White Book, Vol. II-A, Rec. E.142, Section H, ITU, Geneva, 1969

¹⁾ Formerly a part of the Recommendation cited in [1].

SECTION 2

TARIFF PRINCIPLES APPLYING TO DATA COMMUNICATION SERVICES OVER DEDICATED NETWORKS

Recommendation D.10

GENERAL TARIFF PRINCIPLES FOR INTERNATIONAL PUBLIC DATA TRANSMISSION ON PUBLIC DATA NETWORKS DEDICATED TO THIS TYPE OF TRANSMISSION

Preamble

This Recommendation sets out the general principles and conditions applicable by Administrations to data transmission services over international public networks dedicated to this type of transmission. It is recognized that this is a rapidly developing field at the present time in terms of the diversity of application and flexibility is therefore essential.

The tariff principles contained in this Recommendation do not apply to leased circuits for private use (see Recommendation D.1).

1 General principles

1.1 A public data transmission¹⁾ service is a data transmission service established and operated by an Administration by means of a public data network.

1.2 Tariffs developed for the data transmission service over public networks dedicated to this type of transmission should:

- take into account the provisions of Recommendation D.5;
- take into account tariff relationships with other services provided by the Administrations;
- be flexible enough to enable new needs to be accommodated as the service develops;
- be as administratively simple as possible;
- take into account the geographical configuration of countries;
- not impart undue advantage or disadvantage to any category of user;
- encourage customer choice depending upon his needs as to the use of circuit or packet-switched services where the alternative exists;
- be such as to encourage the use of the public data network, meet the needs of as many users as possible, and promote optimum growth and utilization of the network;
- be easily understood by subscribers;
- sustain the service on a long-term basis.

¹⁾ For the purposes of the Recommendation, transmission includes the line transmission, switching and all control functions which do not change the information content of the message.

1.3 For the new public data transmission services, each Administration should, subject to the applicable national law, fix the charges to be collected from its customers; in so doing, Administrations should make every effort to avoid too great a dissymmetry between the charges applicable in each direction of the same relation.

2 Tariff components

2.1 The tariff should normally consist of two components: the network access component and the network utilization component.

2.2 The network access component should not normally form part of the international accounting.

2.3 The network utilization component in the case of packet-switched services should normally be based on the volume of information transmitted (see Recommendation D.12) and the duration of the call.

2.4 The network utilization component in the case of circuit-switched data services should normally be based on the call duration, the unit being the second or fraction of a second.

2.5 Some factors which may be taken into account in developing tariffs include, for example:

- user class of service (see Recommendation X.1 [1]),
- optional user facilities (see Recommendation X.2 [2]),
- type of switching,
- volume of data and/or duration of call,
- distance,
- time (peak and off-peak periods),
- route,
- other functions.

While certain of the above factors may be more closely associated with one component or another, some may be associated with both. The particular application of some factors will depend on the type of switching employed.

3 International interworking of public data transmission services

3.1 Tariff principles

3.1.1 Tariff structures and levels should encourage the international interworking of public data transmission services to the extent that this is technically and economically feasible.

3.1.2 The tariff structure should encourage use of the most economic and appropriate methods of interworking, due consideration being given to such things as services provided by the various Administrations, data traffic volumes, length of messages and response times.

3.2 Tariff recommendations

3.2.1 Normally only the network utilization component should be considered for international accounts.

3.2.2 Accounting rates should be established for the international interworking of services where no conversion ²⁾ is required between similar services supplied by Administrations, i.e. packet-switched to packet-switched, circuit-switched to circuit-switched.

3.2.3 Where conversion is required, the tariff should normally be developed by taking into account components encompassing both network and conversion elements.

²⁾ In the context of this Recommendation, conversion means packet-switched to circuit-switched, or circuit-switched to packet-switched, techniques for interworking purposes.

3.2.4 Normally the interconnection of dissimilar data networks (such as packet to circuit) should take place at the originating or terminating country Administration. However, conversion at a transit point may be provided if the originating, terminating and transit country Administrations agree.

Note — The technical implications of the transit interworking implied are under study by Study Group VII. The desirability of such transit interworking will need to be confirmed when Study Group VII studies are completed.

3.3 *International accounting rates and gathering of information required for charging*

3.3.1 The international accounting rates and division are established bilaterally between Administrations. Settlement to the transit country(ies) Administration(s) should be on an accounting rate basis according to the accounting arrangement negotiated by the Administrations involved.

3.3.2 In the case of circuit switching, call duration should be the normal accounting element.

3.3.3 In the case of packet switching, both duration and volume of information should be the normal accounting elements.

3.3.4 The gathering of information required for charging and accounting should normally be the responsibility of the calling Administration. Additionally, if the interconnection of dissimilar networks occurs at the called Administration, then the latter should be responsible for providing the calling Administration with the necessary data for charging and accounting.

4 **Interworking of public data transmission services with other services, e.g. telephone or telex**

4.1 In the cases where interworking is permitted, it is recommended that preference be given to the interworking alternatives which provide for the use of data circuits between international data transmission centres (gateways). Normally the international data network should be used between terminal gateways.

4.2 Changeover from a public data network to a public telephone/telex network, or vice versa, in a transit country should be avoided.

References

- [1] CCITT Recommendation *International user classes of service in public data networks*, Vol. VIII, Fascicle VIII.2, Rec. X.1.
- [2] CCITT Recommendation *International user services and facilities in public data networks*, Vol. VIII, Fascicle VIII.2, Rec. X.2.

Recommendation D.11

SPECIAL TARIFF PRINCIPLES FOR INTERNATIONAL PACKET-SWITCHED PUBLIC DATA TRANSMISSION SERVICES BY MEANS OF THE VIRTUAL CALL FACILITY

(Geneva, 1980)

Preamble.

This Recommendation, which should be applied in conjunction with the provisions of Recommendation D.10, sets out the special tariff principles intended for application to the international packet-switched public data transmission service by means of the virtual call facility.

It is recognized that this is a rapidly developing field at the present time in terms of the diversity of application and flexibility is therefore essential.

1 Definition

Definition of **virtual call (switched virtual circuit)**:

An optional user facility in which a call set-up procedure and a call clearing procedure will determine a period of communication between two DTEs in which users' data will be transferred in the network in the packet mode of operation. All the users' data are delivered from the network in the same order in which they are received by the network. (See the definition indicated in [1].)

2 Principles for the application of charges

2.1 A virtual call which is considered as successful should be charged.

2.2 In the case of unsuccessful calls, Administrations reserve the right to apply a call attempt charge. This charge may not apply if the call is unsuccessful because of operational difficulties within the network.

3 Tariff components

The tariff for the service should consist of the following components:

3.1 A fixed component (network access component) representing the relatively invariable cost, the value of service and other factors which may be considered appropriate by the individual Administration.

3.2 A variable component (network utilization component) proportional to the volume of information transmitted and to the duration of communication.

4 Fixed component

The charges relating to the fixed component (network access component) should be established by the individual Administration, taking into account the provisions of Recommendation D.10.

5 Variable component

The charges relating to the variable component (network utilization component) should be calculated in accordance with the methods prescribed in §§ 5.1 and 5.2 below:

5.1 The volume of information transmitted should be measured and expressed in conformity with Recommendation D.12.

5.1.1 Any chargeable packet other than the data packet should be considered as a packet for which a charge corresponding to a segment is levied.

5.1.2 The following packets are chargeable ¹⁾:

- data packet,
- interrupt packet.

5.2 The chargeable duration of a communication should be calculated on the basis of the information below.

5.2.1 The duration of communication (see the diagrams in Figure 1/D.11) should be measured and expressed in terms of the unit being one minute.

¹⁾ The complete list of chargeable packets for international services is still under study. It would be possible to add to this list packets such as the call request packet and the reset packet.

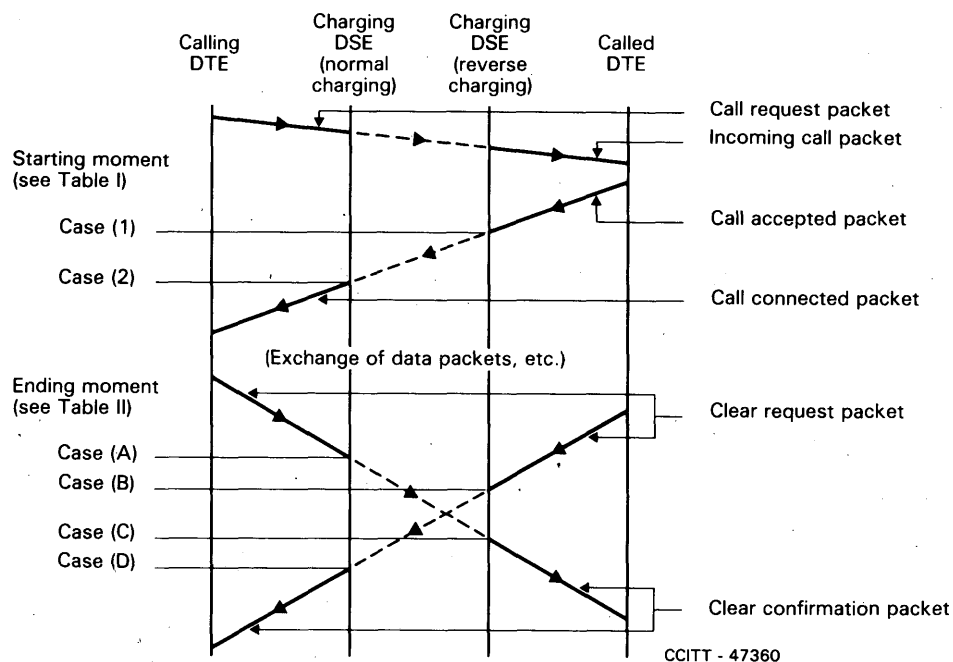


TABLE I — Starting moment

Charging facility	Normal charging	Reverse charging
	Case (2)	Case (1)

DTE Data terminal equipment
DSE Data switching exchange

TABLE II — Ending moment

Charging facility	Normal charging	Reverse charging
The call is cleared by the calling DTE	Case (A)	Case (C)
The call is cleared by the called DTE	Case (D)	Case (B)

FIGURE 1/D.11

Diagrams illustrating the starting and ending moments of the chargeable duration

5.2.2 The duration of communication should be the interval between:

- the moment when the call connected packet or the call accepted packet is sent or received by the charging Data Switching Exchange (DSE)²⁾ where the recording of the duration takes place, and
- the moment when the clear request packet or the clear confirmation packet is received or sent by the charging DSE.

5.2.3. If the duration of communication thus obtained contains a fraction of a minute, it should be rounded up to the next whole minute.

Reference

- [1] CCITT Definition: *Virtual call*, Vol. X, Fascicle X.1 (Terms and Definitions).

²⁾ The charging Administration should, in principle, obtain the information required for charging purposes. Therefore, in the case of a call using the reverse charge facility, it is the called Administration which is responsible for obtaining charging information.

MEASUREMENT UNIT FOR CHARGING BY VOLUME IN THE
INTERNATIONAL PACKET-SWITCHED DATA TRANSMISSION SERVICE

(Geneva, 1980)

The CCITT,

considering

the need to define a unit measuring the volume of information transmitted in an international packet-switched data transmission service;

taking into account

the characteristics of packet-switched data transmission services, including particularly those defined in Recommendations X.1 [1], X.2 [2], X.3 [3] and X.25 [4]; and

the definition of data transmission messages, also called "complete packet sequences" [5];

unanimously declares the view

(1) *definition of segment*: the measurement unit used for charging for the volume of information transmitted in a packet-switched service is independent of the maximum packet length. It is called a segment and its length is 64 octets ¹⁾;

(2) *operating rule*: the quantity of chargeable data contained in each message is expressed as a number of segments and is rounded off to the next higher unit.

References

- [1] CCITT Recommendation *International user classes of service in public data networks*, Vol. VIII, Fascicle VIII.2, Rec. X.1.
- [2] CCITT Recommendation *International user services and facilities in public data networks*, Vol. VIII, Fascicle VIII.2, Rec. X.2.
- [3] CCITT Recommendation *Packet assembly/disassembly facility (PAD) in a public data network*, Vol. VIII, Fascicle VIII.2, Rec. X.3.
- [4] CCITT Recommendation *Interface between data terminal equipment (DTE) and data circuit terminating equipment (DCE) for terminals operating in the packet mode on public data networks*, Vol. VIII, Fascicle VIII.2, Rec. X.25.
- [5] *Ibid.*, § 4.3.5.

¹⁾ This number is subject to further study.

**SPECIAL TARIFF PRINCIPLES FOR THE INTERNATIONAL CIRCUIT-SWITCHED
PUBLIC DATA TRANSMISSION SERVICE BY MEANS OF PUBLIC DATA NETWORKS**

(Geneva, 1980)

Preamble

This Recommendation, which should be applied in conjunction with the provisions of Recommendation D.10, sets out the special tariff principles intended for application to the international circuit-switched public data transmission service by means of public data networks.

Definition

The **circuit-switched data transmission service** is defined as follows:

A service requiring the establishment of a circuit-switched data connection before data can be transferred between data terminal equipments.

1 Collection charges

1.1 Tariff components

1.1.1 The tariff for the service should normally consist of two components:

- a fixed component (network access component),
- a variable component (network utilization component).

1.1.2 The network access component, normally intended to cover the cost of making the service available, represents the cost of the service which is not dependent on network utilization.

It corresponds to what are generally known as "network connection charges".

1.1.3 The network utilization component normally covers the costs which are dependent on network utilization.

1.2 Network access component

1.2.1 Access charges should be levied for each subscription and should normally be independent of network utilization. They may consist of:

- a) an initial fee (non-recurring),
- b) a subscription rental (payable at certain intervals, e.g. monthly or quarterly, until the subscription is terminated).

1.2.2 Different access charges may apply for access from other public-switched networks, e.g. from the public telephone network to the circuit-switched data network.

1.2.3 The access charges may vary according to the user class of service and/or the geographical position of the connection in each country and/or the means of access to the service, or there may be single flat-rate charges irrespective of the user class of service, geographical position or means of access.

1.2.4 The access charges shall not be included in international accounts between Administrations and their establishment is strictly a national matter.

1.3 *Network utilization component*

1.3.1 *Composition*

Charges for network utilization may consist of:

for successful calls

- a call set-up charge,
- a minimum charge,
- a communication charge.

for unsuccessful calls

- a call attempt charge.

1.3.2 *Call set-up and call attempt charges*

1.3.2.1 These charges may vary according to:

- user class of service;
- geographical distance between the data terminal equipments (DTEs);
- day of the week/time of the day;
- other factors.

1.3.2.2 These charges may be either fixed amount or amounts set in relation to the communication charge (see § 1.3.4); for example, they may correspond to the charge for a communication of a certain duration.

1.3.2.3 The call attempt charge should not apply if an unsuccessful call attempt is due to congestion or a fault in the Administration's equipment.

1.3.3 *Minimum charge*

Normally, the amount of the minimum charge is equal to the charge for a communication of a certain duration (see § 1.3.4).

1.3.4 *Communication charge*

1.3.4.1 The communication charge depends on the duration of the communication and may vary according to:

- user class of service;
- geographical distance between the DTEs;
- day of the week/time of the day;
- other factors.

1.3.4.2 The duration of a communication is determined according to the time during which two DTEs are connected to each other. The duration should be *measured* in seconds or fractions of a second.

1.3.4.3 The communication charge is *expressed* as a charge per minute.

SECTION 3

CHARGING AND ACCOUNTING IN THE INTERNATIONAL PUBLIC TELEGRAM SERVICE

Recommendation D.40

GENERAL TARIFF PRINCIPLES APPLICABLE TO TELEGRAMS EXCHANGED IN THE INTERNATIONAL PUBLIC TELEGRAM SERVICE

(Geneva, 1980)

1 Introduction (Basic features of the per word and binary tariff systems)

Every telegram gives rise, at acceptance and on delivery, to fixed costs which are practically the same for all telegrams, except for the telegrams bearing the service indication "urgent", and, at transmission, to costs which vary with the number of words. The per word tariff system, under which each telegram is charged for exclusively according to the number of words, makes no clear distinction between these two types of cost. On the other hand, both tariff components are taken into account in the binary telegraph tariff system which consists of:

- a) a rate per telegram, and
- b) a rate per word,

as indicated in § 2.7 below.

This Recommendation describes the two tariff systems, leaving to Administrations the choice of the system they wish to apply.

2 Explanation of some of the terms and expressions used in this Recommendation

2.1 relation (international public telegram service)

F: relation (service télégraphique public international)

S: relación (servicio público internacional de telegramas)

A relation between two terminal countries exists when telegrams are exchanged between them (and, normally, accounts are settled).

2.2 country (or Administration) of origin

F: pays (ou Administration) d'origine

S: país (o Administración) de origen

The country of origin is the country in which the telegram is handed in.

2.3 country (or Administration) of destination

F: pays (ou Administration) de destination

S: país (o Administración) de destino

The country of destination is the country in which the telegram is to be delivered.

2.4 terminal country (or Administration)

F: pays (ou Administration) terminal

S: país (o Administración) terminal

A terminal country is both a country of origin and a country of destination of a telegram.

2.5 transit country (or Administration)

F: pays (ou Administration) de transit

S: país (o Administración) de tránsito

A transit country is a country through which traffic is routed between two terminal countries.

2.6 per word tariff system

F: système de tarification par mot

S: sistema de tarificación por palabra

In the per word tariff system, rates are established per single word, the word-counting provisions of the relevant CCITT Recommendations being applied. A minimum rate per telegram corresponding to the rate for a certain number of words is applied.

2.7 binary tariff system

F: système de tarification binaire

S: sistema binario de tarificación

The binary tariff system has two components:

- a) a fixed component representing the costs involved in the acceptance and delivery of a telegram (fixed charge); and
- b) a component proportional to the length of the telegram representing the costs involved in transmitting and receiving the telegram and the cost of using the telegraph network (charge per word).

2.8 accounting rate

F: taxe de répartition

S: tasa de distribución

The accounting rate is composed of the terminal shares and the transit share(s), if any.

In the per word tariff system, the accounting rate is the rate per word purely and simply of an ordinary private telegram without any special service.

In the binary tariff system, the accounting rate has the two components described in § 2.7 above. In this system, no minimum rate for a certain number of words is applied.

2.8.1 terminal share ¹⁾

F: quote-part terminale

S: parte alicuota terminal

The terminal share is that part of the accounting rate which is due to a terminal Administration and which is used for the establishment of international accounts. In the binary tariff system, the terminal share has two components.

2.8.2 transit share

F: quote-part de transit

S: parte alicuota de tránsito

The transit share is that part of the accounting rate which is due to an intermediate Administration whose territory, installations or circuits are used to route traffic between two terminal countries, and is the share used for the establishment of international accounts.

¹⁾ Canada and the United States of America retain the right to maintain an additional rate for terminal traffic routed beyond the international centre.

In both the per word and binary tariff systems, the transit Administration is remunerated on the basis of the per word rate only.

2.9 collection charge

F: taxe de perception

S: tasa de percepción

The collection charge is the charge in its national currency collected by an Administration from its customers for the use of the international service. The establishment of the collection charge is a national matter.

3 Accounting rates

3.1 Determination by mutual agreement

Accounting rates may be determined:

- either by the per word tariff system, or
- by applying a binary tariff system.

If the terminal Administrations cannot reach an agreement on the tariff system to be used, the system currently in force shall continue to apply.

3.1.1 Special characteristics of the per word tariff system

In the per word tariff system, accounting rates are determined per word purely and simply. A minimum rate including a certain number of words for each class of telegram is applied in accordance with the provisions of the Recommendation cited in [1].

3.1.2 Special characteristics of the binary tariff system

In the binary tariff system, accounting rates are composed of a rate per telegraph and of a rate per word.

Application of a binary tariff system should normally entail, in the relation concerned:

- discontinuance of a minimum rate for a certain number of words per telegram;
- discontinuance of letter telegrams and press telegrams, subject to the provisions in § 5, d) below;
- discontinuance of reduced charges for all telegrams except those concerning persons protected in time of war by the Geneva Conventions of 12 August 1949 (RCT).

3.2 Terminal share

The terminal share fixed by an Administration for a particular relation with another country shall be the same irrespective of the route used (except in the case of determination of the terminal share in accordance with § 3.4.2 below).

3.2.1 Terminal shares determined by the per word tariff system

The Administrations or, at the discretion of the Administrations, the recognized private operating agencies, shall fix their terminal shares taking into account the provisions of the Recommendations cited in [2] and the actual cost.

3.2.2 Terminal shares determined by the binary tariff system

3.2.2.1 The terminal share has two components as defined in § 2.7 above.

3.2.2.2 In establishing the two terminal share components, the average numbers of words per telegram should be taken into account and the actual costs.

3.2.2.3 Since the fixed costs involved in the acceptance and delivery of telegrams represent the largest proportion of total costs, a fairly high rate per telegram is recommended, whereas the rate per word might be set at a lower level.

3.2.2.4 The rate per telegram should be the same for all classes of telegram except for telegrams bearing the service indication "Urgent" [see § 5 a) below], whereas the rate per word might vary according to the telegraph relation and class of telegram.

3.3 *Transit shares*

3.3.1 Transit shares are determined per word purely and simply.

3.3.2 The Administrations or, at the discretion of the Administrations concerned, the recognized private operating agencies, whose territory, installations or circuits are used for the transmission of telegrams between two terminal countries, shall fix their transit shares taking into account the provisions of the Recommendations cited in [2] and the actual cost.

3.3.3 In determining transit shares, it is recommended that a distinction should be made between different types of transit facility, such as:

- direct transit ²⁾;
- manual transit;
- automatic transit (via the Gentex network or an automatic retransmission centre).

3.3.4 In relations where transit facilities are made available to Administrations of terminal countries in accordance with a flat-rate price procedure, the transit Administration is no longer credited with a transit share.

3.4 *Accounting rate*

3.4.1 The accounting rate is the sum of the terminal shares of the Administrations of the countries of origin and of destination and, where applicable, the transit shares of intermediate Administrations.

3.4.2 Administrations may, by agreement, fix the accounting rate applicable in a given relation and may divide that rate into terminal shares payable to the Administrations of the terminal countries and, where appropriate, into transit shares payable to the transit Administrations. The same accounting rate should apply in both directions of a given relation.

3.5 *Notification to the ITU General Secretariat*

Administrations shall notify their terminal and transit shares to the General Secretariat.

4 **Collection charges**

Each Administration shall, subject to the applicable provisions of national law, fix the charges to be collected from its public. In fixing these charges Administrations should make every effort to avoid too large a difference between the charges applicable in each direction of the same relation. Although, in general, Administrations establish their collection charges according to the accounting rates, the two will not necessarily be the same because, for example:

- a) in most countries, collection charges and accounting rates will be expressed in different currencies;
- b) the value of national currencies can fluctuate relative to the gold franc;
- c) the collection charges may be based on the binary tariff system and the accounting rate on the per word system or vice versa;
- d) collection charges may be influenced by government policies;
- e) Administrations frequently establish common collection charges for geographical zones or groups of countries.

²⁾ "Direct transit" refers to the routing of traffic between two terminal countries through another country by a direct telegraph link, without occasioning either manual transit or automatic retransmission (by means of a retransmission centre) in the transit country.

5 Provisions common to accounting rates and collection charges

Having regard to the provisions of the Telegraph Regulations [3] and the CCITT Recommendations, the following rules shall be taken into consideration when fixing accounting rates and collection charges:

- a) for telegrams bearing the service indication "Urgent", the accounting rate and the collection charge are equal to twice the rate and charge for an ordinary private telegram transmitted in the same relation, by the same route and having the same number of chargeable words;
- b) for telegrams concerning persons protected in time of war by the Geneva Conventions of 12 August 1949 (RCT), the accounting rate and the collection charge are reduced by 75%;
- c) when a charged service message includes an amount for a prepaid reply (RP), such amount is equivalent to the charge for an ordinary private seven-word telegram transmitted in the same relation and by the same route;
- d) when the binary tariff system is applied by Administrations that are not in a position to discontinue press telegrams and letter telegrams, only the accounting rates and collection charges per word are reduced by 66 $\frac{2}{3}$ % for press telegrams and 50% for letter telegrams, the rates per telegram remaining unchanged.

Note — this provision replaces those cited in [4].

References

- [1] CCITT Recommendation *Operational provisions for the international public telegram service*, Vol. II, Fascicle II.4, Rec. F.1, Division A, parts IX and X.
- [2] CCITT Recommendations *Tariffs and accounting methods for the international public telegram service*, Vol. II, Fascicle II.4, Section 4 of the Series F Recommendations.
- [3] *Final Acts of the World Administrative Telephone and Telegraph Conference, (Geneva, 1973) — Telegraph Regulations — Telephone Regulations*, ITU, Geneva, 1973.
- [4] CCITT Recommendation *Operational provisions for the international public telegram service*, Vol. II, Fascicle II.4, Rec. F.1, A.316 and A.354.

Recommendation D.41

INTRODUCTION OF ACCOUNTING RATES BY ZONES IN THE INTERNATIONAL PUBLIC TELEGRAM SERVICE

(Geneva, 1980)

The CCITT,

considering

- (a) that a considerable number of accounting rates at present exist in the international public telegram service;
- (b) that this complicates:
 - 1) the procedures for determining collection charges,
 - 2) the billing of customers for telegrams filed,
 - 3) the establishment of monthly accounts between Administrations,
 - 4) tariff studies,
 - 5) the publication of rates in the ITU Table of Telegraph Rates, and
 - 6) the writing of computer programs when these are used for service operation and accounting;
- (c) that during the last few years operational methods in the international public telegram service have undergone simplification and that the same should apply to accounting rates;

(d) that the public has difficulty in understanding the differences that may exist between the collection charges applicable to telegrams addressed to two neighbouring countries on the same continent, which may result from the fact that collection charges may be influenced by accounting rates;

(e) that, for reasons of equity, it would be desirable for the accounting rate to be shared by the participating Administrations (terminal and, possibly, transit) in proportions which take account of the service provided by each of these Administrations;

(f) that, as a result of the survey conducted in 1978/1979 by the CCITT Secretariat on accounting rates and outpayments by a country of origin in its relations with countries in continents other than its own, it has been possible to arrive at average values for the accounting rates and outpayments;

(g) that these average values have been affected by special arrangements between certain countries in different continents and by the failure of certain Administrations to supply information;

(h) that, with a view to obtaining more realistic average values, it may be necessary, in the relevant calculations, to recognize that some traffic data or lack of traffic data evidently distorted the results;

(i) that the survey indicates that the average accounting rates vary considerably in certain intercontinental relations;

(j) that, in the interest of senders, in principle, there should not be more than a single charge for a telegram handed in in any country in one continent and addressed to any country in another continent;

recognizing

(1) that, in principle, uniformity of accounting rates, and thereby possibly collection charges, on a zonal basis is desirable;

(2) that the introduction of such zonal accounting could in certain relations result in a reduction in the accounting rate with a consequential effect on collection charges;

(3) that for economic or political reasons a zonal accounting system is not immediately attainable by certain Administrations and, in the interim, Administrations may need to make other bilateral agreements until they are able to attain this objective,

unanimously recommends

that, in their negotiations for the establishment of accounting rates between two continents in the international public telegram service, Administrations should be guided by the average values given in the tables annexed to this Recommendation. A long-term objective is for those rates exceeding 1.5 gold francs per ordinary word to be reduced to this level. This figure of 1.5 gold francs may need to be reviewed periodically to reflect changes in the costs of providing the international public telegram service.

ANNEX A

(to Recommendation D.41)

Results of the 1978/1979 survey on the accounting-rate shares and accounting rates applied in the international public telegram service

A.1 On the initiative of Working Party III/3 (Tariffs and accounting in the international telegram service), the CCITT Secretariat carried out in 1978/1979 an inquiry into the accounting-rate shares and accounting rates applied in the international public telegram service within the framework of Question 7/III [1] (see CCITT Circular No. 89 of 25 April 1978). The essential purpose of this enquiry was to determine the mean total amount per ordinary word paid by each country in its traffic to each of the continents other than that to which it belongs.

A.2 By 19 March 1979, replies had been received from:

- 28 countries ¹⁾ in Africa;
- 19 countries ¹⁾ in North America;
- 9 countries ¹⁾ in South America;
- 20 countries ¹⁾ in Asia;
- 4 countries ¹⁾ in Australia (Oceania); and
- 28 countries ¹⁾ in Europe.

In all, therefore, replies were received from 108 countries ¹⁾, which can be regarded as extremely satisfactory.

A.3 The results of the survey are summarized in Tables A-3/D.41 to A-8/D.41, which show for each of the countries replying to the questionnaire:

- a) in column 1, the *total number of words* (in thousands), expressed as ordinary words, originating in the country and addressed to all the countries in all the continents other than that to which the country belongs;
- b) in column 2, the *mean accounting rate per word* (in gold francs) originating in the country in relations with all the countries in all the continents other than that to which the country belongs;
- c) in column 3, the *mean outpayment per ordinary word* in (gold francs) *made by the country* for traffic to each of the continents other than that to which it belongs.

At the base of columns 2 and 3, are also indicated the respective *weighted averages*

- a) of the *mean accounting rate per ordinary word* originating in *each continent* in its relations with each of the other continents, and
- b) of the *mean outpayment per ordinary word* originating in *each continent* in its relations with each of the other continents.

These weighted averages, *expressed in gold francs*, are summarized in the two tables A-1/D.41 and A-2/D.41.

Note – The names of countries or territories given in Tables A-3/D.41 to A-8/D.41 are those used in column 3 of the “List of telegraph offices open for international service” [2].

¹⁾ In this annex, the word “country” means “country or territory”.

TABLE A-1/D.41

Weighted averages of the mean accounting rate per word

<i>Continents</i> Destination → Origin ↓	Africa	North America	South America	Asia	Australia and Oceania	Europe
Africa		0.936	1.859	1.476	1.043	1.030
North America	1.962		0.990	1.620	2.432	1.183
South America	3.102	1.352		3.281	3.451	2.091
Asia	1.929	1.679	2.421		1.716	1.573
Australia and Oceania	1.161	0.594	1.402	1.130		1.022
Europe	1.176	1.006	1.861	1.160	0.832	

TABLE A-2/D.41

Weighted averages of the mean outpayment per word

<i>Continents</i> Destination → Origin ↓	Africa	North America	South America	Asia	Australia and Oceania	Europe
Africa		0.493	0.950	0.742	0.425	0.507
North America	0.747		0.499	0.628	0.774	0.499
South America	0.947	0.551		0.895	1.100	0.756
Asia	0.858	0.614	0.852		0.721	0.772
Australia and Oceania	0.627	0.303	0.913	0.617		0.532
Europe	0.580	0.510	0.801	0.595	0.460	

TABLE A-3/D.41

**Results of the survey on tariffs in the international public telegraph service
(telegram service)**

Country or territory of origin belonging to the continent of AFRICA	Year	Continent: North America			Continent: South America			Continent: Asia			Continent: Australia and Oceania			Continent: Europe		
		Total number of words originating in your country	Mean overall accounting rate per word originating in your country	Mean outpayment per ordinary word	Total number of words originating in your country	Mean overall accounting rate per word originating in your country	Mean outpayment per ordinary word	Total number of words originating in your country	Mean overall accounting rate per word originating in your country	Mean outpayment per ordinary word	Total number of words originating in your country	Mean overall accounting rate per word originating in your country	Mean outpayment per ordinary word	Total number of words originating in your country	Mean overall accounting rate per word originating in your country	Mean outpayment per ordinary word
Algérie		(1) 541	(2) 1.20	(3) 0.66	(1) 61	(2) 2.10	(3) 0.94	(1) 497	(2) 1.38	(3) 0.83	(1) 12	(2) 2.02	(3) 1.38	(1) -	(2) -	(3) -
Angola		45	1.66	0.66	21	1.71	0.71	42	2.02	1.02	1	2.00	1.00	871	1.05	0.50
Ascension		3	3.90	1.04	-	-	-	-	-	-	-	-	-	49	2.09	0.60
Bénin																
Botswana																
Burundi																
Cameroun		106	1.417	0.762	3	2.81	1.649	72	2.585	1.096	2	2.166	1.297	842	1.013	0.497
Cap-Vert		37.1	1.842	0.5	9.1	1.751	0.5	6	2.221	0.7	0.244	3.187	0.7	466.9	0.899	0.248
Centrafic.		36.730	1.390	0.749	0.940	1.362	0.863	24.928	2.842	1.422	0.892	1.516	0.876	353.364	1.023	0.501
Comores																
Congo Braz.		113.85	1.40	1.10	2.82	2.48	2.20	74.47	2.85	2.54	0.83	2.51	2.24	1078.26	1.18	0.98
Cte Ivoire		171.818	1.294	0.653	20.990	2.247	1.194	116.211	2.51	1.143	5.804	1.71	0.922	1985.45	0.978	0.474
Djibouti																
Egypte																
Ethiopie		179	1.535	0.76	5	2.87	0.95	451	1.95	0.83	7.5	2.84	1.77	785.4	1.46	0.634
Gabon		71.619	1.43	0.78	27.087	2.56	1.75	64.373	2.99	1.60	2.153	1.70	0.92	678.348	0.99	0.49
Gambie		46	4.07	0.97	-	-	-	38	4.10	0.77	1	3.795	0.80	230	1.835	0.79
Ghana																
Guinea Ecu.																
Guinée Bis.																
Guinée Rép.																
Hte Volta																
Kenya		558.121	0.75	0.19	33.936	2.56	0.70	443.630	1.98	0.57	2.981	0.83	0.30	948.449	1.89	0.63
Lesotho																
Libéria																
Libye																
Madagascar		82	1.415	0.764	4	2.462	1.554	97	2.493	1.327	4	1.853	1.288	797	0.986	0.482
Malawi																
Mali																
Maroc		393.208	1.07	0.53	28.362	2.41	0.99	497.672	1.15	0.56	13.828	1.71	1.00	5148.62	0.63	0.32
Maurice		103	2.83	0.693	2	3.58	0.99	504	4.22	0.94	107	3.66	0.80	770	2.17	0.76

TABLE A-3/D.41 (cont.)

Results of the survey on tariffs in the international public telegraph service
(telegram service)

Country or territory of origin belonging to the continent of AFRICA	Year	Continent: Africa			Continent: North America			Continent: Asia			Continent: Australia			Continent: Europe		
		Total number of words originating in your country	Mean overall accounting rate per word originating in your country	Mean outpayment per ordinary word	Total number of words originating in your country	Mean overall accounting rate per word originating in your country	Mean outpayment per ordinary word	Total number of words originating in your country	Mean overall accounting rate per word originating in your country	Mean outpayment per ordinary word	Total number of words originating in your country	Mean overall accounting rate per word originating in your country	Mean outpayment per ordinary word	Total number of words originating in your country	Mean overall accounting rate per word originating in your country	Mean outpayment per ordinary word
		(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)
Mauritanie																
Mozambique		97	1.97	1.42	28.29	1.91	1.36	263.7	2.41	1.86	5.97	2.58	2.03	1991.9	1.41	0.86
Namibia																
Niger																
Nigeria		2104	0.35	0.30	83	3.04	1.78	1735	1.67	1.05	46	0.59	0.30	9251	0.98	0.50
Ouganda		86.547	0.449	0.137	1.178	0.422	0.211	195.901	0.737	0.248	8.587	0.393	0.192	380.185	0.803	0.222
Réunion																
Rodriguez		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rwanda		38	1.84	1.05	1.6	3.87	2.00	23	3.69	2.73	-	-	-	157	1.828	0.751
S. Africa		723	0.773	0.397	328	1.254	0.658	2297	1.217	0.650	766	0.663	0.312	6998	0.89	0.464
St-Hélène		2	2.83	0.993	-	-	-	-	-	-	-	-	-	56	2.50	0.89
S. Tomé PCP																
Sénégal																
Seychelles		35	2.83	0.693	-	-	-	104	3.94	0.80	17	3.14	0.60	303	2.14	0.76
Somalie																
Soudan		132	2.32	1.76	4	3.05	2.55	1911	0.90	0.70	12	2.51	2.07	1233	1.36	0.77
Srra Leone																
Swaziland		35.67	0.61	0.61	1.149	0.93	0.93	10.67	1.02	1.02	4.28	0.68	0.68	64.15	0.71	0.71
Tanzanie		353	0.954	0.408	7	2.142	0.615	863	0.564	0.208	56	0.357	0.178	1267	1.072	0.317
Tchad																
Togo		54	1.399	0.748	4	2.079	1.080	27	2.344	1.274	0.6	2.120	1.439	383	1.032	0.51
Tristcunha																
Tunisie		303.60	1.14	0.54	22.25	2.07	0.82	456.11	1.07	0.57	5.60	2.01	1.36			
Zaire																
Zambie		448.788	1.063	0.510	10.396	1.329	0.529	784.566	0.810	0.370	95.093	0.611	0.306	1534.346	0.802	0.354
		Weighted average	0.936	0.493	Weighted average	1.859	0.950	Weighted average	1.476	0.742	Weighted average	1.043	0.425	Weighted average	1.030	0.507

TABLE A-4/D.41

Results of the survey on tariffs in the international public telegraph service
(telegram service)

Country or territory of origin belonging to the continent of NORTH AMERICA	Year	Continent: Africa			Continent: South America			Continent: Asia			Continent: Australia			Continent: Europe		
		Total number of words originating in your country	Mean overall accounting rate per word originating in your country	Mean outpayment per ordinary word	Total number of words originating in your country	Mean overall accounting rate per word originating in your country	Mean outpayment per ordinary word	Total number of words originating in your country	Mean overall accounting rate per word originating in your country	Mean outpayment per ordinary word	Total number of words originating in your country	Mean overall accounting rate per word originating in your country	Mean outpayment per ordinary word	Total number of words originating in your country	Mean overall accounting rate per word originating in your country	Mean outpayment per ordinary word
		(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)
Antigua		-	-	-	4	0.75	0.44	1	5.00	1.00	-	-	-	13	2.69	0.85
Antilles Nrl											-	-	-			
Bahamas																
Barbade		-	-	-	68	0.91	0.50	11	4.00	1.00	-	-	-	84	2.46	0.71
Belize		-	-	-	4	1.25	0.75	3	3.67	1.00	-	-	-	13	1.46	0.77
Bermuda		21	2.57	0.90	16	1.25	0.75	32	3.12	0.91	-	-	-	85	2.41	0.68
Caicos Isl		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Canada		792	1.226	0.631	728	1.211	0.641	2383	1.218	0.524	174	0.914	0.491	5914	0.915	0.450
Cayman Isl		-	-	-	6	1.00	0.79	2	2.50	1.00	-	-	-	23	2.91	0.826
Costa Rica		6.0	2.133	1.6	463.3	0.763	0.4783	97.9	2.1297	1.0418	6.9	1.9565	1.4203	407.8	1.4809	0.6954
Cuba		1967.71	2.25	0.79	286.166	1.28	0.53	1032.657	2.04	0.72	7359	2.47	0.78	2090.016	1.33	0.50
Dominica		-	-	-	2	1.00	0.75	-	-	-	-	-	-	7	2.57	1.00
Dominicana																
El Salvador		2.359	1.912	1.417	152.581	0.721	0.476	61.628	1.781	1.378	1.963	1.722	1.212	153.914	1.399	0.906
Grenada		-	-	-	10	1.00	0.60	1	5.00	1.00	-	-	-	29	2.59	0.86
Guadeloupe																
Guatemala		5.854	2.2955	0.7643	395.804	0.9458	0.4172	130.040	2.5956	0.8533	9.86	2.0775	0.7378	525.794	1.6640	0.5865
Haiti																
Honduras																
Jamaïque																
Martinique																
Mexico																
Montserrat		-	-	-	1	1.00	0.50	-	-	-	-	-	-	1	3.00	1.00
Nicaragua																
Panama																
Panama Zne		1.8	1.600	0.691	455.1	0.580	0.333	81.1	1.840	0.956	4.2	1.543	0.946	126.3	1.095	0.584
Puerto Rico																

TABLE A-4/D.41 (cont.)

Results of the survey on tariffs in the international public telegraph service
(telegram service)

Country or territory of origin belonging to the continent of NORTH AMERICA	Year	Continent: Africa			Continent: North America			Continent: Asia			Continent: Australia			Continent: Europe		
		Total number of words originating in your country	Mean overall accounting rate per word originating in your country	Mean outpayment per ordinary word	Total number of words originating in your country	Mean overall accounting rate per word originating in your country	Mean outpayment per ordinary word	Total number of words originating in your country	Mean overall accounting rate per word originating in your country	Mean outpayment per ordinary word	Total number of words originating in your country	Mean overall accounting rate per word originating in your country	Mean outpayment per ordinary word	Total number of words originating in your country	Mean overall accounting rate per word originating in your country	Mean outpayment per ordinary word
S. Ch-Ne-An:		(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)
S. Christopher																
Nevis																
Anguilla																
S. Kitts		-	-	-	3	0.67	0.50	-	-	-	-	-	-	3	1.67	0.83
S. Lucia		-	-	-	5	1.00	0.60	1	2.00	1.00	-	-	-	14	2.50	0.86
S. Pierre Mql																
S. Vincent		-	-	-	5	1.20	0.70	-	-	-	-	-	-	8	2.50	0.875
Trin. Tobago		3.016	2.61	0.64	295.030	1.40	0.50	75.902	4.42	0.59	0.783	2.31	1.55	317.484	2.84	0.57
Turks Isl.																
USA New York City																
Alaska																
Others exc. Hawaii ^{a)}																
Vierges Br																
Vierges US		-	-	-	-	-	-	-	-	-	-	-	-	3	2.33	1.00
		Weighted average	1.962	0.747	Weighted average	0.990	0.499	Weighted average	1.620	0.628	Weighted average	2.432	0.774	Weighted average	1.18	0.499

^{a)} For Hawaii, see under AUSTRALIA.

TABLE A-5/D.41

**Results of the survey on tariffs in the international public telegraph service
(telegram service)**

Country or territory of origin belonging to the continent of SOUTH AMERICA	Year	Continent: Africa			Continent: North America			Continent: Asia			Continent: Australia			Continent: Europe		
		Total number of words originating in your country	Mean overall accounting rate per word originating in your country	Mean outpayment per ordinary word	Total number of words originating in your country	Mean overall accounting rate per word originating in your country	Mean outpayment per ordinary word	Total number of words originating in your country	Mean overall accounting rate per word originating in your country	Mean outpayment per ordinary word	Total number of words originating in your country	Mean overall accounting rate per word originating in your country	Mean outpayment per ordinary word	Total number of words originating in your country	Mean overall accounting rate per word originating in your country	Mean outpayment per ordinary word
Argentina		(1) 74.70	(2) 3.268	(3) 0.856	(1) 1932.63	(2) 1.379	(3) 0.607	(1) 276.31	(2) 3.290	(3) 0.795	(1) 33.57	(2) 3.368	(3) 0.883	(1) 1679.17	(2) 2.112	(3) 0.745
Bolivia		3	3.33	1.00	313	1.69	0.61	21	3.81	0.90	-	-	-	142	1.95	0.80
Brasil		398	3.03	0.88	1474	1.34	0.55	583	3.11	0.78	71	3.31	0.88	2810	1.88	0.77
Chile		4.81	3.018	1.819	267.46	1.793	0.718	31.691	3.568	1.501	9.621	3.437	1.989	94.226	2.33	0.70
Colombia		24.05	3.31	0.73	2369.65	1.31	0.43	114.31	3.80	0.59	9.4	3.72	0.89	786.87	2.67	0.53
Ecuador																
Falkland		-	-	-	6	0.50	0.17	1	4.00	1.00	-	-	-	-	-	-
Guyana																
Guyane Fr.																
Paraguay		6.9	3.36	1.21	157.7	1.326	0.803	20.3	3.58	1.27	0.9	3.62	2.47	134.5	2.435	0.66
Perú		22	3.73	2.50	759	1.23	0.70	66	3.65	2.52	17	3.12	2.06	361	2.58	1.37
Suriname																
Uruguay		1.576	0.354	0.117	55.635	0.348	0.061	4.718	0.511	0.115	1.288	0.362	0.180	76.66	0.489	0.071
Venezuela																
		Weighted average	3.102	0.947	Weighted average	1.352	0.551	Weighted average	3.281	0.895	Weighted average	3.451	1.100	Weighted average	2.091	0.756

Results of the survey on tariffs in the international public telegraph service (telegram service)

[illegible]

TABLE A-6/D.41 (cont.)

Results of the survey on tariffs in the international public telegraph service
(telegram service)

Country or territory of origin belonging to the continent of ASIA	Year	Continent: Africa			Continent: North America			Continent: Asia			Continent: Australia			Continent: Europe		
		Total number of words originating in your country	Mean overall accounting rate per word originating in your country	Mean outpayment per ordinary word	Total number of words originating in your country	Mean overall accounting rate per word originating in your country	Mean outpayment per ordinary word	Total number of words originating in your country	Mean overall accounting rate per word originating in your country	Mean outpayment per ordinary word	Total number of words originating in your country	Mean overall accounting rate per word originating in your country	Mean outpayment per ordinary word	Total number of words originating in your country	Mean overall accounting rate per word originating in your country	Mean outpayment per ordinary word
N. Corée		(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)
Népal																
Oman																
Pakistan																
Perim Isl																
Philippines		3.986	0.724	1.644	1.173	1.756	1.014	21.779	3.15	2.55	201	2.230	1.507	290	1.840	1.181
Qatar																
S. Corée		110	5.9	1.64	782	2.8	0.75	40	4.71	1.08	92	4.42	1.02	385	4.48	0.71
Singapore		415.8	2.192	0.410	2085.2	0.591	0.305	53.6	2.474	0.735	107.9	1.202	0.361	1551.3	1.797	0.577
Sri Lanka		294.4	1.18	0.34	558.3	0.7	0.34	21.7	1.75	0.7	236.5	0.61	0.31	2152.4	1.18	0.44
Syrie		813.805	0.31	0.193	214.774	1.80	0.43	52.390	3.30	1.056	0.977	2.81	2.24	-	-	-
Thaïlande																
Emir. Arabes Unis		557.134	1.739	0.873	395.908	1.622	0.809	7.708	2.60	1.297	38.47	2.622	1.319	1349.924	1.203	0.819
Viet Nam																
Yemen Aden																
Yemen Sanaa		482	0.49	0.29	162	1.09	0.54	2	1.68	1.40	13	0.64	0.32	914	0.76	0.69
		Weighted average	1.920	0.858	Weighted average	1.679	0.614	Weighted average	2.420	0.852	Weighted average	1.716	0.721	Weighted average	1.573	0.772

TABLE A-7/D.41

**Results of the survey on tariffs in the international public telegraph service
(telegram service)**

Country or territory of origin belonging of the continent of AUSTRALIA and OCEANIA	Year	Continent: Africa			Continent: North America			Continent: South America			Continent: Asia			Continent: Europe		
		Total number of words originating in your country	Mean overall accounting rate per word originating in your country	Mean outpayment per ordinary word	Total number of words originating in your country	Mean overall accounting rate per word originating in your country	Mean outpayment per ordinary word	Total number of words originating in your country	Mean overall accounting rate per word originating in your country	Mean outpayment per ordinary word	Total number of words originating in your country	Mean overall accounting rate per word originating in your country	Mean outpayment per ordinary word	Total number of words originating in your country	Mean overall accounting rate per word originating in your country	Mean outpayment per ordinary word
Australia		(1) 1505	(2) 1.16	(3) 0.65	(1) 7715	(2) 0.59	(3) 0.30	(1) 538	(2) 1.39	(3) 0.92	(1) 12836	(2) 1.13	(3) 0.63	(1) 14644	(2) 1.04	(3) 0.55
Cocos-Keeling																
Norfolk																
Caroline																
Cook Isl.																
Fiji		-	-	-	-	-	-	-	3.76	1.09	85	2.84	0.88	30	2.16	0.93
Gilbert Is.																
Guam																
Hawaii																
Mariannes																
Marshall																
Midway Isl.																
Nauru																
New Hebrid																
New Zealand		240	1.171	0.490	1742	0.604	0.318	49	1.493	0.84	1460	1.05	0.494	2919	0.913	0.437
Niue Isl.																
Nouv. Caled.																
Papua N. Gui.																
Pitcairn																
Polynésie																
Salomon																
Samoa Occ.																
Samoa USA																
Taaf																
Tokelau Isl.																
Tonga		-	-	-	46	0.915	0.33	-	-	-	24	1.78	0.72	46	1.47	0.91
Tuvalu																
Wake Isl.																
Wallis Fut.																
		Weighted average	1.161	0.627	Weighted average	0.594	0.303	Weighted average	1.402	0.913	Weighted average	1.130	0.617	Weighted average	1.022	0.532

TABLE A-8/D.41

Results of the survey on tariffs in the international public telegraph service
(telegram service)

Country or territory of origin belonging to the continent of EUROPE	Year	Continent: Africa			Continent: North America			Continent: South America			Continent: Asia			Continent: Australia		
		Total number of words originating in your country	Mean overall accounting rate per word originating in your country	Mean outpayment per ordinary word	Total number of words originating in your country	Mean overall accounting rate per word originating in your country	Mean outpayment per ordinary word	Total number of words originating in your country	Mean overall accounting rate per word originating in your country	Mean outpayment per ordinary word	Total number of words originating in your country	Mean overall accounting rate per word originating in your country	Mean outpayment per ordinary word	Total number of words originating in your country	Mean overall accounting rate per word originating in your country	Mean outpayment per ordinary word
		(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)
Açores																
Albanie																
Allemagne RF		5047	1.52	0.78	6408	1.08	0.54	1851	1.83	0.86	12229	1.44	0.70	769	1.23	0.64
Andorre																
Autriche		293	1.77	1.11	622	1.80	0.82	122	2.79	0.71	1093	1.91	0.77	87	2.37	1.30
Belgique		1860	1.578	0.978	1808	1.129	0.636	437	1.451	0.851	2451	1.34	0.74	133	1.899	1.299
Bulgarie		378.76	1.159	0.624	160.47	1.465	0.582	28.52	2.772	0.839	746.30	1.407	0.719	27.79	2.195	1.716
Chypre		74.7	1.00	0.52	130.5	1.41	0.34	4.8	3.06	0.89	305	1.26	0.60	42.8	0.80	0.46
Danemark		605	1.57	0.89	956	1.22	0.72	155	1.55	0.87	1205	1.55	0.92	115	1.97	1.32
España																
Feroe																
Finlande		180.1	2.00	1.02	588	1.48	0.80	58.7	2.51	1.02	408.9	1.72	0.85	49.3	2.16	1.44
France		11792	1.147	0.567	9434	1.086	0.504	2671	1.953	0.693	12466	1.458	0.734	1840	1.048	0.360
Gibraltar		27	0.922	0.46	31	0.318	0.167	1	1.96	0.69	47	1.582	0.758	-	-	-
Grèce		1054	1.584	0.767	2503	1.252	0.619	207	2.521	0.724	2514	1.68	0.762	544	2.224	1.293
Groenland																
Hongrie		543	1.70	0.788	685	1.30	0.54	153	2.61	1.13	1153	1.998	1.11	62	2.25	1.37
Irlande		172	0.65	0.60	1004	0.33	0.18	58	0.72	0.57	389	0.63	0.55	151	0.65	0.52
Islande		12	1.669	1.103	159.6	1.673	1.074	7.7	1.466	0.862	24.6	1.553	0.974	7.2	2.168	1.568
Italie		4984.26	1.84	1.03	8080.81	1.56	0.71	2589.98	2.31	1.02	8913.39	1.55	0.80	1068.55	1.43	0.76
Liechtenstein ^{a)}																
Luxembourg		88	1.68	0.99	95	1.522	0.906	24	2.371	1.481	98	1.707	1.096	9	2.044	1.581
Madère																
Malte		80	1.014	0.589	271	0.640	0.335	27	0.986	0.696	384	1.009	0.693	174	0.726	0.436
Monaco																

a) The data for this country are included in the data furnished by Switzerland.

TABLE A-8/D.41 (cont.)

Results of the survey on tariffs in the international public telegraph service
(telegram service)

Country or territory of origin belonging to the continent of EUROPE	Year	Continent: Africa			Continent: North America			Continent: Asia			Continent: Australia			Continent: Europe		
		Total number of words originating in your country	Mean overall accounting rate per word originating in your country	Mean outpayment per ordinary word	Total number of words originating in your country	Mean overall accounting rate per word originating in your country	Mean outpayment per ordinary word	Total number of words originating in your country	Mean overall accounting rate per word originating in your country	Mean outpayment per ordinary word	Total number of words originating in your country	Mean overall accounting rate per word originating in your country	Mean outpayment per ordinary word	Total number of words originating in your country	Mean overall accounting rate per word originating in your country	Mean outpayment per ordinary word
Norvège		(1) 341	(2) 1.70	(3) 1.00	(1) 1147	(2) 1.32	(3) 0.70	(1) 109	(2) 2.44	(3) 0.99	(1) 739	(2) 1.85	(3) 0.93	(1) 53	(2) 2.19	(3) 1.57
Pays-Bas		2087	1.039	0.761	2914	0.957	0.501	1016	1.455	0.555	4274	1.378	0.771	387	0.996	0.757
Pologne		187	1.359	0.82	1449	0.357	0.504	142	2.458	0.782	1054	1.617	0.737	85	2.167	1.403
Portugal		322	1.60	0.847	739	1.59	0.80	495	2.10	0.83	301	1.88	0.784	58	2.28	1.31
R.D.A.		534	1.778	1.259	216.5	1.049	0.574	119	1.672	1.018	1185	1.322	0.848	30.1	2.032	1.419
Roumanie		891	1.22	0.56	387	0.96	0.34	104	2.04	0.58	1665	1.36	0.57	62	1.95	0.78
S. Marino																
Suède		711	1.57	0.95	1972	1.31	0.65	364	2.37	0.80	2151	1.75	0.76	165	2.09	1.26
Suisse		2707	1.28	0.73	2438	1.24	0.64	743	1.42	0.82	3868	1.26	0.72	263	1.79	1.18
Tchécoslov.																
Turquie		280	0.84	0.47	1250	1.35	0.68	26	2.55	0.77	2015	0.75	0.40	57	2.38	1.37
UK		24377	0.832	0.306	18326	0.554	0.284	3625	1.445	0.600	47243	0.766	0.401	7711	0.323	0.152
U.R.S.S.		865.70	1.99	1.11	1400.57	1.64	0.70	350.68	2.75	1.96	3381.60	1.40	0.65	181.65	2.52	1.65
Vatican																
Yougoslavie		7.45	1.65	1.37	1307	0.69	0.66	97	1.85	1.61	1.654	1.51	1.04	211	2.04	1.69
		Weighted average	1.176	0.580	Weighted average	1.006	0.510	Weighted average	1.861	0.801	Weighted average	1.160	0.595	Weighted average	0.832	0.460

References

- [1] CCITT Question 7/III, Contribution COM III-No. 1, Study Period 1981-1984, ITU, Geneva, 1981.
- [2] List of telegraph offices open for international service, 24th edition, ITU, Geneva, 1976.

Recommendation D.42

CHARGING, ACCOUNTING AND REFUNDS IN THE INTERNATIONAL PUBLIC TELEGRAM SERVICE

(Geneva, 1972; amended at Geneva, 1976)

The text of this Recommendation can be found in Recommendation F.42 (Fascicle II.4).

Recommendation D.51

ACCOUNTING PROCEDURE TO BE APPLIED WHEN A CIRCUIT CARRYING VH TELEGRAPHY IS REPLACED BY ANOTHER HAVING A DIFFERENT ROUTING

(Geneva, 1956; amended at New Dehli, 1960 and Geneva, 1976)

The text of this Recommendation can be found in Recommendation F.52 (Fascicle II.4).

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SECTION 4

CHARGING AND ACCOUNTING IN THE INTERNATIONAL TELEX SERVICE

Recommendation D.60

GUIDING PRINCIPLES TO GOVERN THE APPORTIONMENT OF ACCOUNTING RATES IN INTERCONTINENTAL TELEX RELATIONS

(Geneva, 1980)

The CCITT,

considering

(a) that the accounting rates applicable to telex traffic in various regions are already established in certain CCITT Recommendations;

(b) that neither Recommendation F.67 [1] nor any other Recommendation contains provisions determining the sharing of accounting rates to be applied to intercontinental telex traffic;

(c) that it would be desirable to establish certain guiding principles to govern the apportionment of accounting rates in intercontinental telex relations;

(d) that, for reasons of equity, it would be desirable for the accounting rate to be shared by the participating Administrations (terminal or possibly transit) in proportions which take account of the service provided by each of these Administrations;

recommends

General principles

In an intercontinental telex relation, the bilateral or multilateral agreement between the Administrations concerned should normally establish the same accounting rate for both directions of the relation regardless of the route utilized.

1 Direct relations

1.1 A direct relation is one between two terminal Administrations where traffic is routed over direct circuits, that is over circuits provided for the exclusive use of the terminal Administrations.

1.2 For the routing of traffic over direct circuits, the accounting rate is in principle divided between the Administrations of the terminal countries on a 50/50 basis for both directions of traffic. Proportions other than 50/50 may be used when the intercontinental facilities made available by each of the Administrations of the terminal countries are not approximately equivalent.

1.3 In cases where a direct relation exists and traffic is diverted by the Administration of origin to the financial detriment of the country of destination:

- unilaterally, via an unauthorized transit route, or
- unnecessarily (i.e. for other than genuine overflow traffic reasons or to meet routing difficulties), via an authorized overflow transit route,

it is for the Administration of origin to reach agreement with the transit Administration and to remunerate it from the amount of the country of origin's terminal share.

The above does not apply when the Administration of destination does not implement the number of channels required by the Administration of origin in order to provide for a grade of service in which the loss probability in the busy hour will not be more than 1 call in 50.

1.4 If a relation is the subject of a bilateral agreement for the routing of traffic flow on a direct circuit and consistently gives rise to traffic flow difficulties or genuine overflow traffic necessitating recourse to a transit routing in one or both directions, the sharing of the overall accounting rate may be the subject of agreement, for the traffic routed in transit as provided in § 2.2 below.

2 Transit relations ¹⁾

2.1 A transit relation is a relation between two terminal Administrations where traffic is routed by switching in an international transit exchange(s) located in a country or countries other than the country of origin or the country of destination.

2.2 In a transit relation, the accounting rate should normally be divided into two terminal shares and one or more transit shares depending upon the circumstances.

In negotiations concerning the division of the accounting rate it is recommended that the balance of the accounting rate, after deduction of the transit shares, be divided equitably between the terminal Administrations concerned.

For example, a division of 50/50 may be used when the facilities provided by the terminal Administrations are approximately equivalent. Proportions other than 50/50 may be used when the facilities made available by each of the Administrations of the terminal countries are not approximately equivalent, or where a 50/50 division would not otherwise be equitable.

Reference

- [1] CCITT Recommendation *Charging and accounting in the international telex service*, Vol. II, Fascicle II.4, Rec. F.67.

Recommendation D.61

THE CHARGEABLE DURATION OF A TELEX CALL

*(based on former Recommendations F.60 and F.67
as shown in Volume II.B of the Green Book; Geneva, 1976)*

The text of this Recommendation can be found in Recommendation F.61 (Fascicle II.4)

Recommendation D.67

CHARGING AND ACCOUNTING IN THE INTERNATIONAL TELEX SERVICE

(Geneva, 1976)

The text of this Recommendation can be found in Recommendation F.67 (Fascicle II.4)

¹⁾ Canada and the United States of America have expressed reservations regarding the application of the provisions of § 2.

SECTION 5

CHARGING AND ACCOUNTING IN THE INTERNATIONAL FACSIMILE SERVICE

Recommendation D.70

GENERAL TARIFF PRINCIPLES FOR THE INTERNATIONAL PUBLIC FACSIMILE SERVICE BETWEEN PUBLIC BUREAUX (BUREAUFAX SERVICE)

(Geneva, 1980)

Preamble

This Recommendation sets out the general principles and conditions for tariffication to be applied by Administrations for the provision of bureau to bureau facsimile document services using public facsimile stations (Bureaufax Service).¹⁾

1 General principles

In determining tariff principles to be applied to this service, consideration should be given to the structure and level of charges applicable to other international telecommunication services supplied by the Administrations concerned, and to the provisions of Recommendation D.5.

2 Charging principles

2.1 In principle, a charge per page shall be levied on senders by Administrations for the utilization of the international public facsimile service between public bureaux. This shall apply regardless of the telecommunication facilities (public networks or dedicated circuits) or type of facsimile terminals used between public bureaux.

2.2 In accordance with the Recommendation cited in [3], documents for facsimile transmission shall be accepted up to a maximum size, normally ISO A4 size (210 × 297 mm), or exceptionally up to a larger size, e.g. the North American standard format (195 × 260 mm) or the "legal" format (195 × 335 mm) by bilateral agreement between Administrations. A chargeable page is that part of a document page which is reproducible by facsimile equipment.

2.3 Separate charges for special handling in the national collection and/or delivery of facsimile documents may be levied on the sender and/or the addressee, as appropriate, by the respective originating and/or destination Administration.

¹⁾ See also the Recommendations F.160 [1] and F.170 [2].

3 International accounting

3.1 Accounting rates between Administrations in the international public facsimile service between public bureaux shall be established either on a per page basis or in the same manner as for normal calls over the international public network utilized. Alternatively, Administrations may, by bilateral agreement, account for only bureau handling costs on a per page basis, the use of the international public network being paid for as a function of the duration of use. The same procedure is applicable to refunds.

3.2 Where accounting between Administrations is on a per page basis, Administrations shall exchange monthly statements with respect to documents transmitted, showing necessary details for the settlement of accounts, such as number and size of page(s) transmitted and applicable accounting rates and shares. Where accounting between Administrations is effected in the same manner as for normal calls over the international public network utilized, facsimile transmissions shall form an integral part of the international accounts for that public network.

3.3 Any separate charges for special handling levied on the sender or on the addressee by an Administration for national collection and/or delivery or cancellation are normally not subject to accounting between Administrations.

3.4 Transferred account services may be offered subject to bilateral agreement between Administrations and in accordance with appropriate CCITT Recommendations.²⁾

3.5 If an Administration has accepted a refund claim, the refunded facsimile document charge should not appear in the international accounts, but the other Administrations concerned should be so notified.²⁾

4 Refunds²⁾

4.1 Refund of charges for the utilization of the international public facsimile service between public bureaux may be permitted at the discretion of the Administration, and in accordance with the following conditions. (The provisions on cancellation of facsimile documents are given in the Recommendation cited in [4]).

4.2 A *full refund* may be granted when a facsimile document has been cancelled *before* transmission has *begun*. However, a cancellation charge may be imposed and "special handling" charges, if any, will not normally be refunded in such instances.

4.3 A *full refund* may be granted if transmission and/or *delivery* of the entire document cannot be effected through no fault of the sender and/or addressee or their agents.

4.4 A *full refund* may be granted for any pages of a document which are not accepted by the addressee because of poor quality and because the service instruction "Risques expéditeur" does not appear in the preamble of the affected pages. Documents not accepted by the addressee cannot be retained by him. However, if the addressee accepts any pages of the document, no refund will be granted for those pages.

4.5 A *partial refund* may be granted in the case of multipage documents, when the document is cancelled *before* transmission is *completed*. The partial refund will only apply to those pages for which transmission has not begun. A cancellation charge may be imposed and "special handling" charges, if any, will not normally be refunded in such instances.

4.6 *No refund* will be granted when a request for cancellation of a document has been received at the sending bureau *after* transmission has been *completed*, or when transmission of a single page document has *begun*.

²⁾ The Federal Republic of Germany has expressed reservations regarding the application of the provisions of §§ 3.4 and 3.5 and of § 4, "Refunds".

4.7 *No refund* will be granted when the sender has been advised that the quality of the original is unsuitable for satisfactory transmission and the service instruction "Risques Expéditeur" appears in the preamble of the document. In the case of a multipage document, no refund will be granted for any pages transmitted under these conditions.

4.8 All claims for refunds of charges must be presented within 3 months of the date of receipt of the document at the receiving bureau. Normally, such claims will require appropriate documentation of the sender's or addressee's claim.

References

- [1] CCITT Recommendation *General operational provisions for the international public facsimile services*, Vol. II, Fascicle II.4, Rec. F.160.
- [2] CCITT Recommendation *Operational provisions for the international public facsimile service between public bureaux (Bureaufax)*, Vol. II, Fascicle II.4, Rec. F.170.
- [3] *Ibid.*, § 2.1.
- [4] *Ibid.*, § 9.

Recommendation D.71

GENERAL TARIFF PRINCIPLES FOR THE PUBLIC FACSIMILE SERVICE BETWEEN SUBSCRIBER STATIONS (TELEFAX SERVICE)

(Geneva, 1980)

Preamble

This Recommendation sets out the general principles and conditions for tarification to be applied by Administrations for the provision of an international public facsimile service between subscriber stations, using the international public switched telephone network ¹⁾ or international Datel network, ²⁾ (Telefax service) ³⁾.

1 General Principles

In determining the tariff principles to be applied in this service, consideration should be given to the structure and level of charges applicable in other international telecommunication services supplied by the Administrations concerned and to the provisions of Recommendation D.5.

2 Charging principles

2.1 In principle, the charges for calls in the international Telefax service shall be based on those applied for the normal use of the network concerned.

2.2 Administrations may apply additional charges for the provision of user facsimile station equipment and/or special facilities.

¹⁾ Some Administrations do not permit the international public switched telephone network to be used for facsimile transmission.

²⁾ The Datel network is a public network composed of special quality voice grade circuits (normally conforming to the specifications of Recommendation M.1020 [1]) or telephone circuits assigned to the Datel service. These circuits enable the Administrations to permit customer transmission of data and/or facsimile documents on an assured basis.

³⁾ See also Recommendation F.160 [2] as well as the Recommendation cited in [3].

3 International accounting

3.1 Normally, accounting for calls in the international Telefax service shall be at the same accounting rates and be effected in the same manner as accounting for calls over the international public network utilized. Such calls will form an integral part of the international accounts for that public network and no additional accounting between Administrations should be necessary for such calls.

In the case where different accounting rates are applied for Telefax calls, accounting for those calls should be listed separately.

The same procedures are applicable to refunds.

3.2 Any additional charges applied by an Administration for the provision of user facsimile station equipment and/or special facilities shall be retained by that Administration and shall not be included in the international accounts.

3.3 Collect and transferred account services may be offered subject to bilateral agreement between Administrations and in accordance with appropriate CCITT Recommendations.

4 Refunds

4.1 Charges for calls in the international Telefax service may be refunded at the discretion of Administrations, when circuit failure or failure of equipment provided by the Administrations prevents satisfactory transmission. However, refund of charges may not be applicable where transmission over a public network is permitted on an "unassured" basis, that is, without guarantee as to transmission speed and/or quality of transmission.

4.2 To obtain a refund, the subscriber shall apply to the Administration responsible for his facsimile service, submitting in support of his claim for a refund the original document and the faulty copy received at the destination point, when such is required.

References

- [1] CCITT Recommendation *Characteristics of special quality international leased circuits with special bandwidth conditioning*, Vol. IV, Fascicle IV.2, Rec. M.1020.
- [2] CCITT Recommendation *General operational provisions for the international public facsimile services*, Vol. II, Fascicle II.4, Rec. F.160.
- [3] CCITT Recommendation *Operational provisions for the international public facsimile service between subscriber stations*, Vol. II, Fascicle II.4, Rec. F.180, § 5.

SECTION 6

CHARGING AND ACCOUNTING IN THE INTERNATIONAL PHOTOTELEGRAPH SERVICE

Recommendation D.80

PROVISIONS ABOUT PHOTOTELEGRAMS

*(Geneva, 1958; amended at New Delhi, 1960, Mar del Plata, 1968,
Geneva, 1972, 1976 and 1980)*

The text of this Recommendation can be found in Recommendation F.80 (Fascicle II.4).

Recommendation D.81

PROVISIONS RELATING TO PRIVATE PHOTOTELEGRAPH CALLS

(Mar del Plata, 1968; amended at Geneva, 1972, 1976 and 1980)

The text of this Recommendation can be found in Recommendation F.80 *bis* (Fascicle II.4).

Recommendation D.83

RATES FOR PHOTOTELEGRAMS AND PRIVATE PHOTOTELEGRAPH CALLS

*(Geneva, 1958; amended at New Delhi, 1960, Mar del Plata, 1968,
Geneva, 1972, 1976 and 1980)*

The text of this Recommendation can be found in Recommendation F.83 (Fascicle II.4).

Recommendation D.85

RULES FOR INTERNATIONAL PHOTOTELEGRAPH COMMUNICATIONS TO MULTIPLE DESTINATIONS

(Geneva, 1972)

The text of this Recommendation can be found in Recommendation F.85 (Fascicle II.4).

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SECTION 7

CHARGING AND ACCOUNTING IN THE MARITIME MOBILE SERVICE

Recommendation D.90 ¹⁾

CHARGING, ACCOUNTING AND REFUNDS IN THE MARITIME MOBILE SERVICE

(Provisionally adopted 1977; amended at Geneva, 1980)

Introductory Notes

- 1 Pursuant to Resolutions Nos. Mar2 - 22 and Mar2 - 23 and Recommendation Mar2 - 18 of the *World Maritime Administrative Radio Conference*, [1] the CCITT drew up Recommendations E.200/F.110 and D.90 ¹⁾ concerning operational and accounting provisions for the Maritime Mobile Service. Having accepted the conclusions of the CCITT studies, the *World Administrative Radio Conference*, [2] adopted texts dealing with the basic principles on operating and accounting procedures, leaving the detailed application of these principles to be covered by CCITT Recommendations.
- 2 Article 66 (No. 5085) of the *Radio Regulations* [3] specifies that the provisions of the *Telegraph Regulations* [4] and the *Telephone Regulations* [4], taking into account CCITT Recommendations, shall apply to radiocommunications in so far as the relevant provisions of the *Radio Regulations* do not provide otherwise.
- 3 Since, in accordance with Article 69 of the *Radio Regulations* [3], Article 66 enters into force on 1 January 1981, the provisions of this Recommendation shall also be applicable from that date.
- 4 With regard to mobile station charges (K11 to K19 below), Resolution No. 315 of the *World Administrative Radio Conference* [2] specifically resolved to adopt the recommended date of 31 December 1987 for the abolition of mobile station charges for public correspondence in the maritime mobile service.
- 5 Marginal reference numbers are shown in italics (e.g. *L51*) for those provisions that parallel the *Radio Regulations* [3]. References commencing with the letters A, B, C and D concern provisions in Divisions A, B, C and D respectively of Recommendation E.200/F.110 entitled *Operational provisions for the maritime mobile service*.
- 6 For the purpose of this Recommendation the term *Maritime Mobile Service* should be understood to embrace the Maritime Mobile-Satellite Service as well as the MF, HF, VHF and UHF radio media, unless specifically stated otherwise.

¹⁾ This Recommendation appears in the Series F Recommendations as Recommendation F.111 (Fascicle II.4).

7 Throughout this Recommendation the asterisk (*) used after *Administration(s)* means that recognized private operating agency/agencies are included. However, where this reference is made in respect of notification by Administrations to the General Secretariat of the ITU, this applies only to recognized private operating agencies that have been authorized by Administrations to carry out such notification.

8 For the purpose of this Recommendation, the terms *mobile station* and *land station* should be considered as analogous to *ship station* and *coast station* respectively used in the *Radio Regulations* [3].

CONTENTS

DIVISION J – *General*

1 *Definitions*

DIVISION K – *Charging*

1 *General*

1.1 General

1.2 Tariff changes

1.3 Radiocommunications between mobile stations

2 *Radiotelegrams*

2.1 General

2.2 Special charging arrangements

3 *Radiotelephone and radiotelex calls*

3.1 Land station and landline charges

3.2 Special charges

DIVISION L – *Accounting*

1 *General*

2 *Establishment of accounts*

2.1 Maritime accounts

2.2 International accounts

2.3 Accounting for single-operator service

3 *Exchange and verification of maritime accounts*

4 *Payment of balances*

5 *Archives*

DIVISION M – *Refunds*

1 *Radiotelegrams*

1.1 General

1.2 Radiomaritime letters

2 *Radiotelephone and radiotelex calls*

Annex A – Identification of accounting authorities

1 Code format

2 Allocation

3 Notification

4 Publication

5 Examples

Annex B – Specimen form of statement of maritime accounts

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DIVISION J

GENERAL

1 Definitions

J1 1.1 accounting authority

F: autorité chargée de la comptabilité

S: autoridad encargada de la contabilidad

The Administration of the country that has issued the licence for a mobile station (or the recognized private operating agency or other entity/entities designated by the Administration in accordance with *L1* to *L6*) to whom maritime accounts in respect of mobile stations licensed by that country may be sent.

J2 1.2 accounting authority identification code (AAIC)

F: code d'identification de l'autorité chargée de la comptabilité (CIAC)

S: código de identificación de la autoridad encargada de la contabilidad (CIAC)

The discrete identification code of accounting authority responsible for the settlement of maritime accounts (see Annex A).

J3 1.3 maritime account

F: compte maritime

S: cuenta radiomarítima

The account issued by the Administration* operating a land station in respect of telecommunication traffic exchanged between the land station and a mobile station.

J4 1.4 landline charge

F: taxe de ligne

S: tasa de línea

The charge relating to transmission over the general network of telecommunication channels, national and international.

J5 1.5 land station charge

F: taxe terrestre

S: tasa terrestre

The charge relating to the use of facilities provided by the land station in the maritime mobile services or by the earth station in the Maritime Mobile-Satellite Service. In the Maritime Mobile-Satellite Service, this charge shall include all space segment costs. An Administration* may also choose to present its total land station charge in its component parts.

J6 1.6 mobile station charge

F: taxe de station mobile

S: tasa de estación móvil

The charge relating to the use of facilities provided by the station.

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DIVISION K

CHARGING

1 General

1.1 General

- K1 1.1.1 The charges for radiocommunications consist of:
- K2 a) the landline charges;
- K3 b) the land station charges;
- K4 c) the mobile station charges (if any);
- K5 d) any charges for special services for telegrams that have to be considered in the accounting;
and
- K6 e) any special charges for special facilities.
- K7 1.1.2 The landline charge for national telecommunication channels applicable to radiocommunications between a mobile station and the country of the land station is notified in gold francs to the ITU General Secretariat by the land station Administration*.
- K8 1.1.3 The landline charges applicable to radiocommunications between a mobile station and a country other than that of the land station, are the collection charges fixed or applied for telecommunication services in the international relation concerned; they shall be notified in gold francs to the ITU General Secretariat by the land station Administration*.
- K9 1.1.4 The land station charges shall be expressed in gold francs; Administrations* shall notify to the ITU General Secretariat the charges fixed by them.
- K10 1.1.5 The landline and land station charges notified to the ITU General Secretariat in accordance with K7 to K9 will be published in the *List of Coast Stations* [5].
- Note* – For countries that have not introduced banded collection charges for international services, only a limited number of charges, for routes in frequent use, will be published. Administrations* of these countries should indicate to the ITU General Secretariat which charges should be published in the *List of Coast Stations* [5].
- K11 1.1.6 Where mobile station charges are applied, the Administration of the country that has issued the licence shall so notify the ITU General Secretariat for inclusion of this information in the *List of Ship Stations* [6].
- K12 1.1.7 Mobile station charges may be applied in the radiotelegram, radiotelephone and radiotelex services in the MF and HF bands. They shall not be applied in the VHF service, in the Maritime Mobile-Satellite Service nor in any service with automatic operation; however, mobile station charges may also be applied for radiotelegrams transmitted via VHF.

- K13 1.1.8 Mobile station charges shall be abolished for traffic exchanged after 2359 hours UTC ²⁾ 31 December 1987.
- K14 1.1.9 Until 31 December 1987, the following standardized mobile station charges shall be applied worldwide:
- K15 a) radiotelegrams, 0.40 gold francs per ordinary word;
 - K16 b) radiotelephone calls in the MF band, 1.50 gold francs per minute;
 - K17 c) radiotelephone calls in the HF band, 2.00 gold francs per minute;
 - K18 d) radiotelex calls in the MF and HF bands, 1.50 gold francs per minute.
- K19 1.1.10 The Administration of the country that has issued the licence for a mobile station may authorize it to collect on board and to retain mobile station fees when mobile station charges are no longer applicable. The Administration may set an upper limit to these fees.
- K20 1.1.11 Mobile stations must be acquainted with the tariffs necessary for charging. However, they are authorized, where necessary, to obtain such information from land stations. Charges furnished by land stations are expressed in gold francs.

1.2 *Tariff changes*

- K21 1.2.1 New or modified charges shall not come into effect for international traffic for countries other than that which establishes the charges until the first day of the month following the expiry of the following periods, counted from the day after the dispatch of the first notification by the ITU General Secretariat:
- K22 a) for traffic from mobile station to land, 1 month and 15 days;
 - K23 b) for traffic from land to mobile station, 15 days, except that for changes to bring charges into line with those on competing routes the period shall be 10 days.

1.3 *Radiocommunications between mobile stations*

- K24 1.3.1 When a single land station is used as an intermediary between mobile stations, two land station charges are collected. If the land station charge applicable to traffic with the origin mobile station is different from that applicable to traffic with the destination mobile station, the sum of these two charges is collected.
- K25 1.3.2 When it is necessary to use two land stations as intermediaries between two mobile stations, the land station charge for each station is collected and also the landline charge for the section between the two land stations.

2 **Radiotelegrams**

2.1 *General*

- K26 2.1.1 The land station charge and the mobile station charge are fixed on the basis of a word charge.
- K27 2.1.2 The total charge of radiotelegrams is collected from the sender, with the exception of charges applicable to radiotelegrams to be redirected at the request of the addressee (as provided in Recommendation F.1 [7]).

²⁾ For practical operating purposes, Coordinated Universal Time (UTC) may be considered as equivalent to Greenwich Mean Time (GMT).

- K28 2.1.3 No additional charge shall be made when acknowledgement of receipt of a radiotelegram is made through another mobile station or land station by service advice, or when an intermediate mobile station assists in the forwarding of a radiotelegram.

2.2 *Special charging arrangements*

2.2.1 *Radiotelegrams of immediate general interest*

- K29 2.2.1.1 No charge for radio transmission in the Maritime Mobile Service is made for radiotelegrams of immediate general interest, provided that they are:
- K30 a) distress messages or replies thereto;
- K31 b) radiotelegrams originating in mobile stations notifying the presence of icebergs, derelicts, mines and other dangers to navigation, or announcing cyclones and storms;
- K32 c) radiotelegrams originating in mobile stations announcing unexpected phenomena threatening air navigation or the sudden occurrence of obstacles at airports;
- K33 d) radiotelegrams originating in mobile stations notifying sudden changes in the position of buoys, the working of lighthouses, devices connected with buoyage, etc.; or
- K34 e) service radiotelegrams relating to the maritime mobile service.

2.2.2 *Radiotelegrams relating to medical advice*

- K35 2.2.2.1 No charge for radio transmission is made for radiotelegrams relating to medical advice provided that:
- K36 a) they are exchanged directly between mobile stations and land stations that are shown in the *List of Radiodetermination and Special Service Stations* [8] as providing such a service, and,
- K37 b) they are addressed in accordance with the conditions indicated in that List.

2.2.3 *Meteorological radiotelegrams*

- K38 2.2.3.1 Land station charges and mobile station charges applicable to meteorological radiotelegrams (see Recommendation F.1 [7]) should be reduced by at least 50 per cent in all relations.

2.2.4 *Radiotelegrams concerning persons protected in time of war*

- K39 2.2.4.1 Radiotelegrams concerning persons protected in time of war by the *Geneva Conventions* of 12 August 1949, are accepted under the conditions specified in § 4 of the Annex to the *Telegraph Regulations* [4] taking into account CCITT Recommendation F.1 [7].
- K40 2.2.4.2 The land station charges and the mobile station charges for these RCT radiotelegrams shall be decreased in the same proportion as specified for RCT telegrams in CCITT Recommendation F.1 [7].

2.2.5 *Press radiotelegrams*

- K41 2.2.5.1 For those land stations that accept press radiotelegrams, for the relations admitted, the land station charge and the mobile station charge should be the same as those for ordinary private radiotelegrams reduced by 50 per cent.
- K42 2.2.5.2 Press radiotelegrams are subject to any landline press rate that may be in force in the land station country or between the land station and destination countries.

2.2.6 *Radiomaritime letters*

- K43 2.2.6.1 Except as otherwise provided in K44 to K47, radiomaritime letters may be accepted, taking into account CCITT Recommendations relating to letter telegrams, if the telegram service is used to convey radiomaritime letters.

- K44 2.2.6.2 The total charge shall include the postal charge (by ordinary letter or airmail letter) due for delivery in the land station country.
- K45 2.2.6.3 An additional charge may be collected where delivery is to be made to a country other than that of the land station.
- K46 2.2.6.4 The following charges are added where applicable:
- K47 a) charges due for special services;
- K48 b) the landline charge when transmission on the land section is exceptionally by telegraph.

3 Radiotelephone and radiotelex calls

3.1 Land stations and landline charges

- K49 3.1.1 If no uniform charges apply in respect of the land stations of a country, different land station charges shall be fixed for the MF, HF and VHF bands and for the Maritime Mobile-Satellite Service.
- K50 3.1.2 If, due to the lack of technical facilities, no extra charges apart from the normal international landline charges can be levied by the origin Administration*, no land station charges will be collected for international automatic VHF radiotelephone calls in the to-mobile station direction, if so decided by the land station Administration*. The *List of Coast Stations* [5] shall indicate which Administrations* accept such calls without levying land stations charges.
- K51 3.1.3 The unit charge is the charge for an ordinary private call of one-minute duration except when provision K55 is applied for automatic operation.
- K52 3.1.4 The minimum charge for a manual, single-operator or semiautomatic call is three units.
- K53 3.1.5 Automatic calls should be charged by one of the following two methods, taking into account CCITT Recommendations:
- K54 a) charging minute by minute;
- K55 b) charging by periodic pulses of the type used in the national automatic service.
- K56 3.1.6 The charge for a call is normally collected from the calling party with the exception of collect calls (if collect calls are admitted). For collect calls, the charge shall be payable by the called party.
- K57 3.1.7 When handled through a land station, the chargeable duration of a manual or single-operator call will be fixed at the end of the call by the land station; if two land stations are participating in the handling of the call, the opinion of the land station that accepted the call from the originating mobile station will prevail.
- K58 3.1.8 The decision of the land station according to K57 will also be valid for international accounting.

3.2 Special charges

- K59 3.2.1 The special charges for personal radiotelephone calls (from mobile station to land) and collect calls, if admitted, shall be applied with manual or semiautomatic operation.

- K60 3.2.2 No special charges for personal radiotelephone calls to mobile stations handled by manual or single-operator service shall be applied in the Maritime Mobile Service, with the possible exception of the Maritime Mobile-Satellite Service.
- K61 3.2.3 The charge of special call facilities shall be calculated on the basis used for an international call, applied to either:
- K62 a) the landline charge only; or
- K63 b) all components of the call charge.
- K64 3.2.4 When the booking of a radiotelephone call that is liable to the payment of a special charge (for example, a collect call) is accompanied by a booking of a personal call, only one special charge shall be collected.

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DIVISION L

ACCOUNTING

1 General

- L1* 1.1 Charges for radiocommunications from ship to shore shall in principle, and subject to national law and practice, be collected from the maritime mobile station licensee:
- L2* a) by the Administration that has issued the licence, or
- L3* b) by a recognized private operating agency, or
- L4* c) by any other entity or entities designated for this purpose by the Administration referred to in *L2*.
- L5* 1.2 The Administration or the recognized private operating agency or the designated entity (or entities) is referred to in this Recommendation as the *accounting authority*.
- L6* 1.3 Each accounting authority will be allocated a discrete identification code (see Annex A).
- L7* 1.4 The name(s) and address(es) of the accounting authority(ies) with their respective identification codes shall be notified to the ITU General Secretariat for inclusion in the *List of Ship Stations* [6]. The number of such accounting authorities responsible for mobile stations licensed by the Administration concerned shall be limited as far as possible and should not exceed 25.
- L8* 1.5 For responsibility for payment of accounts rendered in accordance with *L1* to *L7*, see *L60* to *L63*.

2 Establishment of accounts

2.1 *Maritime accounts.*

- L9* 2.1.1 In the case of radiocommunications originating in mobile stations, the land station Administration* shall debit the accounting authority for the origin mobile station with:
- L10* a) the land station charges;
- L11* b) the landline charges;
- L12* c) the total charges collected for prepaid replies;
- L13* d) any charges for special services for telegrams;
- L14* e) where appropriate, the special charges for radiotelephone calls with special facilities;
- L15* f) where appropriate, postal charges on radiomaritime letters.
- L16* 2.1.2 The accounting for radiocommunications originating in mobile stations shall be based on accounting data gathered in the land station country, recording:
- L17* a) the mobile station identification;
- L18* b) the accounting authority identification code, if applicable;

- L19 c) the number of the addressee, including country and area codes;
- L20 d) chargeable duration;
- L21 e) start of the conversation time, if applicable;
- L22 f) traffic category.

- L23 2.1.3 In the case of radiocommunications, handled by manual or single-operator service, addressed to mobile stations and originating in a country other than that of the land station, the land station Administration* shall, unless otherwise agreed as provided for in L30, debit the origin Administration* with:
- L24 a) the land station charges; and
- L25 b) the mobile station charges, if any.

- L26 2.1.4 As regards automatic and semiautomatic radiocommunications, see L42 and L43.

- L27 2.1.5 In the case of a radiotelegram that has been forwarded by the land station to a mobile station in port by means other than radio (see B53 and B54), only the land station charge shall be debited.

- L28 2.1.6 In the case of a completed radiocommunication in the direction to a mobile station, the land station Administration* credits the accounting authority for the destination mobile station with:
- L29 a) the mobile station charges, if any; and
- L30 b) the total charge collected for prepaid reply, if occasion arises.

- L31 2.1.7 In the case of radiocommunications exchanged between mobile stations:

- L32 2.1.8 Through the medium of a single land station: the land station Administration* debits the accounting authority for the origin mobile station with the appropriate charges. Thereafter, if occasion arises, the provisions of L28 to L30 are applied.

- L33 2.1.9 Through the medium of two land stations: the first land station Administration* debits the accounting authority for the origin mobile station with the appropriate charges, taking into account L9 to L15. Thereafter, L23 to L27 and, if occasion arises, the provisions of L28 to L30 are applied by the second land station, the first land station being regarded as the office of origin as far as the accounts are concerned.

- L34 2.1.10 For accounting purposes, collect calls shall be regarded as originating in the destination country or mobile station.

- L35 2.1.11 Accounts are prepared monthly by the land station Administration* and rendered by it to:
- L36 a) the accounting authority responsible for the mobile station (see L9 to L15 and L28 to L30);
- L37 b) the origin Administration* (see L23 to L25) with the exception referred to in L41.

- L38 2.2 *International accounts*
- L39 2.2.1 The international landline charges for radiotelegrams, radiotelephone calls and radiotelex calls shall be included in the international telegram, telephone and telex accounts respectively and shall be accounted for in accordance with the provisions of the *Telegraph Regulations* and *Telephone Regulations* [4], taking into account CCITT Recommendations. The agreed international accounting rates shall apply.
- L40 2.2.2 The country on whose territory is established a land station serving as intermediary for the exchange of radiocommunications between a mobile station and another country, is considered, as far as the application of landline charges is concerned, as the origin or destination country and not as a transit country.
- L41 2.2.3 Except as provided for in L42, land station charges and mobile station charges shall, in principle, not be entered in the international telegram, telephone and telex accounts.

- L41 2.2.4 However, by previous agreements, Administrations* may establish a system by which the land station charges and the mobile station charges are included in the international accounts by the origin Administration*.
- L42 2.2.5 In the case of automatic or semiautomatic radiocommunications addressed to mobile stations and originating in a country other than that of the land station, the land station charges shall be included in the international telegram, telephone or telex accounts by the origin Administration* on the basis of chargeable duration automatically recorded for automatic traffic, or by the operator of the international centre for semiautomatic traffic.
- L43 2.2.6 The accounting for the charges relating to radiocommunications addressed to mobile stations, originating in the land station country and exchanged through a Maritime Mobile-Satellite System, shall be based on similar recordings as prescribed in L42.

2.3 *Accounting for single-operator service*

- L44 2.3.1 Except as otherwise provided, the following provisions apply to single-operator radiotelephone and radiotelex services, in which land subscribers and land station operators of different countries call each other without the aid of an intermediate operator.
- L45 2.3.2 The operating and charging procedures are described in Recommendation E.200/F.110 [9].
- L46 2.3.3 The billing and settlement procedures for single-operator radiomaritime calls to mobile stations are as follows:
- L47 2.3.4 Except as provided for in L49, the call details are forwarded at least monthly to the Administration* in question in the caller's country.
- L48 2.3.5 The Administration* charges the call in its internal billing system and includes the total amount in a quarterly statement of accounts to the credit of the land station Administration*.
- L49 2.3.6 In the case of collect radiotelephone calls to a mobile station in the international Maritime Mobile Service (if admitted by the land station Administration*), the total amount of the bill shall be debited to the mobile station licensee in the maritime accounts (see L9 to L15).
- L50 2.3.7 If bilaterally agreed between the Administrations* concerned, the land station Administration* may collect the charge by presenting a bill directly either to the foreign subscriber who booked the call or to his registered representative in the land station country.

3 **Exchange and verification of maritime accounts**

- L51 3.1 Exchange and verification of accounts shall be carried out in accordance with the *Telegraph Regulations* and the *Telephone Regulations* [4], taking into account CCITT Recommendations.
- L52 3.2 The accounts, in duplicate, shall be sent as promptly as possible but in any case before the end of the third month following that to which they relate.
- L53 3.3 Radiotelegrams, radiotelephone calls and radiotelex calls shall be entered individually with all necessary particulars, in the monthly accounts that serve as a basis for the accounting mentioned in this division.
- L54 3.4 The entries in accounts shall be spaced in such a way that the duplicate of the account can be divided and used for the accounting with the mobile station licensee by the accounting authority for the mobile station. The entries shall be grouped under mobile station name and call sign, with a total charge shown for each mobile station.

- L55 3.5 However, Administrations* may establish accounts for each mobile station with all necessary particulars mentioned above. These individual accounts shall be included in a recapitulatory statement.
- L56 3.6 A specimen statement is given in Annex B.
- L57 3.7 In principle, an account shall be considered as accepted without the need for specific notification of acceptance to the Administration* that sent it.
- L58 3.8 As soon as possible after receipt of the maritime account, the accounting authority should notify the Administration* of preliminary rejections; i.e. the mobile stations contained within the maritime account that are not or are no longer their responsibility.
- L59 3.9 However, any accounting authority shall have the right to question the contents of an account for a period of six months after dispatch of the account.
- L60 3.10 All maritime accounts shall be paid by the accounting authority without delay and in any case within six months after dispatch of the account. The invoice numbers and the traffic period covered by the payment should be quoted at the time of payment.
- L61 3.11 If international maritime accounts remain unpaid after 6 months, the Administration that has licensed the mobile station shall on request take all possible steps, within the limits of applicable national law, to ensure settlement of the accounts from the licensee.
- L62 3.12 In the case referred to in L59, if the account is seriously delayed in transit, the receiving accounting authority should at once notify the originating Administration* that queries and payment may be delayed. However, the delay shall not exceed three months from the date of receipt of the account.
- L63 3.13 The debtor accounting authority may refuse the settlement and adjustment of accounts presented more than 18 months after the date of handing-in of the radiotelegrams or the date of establishment of the radiotelephone calls or radiotelex calls to which the accounts relate.

4 Payment of balances

- L64 4.1 Payment of balances shall be carried out in accordance with the *Telegraph Regulations* and the *Telephone Regulations* [4], taking into account CCITT Recommendations.

5 Archives

- L65 5.1 The originals of radiotelegrams and documents relating to radiotelegrams, radiotelephone calls and radiotelex calls shall be held by the Administrations* with all necessary precautions from the point of view of secrecy, until the settlement of the relative account and, in any case, for at least six months counting from the month in which the accounts were sent. Administrations* may preserve the information by any other means, e.g. magnetic or electronic records.
- L66 5.2 However, should an Administration* deem it desirable to destroy the originals of radiotelegrams or any other documents or records mentioned in L65 before the above-mentioned period, and hence not be in a position to carry out an inquiry in respect of the services for which it is responsible, such Administration* shall bear all the consequences both as regards refund of charges and any difference in the accounts in question that might otherwise have been observed.

DIVISION M

REFUNDS

1 Radiotelegrams

1.1 General

- M1 1.1.1 The provisions of Recommendation F.42, Division C [10] shall apply with the following exceptions.

1.2 Radiomaritime letters

- M2 1.2.1 When a radiomaritime letter fails to reach its destination due to the failure of the postal service, only the charges in respect to the services not carried out are refunded.
- M3 1.2.2 Refund of charges is admitted when, through the fault of the telegraph or radiotelegraph service, a radiomaritime letter has not reached its destination, as well as in the cases provided for in Article 12 of the *Telegraph Regulations* [4] taking into account CCITT Recommendations.

2 Radiotelephone and radiotelex calls

- M4 2.1 When, through any fault of the service, the booking of a call is not followed by the calling and called stations being placed in communication, no charge shall be payable. If the amount of the charge has been paid, it shall be refunded.
- M5 2.2 In order to simplify operating and accounting procedures, Administrations* may decide that no charge shall be payable when a requested connection has not been set up, whatever the reason.
- M6 2.3 However, Administrations* may decide to collect charges in cases where there is no fault of service. In that case the basis of charging shall be notified to the ITU General Secretariat for inclusion in the *List of Coast Stations* [5].
- M7 2.4 When, through any fault of the service, difficulty is experienced in the course of a call, the chargeable duration of the call shall be reduced to the total time during which transmission conditions have been satisfactory, taking into account CCITT Recommendations.

ANNEX A

(to Recommendation D.90)

Identification of accounting authorities

A.1 Code format

A.1.1 Each accounting authority will be allocated a discrete *Accounting Authority Identification Code* (AAIC) consisting of two parts as follows:

- the first part will be two letters denoting the country in which the accounting authority is based, using the *List of Destination Indicators* (for use in the *Telegram Retransmission System*) published in accordance with Recommendation F.96 [11];
- the second part will be numeric, denoting the particular accounting authority.

A.2 Allocation

A.2.1 The AAIC will be allocated by the Administration of the country in which the accounting authority is based, regardless of whether or not the accounting authority concerned is responsible for mobile stations licensed by that Administration.

A.2.2 This means that the limitation of accounting authorities to 25 refers only to the number of accounting authorities responsible for accounting for mobile stations licensed by that Administration and not necessarily to the number of accounting authorities based within the Administration's country.

A.2.3 It may be possible therefore that the number of AAICs will exceed 25 for any one country but that there are still only 25 accounting authorities (not necessarily all based within that country) that are responsible for accounting for mobile stations licensed by that Administration.

A.3 Notification

A.3.1 Having been allocated a code by the Administration of the country in which the accounting authority is based, the accounting authority will notify the Administration of each country that has recognized it as an accounting authority for mobile stations licensed by that Administration, of its AAIC. The Administration concerned should notify the ITU of the AAIC, at the same time any notification is required by the ITU concerning the accounting authority; for example, when an Administration notifies the ITU of an accounting authority's address for inclusion in the *List of Ship Stations* [6], it should include the AAIC.

A.3.2 Each accounting authority is responsible for ensuring that all mobile stations for which it accounts are notified of its AAIC and that these mobile stations are aware of their responsibilities in using the AAIC when transmitting radio traffic.

A.3.3 When an accounting authority accepts responsibility for a mobile station, which may previously have been the responsibility of some other accounting authority, it must ensure that the mobile station is advised immediately of the new AAIC.

A.4 Publication

A.4.1 The Administration of the country in which the accounting authority is based is responsible for notifying the ITU of the AAIC allocated.

A.4.2 An Administration that accepts an accounting authority outside its own country is responsible for notifying the ITU of this fact and at the same time notifying the AAIC.

A.4.3 The information should be published in the ITU *List of Ship Stations* [6] as follows:

- a) under the Administration's entry, the address of the accounting authorities authorized to account for mobile stations licensed by the Administration should be listed along with their AAIC;
- b) each Administration will have another list showing all the accounting authorities based within that Administration with their AAICs.

List *a)* should not exceed 25. List *b)* may exceed 25.

There should also be an alphabetical list of *all* accounting authorities giving their AAIC.

A.4.4 From these three lists it will be possible to extract the name and address of an accounting authority when only the AAIC is known, to find the AAIC when only the name and address are known and to determine which accounting authorities are authorized to account for mobile stations of a particular registry.

A.4.5 In the body of the ITU *List of Ship Stations* [6] the AAIC of the accounting authority concerned should be shown in column 11 against each mobile station's entry.

A.5 Examples

A.5.1 Allocation of accounting authority identification code (AAIC)

Country that licensed the mobile station	Country where the accounting authority is located and where the AAIC is allocated (see § A.2.1)	Accounting authority is one of the maximum of 25 (according to L7) designated by	AAIC
Netherlands Netherlands United Kingdom Belgium Belgium etc.	Netherlands United Kingdom Netherlands Netherlands Belgium	Netherlands Netherlands United Kingdom Belgium Belgium	NL.. GB.. NL.. NL.. BE..

A.5.2 List a) (according to § A.4.3)

Administration that issued the licence	AAIC	Name and address	Country
Afghanistan Afghanistan Afghanistan	AF01 GB41 NL02	— — —	Afghanistan United Kingdom Netherlands
Italy Italy Italy Italy Italy Italy	IU01 IU02 BE11 GB41 NL02 NO03	— — — — — —	Italy Italy Belgium United Kingdom Netherlands Norway
Zambia Zambia Zambia Zambia	ZA01 BE11 IU02 NL07 etc.	— — — —	Zambia Belgium Italy Netherlands

In this list, the number of accounting authority identification codes per country is limited to a maximum of 25.

A.5.3 List b) (according to § A.4.3)

Country where the accounting authority is based	AAIC	Name and address
Afghanistan Afghanistan Afghanistan	AF01 AF02 AF03	— — —
Albania Albania	AB01 AB02	— —
Zambia Zambia	ZA01 ZA02	— —

In this list, the AAIC starts always with the destination indicator (according to Recommendation F.96 [11]). This list is not limited per country.

(to Recommendation D.90)

Account between country A and country B

in respect of { radiotelegrams
radiotelephone calls
radiotelex calls

[illegible]

- [1] *Final Acts of the World Administrative Maritime Radio Conference*, ITU, Geneva, 1974.
- [2] *Final Acts of the World Administrative Radio Conference (WARC)*, ITU, Geneva, 1979.
- [3] *Radio Regulations*, ITU, Geneva, 1976 edition, revised in 1979.
- [4] *Final Acts of the World Administrative Telegraph and Telephone Conference, Telegraph Regulations, Telephone Regulations*, ITU, Geneva, 1973.
- [5] *List of Coast Stations*, List IV, Part IV, Vol. I, 8th edition (published every 2 years), ITU, Geneva, 1980.
- [6] *List of Ship Stations*, List V, 21st edition, ITU, Geneva, 1981.
- [7] CCITT Recommendation *Operational provisions for the international public telegram service*, Vol. II, Fascicle II.4, Rec. F.1.
- [8] *List of Radiodetermination and Special Service Stations*, List VI, Vol. II, 7th edition, ITU, Geneva, 1980.
- [9] CCITT Recommendation *Operational provisions for the Maritime Mobile Service*, Vol. II, Fascicle II.2, Rec. E.200 (F.110).
- [10] CCITT Recommendation *Charging, accounting and refunds in the international public telegram service*, Vol. II, Fascicle II.4, Rec. F.42.
- [11] CCITT Recommendation *List of destination indicators*, Vol. II, Fascicle II.4, Rec. F.96.

SECTION 8

TRANSFERRED ACCOUNT SERVICE

Recommendation D.98

THE TRANSFERRED ACCOUNT TELEGRAPH SERVICE

(Mar del Plata, 1968; amended at Geneva, 1976)

The text of this Recommendation can be found in Recommendation F.41 (Fascicle II.4)

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SECTION 9

CHARGING AND ACCOUNTING IN THE INTERNATIONAL TELEPHONE SERVICE

9.1 Charging (determination of collection charges) in the international telephone service

Recommendation D.100¹⁾

CHARGING FOR INTERNATIONAL CALLS IN MANUAL OR SEMIAUTOMATIC OPERATING

1 The unit charge for a particular international service is the charge for an ordinary private station call of one minute duration, set up during the period of heavy traffic. The minimum charge for a call in manual or semiautomatic operating is three charge units.

The unit charge is always the same, whatever the route (primary, secondary or emergency) used between any two countries.

2 The charge for a call established over a chain of circuits should not exceed the sum of the charges for calls over each individual circuit. However, the Administrations concerned may agree to fix a total unit charge less than the sum of the charges.

3 Subject to agreement between Administrations, two different rates may be applied to traffic exchanged over their mutual routes:

- one rate during the period of heavy traffic;
- the other rate during the period of light traffic (see Recommendation D.106).

4 The charge for a personal call is the same as that for a station call in the same class, with the same priority and of the same duration, exchanged during the same charge period, plus a special charge for personal calls fixed by agreement between the Administrations concerned.

However, in certain relations and, in particular, those operated by radio circuits, the Administrations concerned may agree to apply the same charges for station calls and personal calls.

5 The facility of collect calls or the use of credit cards may be accepted for station calls, personal calls (possibly including personal calls with dispatch of a messenger), data transmission calls and conference calls.

6 Personal collect calls and personal credit card calls are subject only to the special charge for personal calls.

¹⁾ The provisions of this Recommendation were contained in the former Recommendations cited in [1] and [2].

7 Station credit card calls are not subject to any additional charge.

8 Station collect calls may be subject to a special personal call charge or to a special charge²⁾ fixed by agreement between the Administrations concerned. In this case the called subscriber may be informed that the charge he will have to pay will be the charge for personal calls or the charge for station calls plus a special charge.

9 For the sake of simplifying the telephone service and in view of the small proportion of personal calls requiring the dispatch of a messenger, Administrations are recommended not to apply a special surcharge. However, if Administrations wish to apply such a surcharge they should fix for themselves a uniform rate for all calls involving a messenger and inform the General Secretariat of the ITU so that this rate can be circulated to other Administrations.

10 Principles for application of charges

10.1 When the call requested has been set up, the appropriate charge is payable. When the call requested has not been set up, no charge is payable.

10.2 In the case of a request for a station call, the call is considered set up when the two stations are interconnected.

10.3 In the case of a request for a personal call, the call is considered set up when the caller is interconnected with the called party.

References

- [1] CCITT Recommendation *Operation of international telephone services (initial system)*, White Book, Vol. II-A, Rec. E.142, ITU, Geneva, 1969.
- [2] CCITT Recommendation *Operation of intercontinental telephone services (new system)*, White Book, Vol. II-A, Rec. E.143, ITU, Geneva, 1969.

Recommendation D.101¹⁾

CHARGING IN AUTOMATIC INTERNATIONAL TELEPHONE SERVICE

1 Principles for charging

1.1 It has been the general practice to charge for international telephone calls on the basis of a minimum indivisible period of 3 minutes, and then by whole minutes.

1.1.1 This system of charging, which is still in existence, was adopted at a time when automatic international service was not envisaged;

1.1.2 Many Administrations have adopted methods of charging for use with their national automatic service, in which the charges are recorded on subscribers' meters, but based on two different principles:

- a) some Administrations have for many years used a system based on trains of meter-pulses issued at the start of each period of 3 minutes, the number of pulses in the train depending on distance;
- b) other Administrations use, or intend to use, a system based on individual meter-pulses issued at short intervals of time, the length of the interval depending on the distance.

²⁾ In certain European countries the special charge for station collect calls levied by Administrations is equal to the charge for two minutes of conversation.

¹⁾ Approved in 1958 by the Special Assembly of the CCITT. Slightly modified and brought up to date in 1973 by the CCITT Secretariat in preparing the *Green Book*.

1.1.3 Certain Administrations which have adopted the system of charging by periodic pulses in their national services have made it known that it will not be possible for them to use a different system of charging for automatic international calls.

1.1.4 The use, on the same international relation:

- a) at one end, of a 3 minute + 3 minute method of charging (national type) or of a 3 minute + 1 minute method of charging (the type prescribed for international calls in manual operation);
- b) at the other end, of a periodic pulse method of charging (national type);

would lead to a grave dissymmetry in the charges made to users in the two countries concerned.

1.1.5 This serious dissymmetry would be likely to provoke adverse reactions from the subscribers of one country, who would be less favourably treated than their correspondents in the other country;

1.1.6 This serious dissymmetry would be likely to create certain financial difficulties for one of the countries:

- a) as a result of changes which may possibly take place in the balance of traffic;
- b) as a result of the fact that the country which charged on the basis set out in § 1.1.4 a) above would receive, in respect of the use of its system for incoming traffic, substantially less than it would collect from its own subscribers.

1.2 In order to avoid too great a dissymmetry in the charges collected, it was recommended in 1958 that either of the two following methods of charging might be used in the international automatic service:

- a) charging minute by minute;
- b) charging by periodic pulses, of the type used in the national automatic services.

2 Reduction of dissymmetry in the charges

2.1 As the existence, in the same relation, of the two methods a) and b) in § 1.2 above lead to a dissymmetry in the charges made, and as moreover the existence, in the same relation, of periodic charging methods with different intervals in the two countries concerned results in a very small dissymmetry in the charges made, in a given service between two countries A and B, the Administrations shall endeavour to see that the revenue obtained from users and the amounts entering in the international accounts correspond.

2.2 Hence, for a given relation, each Administration fixes the unit-charge and the unit-interval according to the characteristics of its national charging system but endeavours to observe the following equalities:

$$\sum_n d_r u_r = \sum_n d_A u_A = \sum_n d_B u_B$$

which equalities apply to a group of n messages chosen in such a way as to constitute a representative sample of the traffic on the relation in question.

In this equality,

d_r = actual call duration,

d_A = chargeable duration in the charging system of country A,

d_B = chargeable duration in the charging system of country B,

u_r = unit-charge used in drawing up international accounts in the automatic international service,

u_A = charge per unit-interval in the charging system of country A,

u_B = charge per unit-interval in the charging system of country B.

Note — d_r is expressed in minutes, with the appropriate decimals.

d_A and d_B are expressed by the whole number of unit-intervals in the charging system of country A or country B (the interval between two periodic pulses in periodic-pulse systems, or one minute in a 1 + 1 system).

u_r is a charge per (actual) call duration, is expressed in gold francs per minute of conversation and is the same for both directions in the relation in question.

Recommendation D.103

CHARGING IN AUTOMATIC SERVICE FOR CALLS TERMINATING ON SPECIAL SERVICES FOR SUSPENDED, CANCELLED OR TRANSFERRED SUBSCRIBERS

The text of this Recommendation can be found in Recommendation E.231 ¹⁾ (Fascicle II.2)

Recommendation D.104

CHARGING FOR CALLS TO SUBSCRIBER'S STATION CONNECTED EITHER TO THE ABSENT SUBSCRIBER'S SERVICE OR TO A DEVICE SUBSTITUTING A SUBSCRIBER IN HIS ABSENCE

The text of this Recommendation can be found in Recommendation E.232 ¹⁾ (Fascicle II.2)

Recommendation D.105

CHARGING FOR CALLS FROM OR TO A PUBLIC CALL OFFICE

The establishment of a station call from or to a public call office entails special expenses, but these special expenses are negligible in comparison with the other costs involved in the establishment of an international call.

It is therefore preferable not to collect a supplementary charge for the use of a public call office for an international call, but, notwithstanding, the Administrations which collect a supplementary charge in their national services may apply such a supplementary charge to international calls, it being understood that this supplementary charge is not included in the international accounts.

Recommendation D.106

INTRODUCTION OF REDUCED RATES DURING PERIODS OF LIGHT TRAFFIC IN THE INTERNATIONAL TELEPHONE SERVICE

1 It is desirable for Administrations to have uniform guide lines for applying reduced rates during periods of light traffic in the international telephone service. Observance of the following rules should lead to some degree of uniformity in this sphere.

2 Subject to the agreement of the Administrations concerned and with due regard to § 5 below, a reduced rate may be charged during light traffic periods both for fully automatic calls and for semiautomatic or manual calls.

3 According to the reasons for which the reduced rate is introduced, Administrations may choose a percentage reduction ranging from a minimum of 10 per cent to a maximum of 50 per cent. In selecting the percentage, Administrations should take into account the following:

- the necessity of informing the customers, by some means, of the hours and level of reduction;
- the need to determine the effects on distribution of traffic during the various hours and on revenues obtained from the service. In order to determine such effects, it may be well to introduce a series of small reductions rather than one large reduction.

¹⁾ These Recommendations were numbered E.203 and E.204 respectively in Volume II.2 of the *Orange Book*, Geneva, 1977.

3.1 The percentage reduction should be fixed by agreement between the terminal Administrations concerned to avoid dissymmetry between the charges at the two extremities of a relation.

3.2 Within regions, Administrations should agree to apply, as far as possible, the same percentage reduction.

3.3 For charging and accounting purposes, calls should be considered in principle to fall entirely within the charge period in which they start, regardless of the fact that they may end in another charge period.

4 The reduced rate periods and the date of introduction must be fixed by bilateral agreement or possibly by multilateral agreement for a region in the light of the following considerations.

4.1 The days and times during which reduced rates are offered may not be the same in both directions of the same relation, in particular as regards:

- public holidays, which vary from country to country;
- hours, owing to the difference in local times, especially in intercontinental relations. It is recommended, however, that the duration of the period in which the reduced rates apply should be the same in both directions.

4.2 The reduced rate period should begin and end on the hour (and not at subdivisions of an hour).

4.3 When there is a time difference between the two ends of the same relation the reduced rate period will be determined on the basis of the local time in the country of origin of the traffic. Calls paid for in the country of destination should be charged and accounted for according to the charge period in force in the country of origin at the start of the call.

4.4 Since business hours do not generally extend beyond 1900 hours (local time) in the evening and do not start in the morning before 0800 hours (local time), it is recommended that the intervening period be adopted for charging reduced rates on working days (see also § 4.6 below) in relations where the end-to-end time difference is not more than 3 hours.

4.5 In relations where the time difference is greater than 3 hours, the night reduced rate shall not be applied in the country of origin as long as the busy period has not yet ended in the country of destination.

4.6 The reduced rate shall normally be charged on Saturdays in countries where this is a rest day and on Sundays in countries where this is not a working day.

5 It is recommended that the application of reduced rates to the automatic service (see also § 2 above) be delayed until all or nearly all subscribers are able to dial their own calls in the relation concerned or until nearly all traffic can be routed automatically.

6 If the introduction of reduced rates is made before full dial capability exists, in the interest of fairness to subscribers who still must pass their traffic by semiautomatic or manual means, the reduced rate should be granted to these subscribers also.

9.2 Charging and accounting of calls with special services

Recommendation D.110

CONFERENCE CALLS

The text of this Recommendation can be found in Recommendation E.151 ¹⁾ (Fascicle II.2)

¹⁾ This Recommendation was numbered E.208 in Volume II.2 of the *Orange Book*, Geneva, 1977.

9.3 Procedures for remuneration of Administrations for facilities made available

Recommendation D.150

NEW SYSTEM FOR ACCOUNTING IN INTERNATIONAL TELEPHONY

1 General considerations

1.1 Introduction

1.1.1 The introduction of automatic and semiautomatic operation entails the use of alternative and overflow routings which make it impracticable to follow the path of a telephone call without considerable technical complications.

1.1.2 In order to avoid complicating too much the new technical equipment required – thereby raising its cost – new procedures are required so as to eliminate the need to know the path of every call as the basis for accounting in international telephony.

1.1.3 There is also the situation in certain international relations whereby Administrations purchase or lease direct transit circuits for the handling of their traffic.

1.1.4 The following procedures to meet these new situations and improve the efficiency of the world telephone network are valid, above all, for semiautomatic and automatic operation. They can be applied on relations operated manually, subject to agreement between the Administrations of all the countries concerned.

1.1.5 These procedures introduce the new concept of remunerating the Administrations of countries of destination and transit for making telephone network facilities available for use (e.g. for the routing of telephone calls including those with special facilities and calls indistinguishable from telephone calls such as facsimile transmission, etc.) by Administrations of countries of origin.

1.1.6 Annex A provides the explanation of terms used in this Recommendation.

1.2 Basic principles of a new system for accounting in international telephony

1.2.1 The remuneration of the Administrations of *transit countries* (direct transit or switched transit) should not depend upon the procedure selected by the terminal Administrations for accounting for their remuneration. That is, the different procedures affect only the remuneration of terminal Administrations.

1.2.2 As regards the remuneration of the Administrations of the countries of destination and transit countries, it is preferable to make no distinction between automatic and semiautomatic traffic when establishing international accounts. This is in line with the idea that Administrations should be remunerated on the basis of the facilities made available. Whilst expenses of setting up calls in these two cases are different in countries of origin, they are approximately the same in the countries of destination and transit countries.

1.2.3 It is preferable, in order to simplify accounting, that one procedure or the other be used to the greatest possible extent. Certain regions may find it expedient to select one of the procedures for use within their region.

1.3 Procedures

Procedures relating to remuneration of Administrations of *destination and transit countries* are as follows:

1.3.1 Remuneration of countries of destination

Administrations of countries of destination will be remunerated:

either by:

1.3.1.1 a procedure whereby the Administration of the country of origin keeps its revenue and remunerates the Administration of the country of destination for the facilities made available, including the international circuit, the international exchange and the national extension ¹⁾:

- a) on the basis of a flat-rate price per circuit (called the *flat-rate price procedure*); or
- b) on the basis of traffic units carried (called the *traffic-unit price procedure*);

in either case, the price will be fixed by the Administration of the country of destination;

or by:

1.3.1.2 the procedure whereby accounting revenue is shared between terminal Administrations (called the *accounting revenue division procedure*).

1.3.2 Remuneration of transit countries

Administrations of transit countries will be remunerated for facilities made available,

either by:

1.3.2.1 the *flat-rate price procedure* relating in the main to direct transit operations;

or by:

1.3.2.2 the *traffic-unit price procedure* relating in the main to switched transit operations.

1.4 Traffic unit

1.4.1 Definition of the traffic unit – conversation time

It is recommended that, when the traffic-unit price procedure is used [see §§ 1.3.1.1 b) and 1.3.2.2 above], the traffic unit adopted for the purpose of remunerating other Administrations should be *one minute of conversation time*.

1.4.1.1 With regard to a call, conversation time is the interval that elapses between:

- the moment when the reply condition (answer signal in the backward direction) is detected at the point where the recording of the call duration takes place, and
- the moment when the clear forward condition (clear forward signal) is detected at the same point.

1.4.1.2 The above duration conforms to that in Recommendations E.230 [1] and E.260 [2] for the “call duration” of automatic calls; it is now to be applied to all calls covered by this Recommendation. In practice, the reply condition is detected by recognition of the answer signal generated upon answer of the called party or distant operator. The clear forward condition is detected by recognition of the signal generated by the calling party or outgoing operator clearing down the connection. In default of such action, the connection will be automatically cleared down and a clear forward signal generated in the outgoing exchange after a delay period following receipt of the clear back signal generated by the called party replacing the receiver.

1.4.1.3 Conversation time has been chosen as the traffic unit because it is capable of being measured automatically in response to signals generated by CCITT signalling systems. Furthermore, it allows accounts to be settled by an Administration of a transit country without waiting for information from countries “up the line” as regards call durations taken from data on operators’ tickets.

¹⁾ This element will have due regard to the location of the international exchange and the distribution of the international traffic within the country of destination.

1.4.1.4 The only other unit which meets these criteria, holding time, is not recommended because of the wide variations between chargeable time and holding time in different relations and in different call types, which makes the use of holding time inappropriate for remunerating Administrations of countries of destination.

1.4.2 *Remarks*

1.4.2.1 In relation to individual calls, conversation time:

- a) will be less than circuit-holding time by reason, in particular, of the extra time circuits are held because there will be a period between the seizure of the circuit and the answer signal;
- b) will be the same as chargeable time in the case of fully automatic and station calls, and charged time also as regards the former when periodic pulse-metering systems are used;
- c) may be more than chargeable time in the case of personal calls where time is spent in obtaining the called party; calls with special facilities requiring operator intervention such as credit card, collect, conference or data calls or phototelegraph transmissions; or those station calls requiring operator assistance in the called country of destination or a transit country.

1.4.2.2 In relation to overall use of the circuit:

- a) there will be additional holding time because of any inability to reach the distant subscriber;
- b) there will be additional conversation time because of time on the circuit for service calls, directory inquiry or other information exchanges between operators;
- c) exceptionally, conversation time could be less than charged time depending on the mixture of traffic on the circuit and whether the Administration of the country of origin rounds up the charged time in 3 + 3 or 3 + 1 minutes charging systems, or when the final pulse in a periodic pulse-metering system does not coincide with the end of the conversation time.

1.4.2.3 It should further be noted that where conversation time is not known, but other time periods such as circuit-holding time or charged or chargeable time are known, e.g. from operators' tickets, it is possible to convert these other times to approximate conversation times by the use of factors which allow for the time differences referred to in §§ 1.4.2.1 and 1.4.2.2 above. These factors can be established on the basis of periodic measurement or sampling procedures, and may need to take account of individual characteristics.

2 **Remuneration of the Administration of the country of destination**

2.1 *Flat-rate price procedure*

2.1.1 Under this procedure the Administration of the country of destination receives payment for the facilities made available by a flat-rate price fixed by it as a price per circuit. The price per circuit would cover:

- a) the international circuit section provided by the country of destination;
- b) the use of its international exchange;
- c) the national extension ¹⁾.

2.1.2 In fixing these flat-rate prices, Administrations of countries within the same region may find it desirable to follow the principles in CCITT Recommendations.

¹⁾ This element will have due regard to the location of the international exchange and the distribution of the international traffic within the country of destination.

2.2 *Traffic-unit price procedure*

2.2.1 Under this procedure, the country of destination receives payment on the basis of the price fixed by it per traffic unit. This price will be related to the facilities made available and will take account of:

- a) the international circuit section provided by the country of destination;
- b) the use of its international exchange;
- c) the national extension ¹⁾.

2.2.2 In fixing these traffic-unit prices, Administrations of countries within a region may find it desirable to follow the principles in CCITT Recommendations.

2.3 *Accounting revenue division procedure*

2.3.1 Under this procedure, the accounting revenue from the traffic exchanged in their relationship is divided between the Administrations of the terminal countries, in principle on a 50/50 basis. Proportions other than 50/50 may be used when the facilities made available by each of the Administrations of the terminal countries are not approximately equivalent.

2.3.2 The Administration of each terminal country in principle pays an appropriate share (normally half) of any remuneration due to the Administrations of transit countries.

2.4 *Consideration regarding choice of accounting procedure*

2.4.1 The accounting revenue division procedure is particularly appropriate when there is a significant volume of traffic exchange or when operation is over both-way circuits ²⁾ as in the case of certain intercontinental traffic relations. The establishment of accounts for collect and credit card calls may be easier under the accounting revenue division procedure.

2.4.2 On the other hand, other accounting procedures are more appropriate when:

- a) the volume of traffic exchanged between the Administrations of terminal countries is light, as is the case when all traffic is handled only by switched transit;
- b) there is one-way operation on all the international circuits concerned ²⁾.

2.5 *Simplification of accounts and use of traffic sampling*

2.5.1 In certain conditions, the Administrations of terminal countries may agree not to exchange international accounts when, for example:

- a) the balance of settlement of their accounts is normally negligible;
- b) the *terminal countries'* traffic levels in both directions are more or less equal;
- c) there is approximate equivalence as regards their national extension ¹⁾.

2.5.2 Traffic sampling may be used for the establishment of international accounts when the countries involved in a given traffic relation so agree. This sampling may then avoid the necessity for continuous traffic measurements. For example, the samples could cover five working days and could be taken at regular intervals, such as once a year or four times a year, or they could be taken on the occasion of any significant change in the number of circuits in the given relation. Sampling is particularly useful when traffic in any international relationship is reasonably stable.

¹⁾ This element will have due regard to the location of the international exchange and the distribution of the international traffic within the country of destination.

²⁾ In connection with one-way and both-way circuit operations, actual circuit operation should not be confused with the possibilities of operating such circuits that signalling systems may offer. Even though the circuits between the terminal countries have a signalling system permitting both-way operation, it is common practice, when the volume of traffic is large enough, to split the both-way circuit groups into three groups, two of which are operated on a one-way basis, the third, operated on a both-way basis, being used for overflow from the first two.

3 Remuneration of the Administrations of transit countries

3.1 *Flat-rate price procedure*

3.1.1 It is recommended that in the case of direct transit via other countries, the Administrations of these direct transit countries should be remunerated for the exclusive use of the facilities made available on the basis of a flat-rate price per circuit.

3.1.2 Under the flat-rate price procedure, the terminal Administrations will ensure that the best possible use is made of the circuits because if those Administrations:

- a) provide too few circuits, they pay the penalty in the form of the lower quality of service they offer to their subscribers;
- b) provide too many circuits, they will have to pay more in remuneration and will be penalized financially.

3.1.3 The flat-rate price is fixed by the Administration of the transit country. In fixing these flat-rate prices, the Administrations of countries within a region may find it desirable to follow the principles in CCITT Recommendations regarding the establishment of recommended values for facilities provided.

3.2 *Traffic-unit price procedure*

3.2.1 When transit traffic is not handled on direct circuits (e.g. in the case of traffic passing by switched transit), the remuneration for the transit routing through one or more countries should be made to the Administration of the country of the first transit exchange used, which fixes a price per unit of handled traffic. This price should also include the remuneration to the Administrations of other transit countries, if any, and to the Administration of the country of destination, where appropriate.

3.2.2 The procedure of remuneration to the Administration of the country of the first transit exchange for the entire routing of the traffic to the country of destination (remuneration of the first transit exchange) is necessary to meet the situation where traffic may be routed through subsequent transit exchanges, each of which, under automatic operation, will be unable to identify the country of origin of the traffic. This procedure makes the source of the traffic irrelevant for the establishment of accounts. Depending on the accounting methods in force between Administrations, the remuneration of the first transit centre may or may not include payments for use of the facilities of the country of destination.

3.3 *Establishment of a switched-transit relation*

3.3.1 Before switching traffic via a transit exchange, the Administration of the country of origin will request the country in which the first switching transit exchange is situated for a price quotation per transit-traffic unit to the country of destination.

3.3.2 The Administration of the country to which the first exchange belongs advises the price per traffic unit for handling the traffic from the transit exchange to the country of destination, including remuneration of the latter country where appropriate. This price may be set up by the Administration of the country to which the transit exchange belongs, on the basis either of a special study or of a price already fixed for the transit routing to the same terminal country of traffic originating in other countries.

3.3.3 The Administration of any country with traffic to be routed in transit may, of course, find it advisable to consult the Administrations of several countries to ascertain which transit routing is the most economical.

3.3.4 The consultations by the Administration of the country of origin regarding the transit routing (by switching) of its traffic should be in accordance with the principles of the International Routing Plan described in Recommendation E.171 [3].

3.4 *Calculation of the remuneration to the Administration of the country of the first transit exchange on the basis of traffic units*

3.4.1 Remuneration to the Administration of the switched transit country depends on the number of traffic units handled by its transit exchange.

3.4.2 For the establishment of international accounts, the Administration of the country of origin should determine the volume of traffic in minutes of conversation time routed each month towards each country of destination through this transit exchange. If it is not technically possible to measure units of conversation time, the originating Administration may use charged minutes (shown on operators' tickets) or measurements of holding time and make the necessary conversion to obtain an assessment of conversation time. The procedure for determining the conversion factor to be used for each relation will be decided by agreement between the Administrations of the originating and transit countries and if necessary, the destination country, taking the remarks made in § 1.4.2 above into account.

3.4.3 An alternative version of this system can be contemplated when the traffic to the country of destination routed via a given international transit centre is sufficiently stable; the Administrations of the country of origin and of the country where the first transit exchange is situated might then agree to settlement on the basis of an estimated number of traffic units determined by means of traffic sampling and subject to periodic revision (such as once a year or four times a year).

4 Notes and examples

To assist in an understanding of the new procedures, the following three annexes deal with:

Annex A: Explanation of terms used in international telephone accounting.

Annex B: Differences between collection charges and accounting rates.

Annex C: Examples of the various procedures for remunerating Administrations.

ANNEX A

(to Recommendation D.150)

Explanation of terms used in international telephone accounting

A.1 (telephone) relation

F: relation (téléphonique)

S: relación (telefónica)

A (telephone) relation between two terminal countries exists when there is between them an exchange of telephone traffic (and, normally, a settlement of accounts).

A.2 country (or Administration) of origin

F: pays (ou Administration) d'origine

S: país (o Administración) de origen

The country of origin is the country in which the calling subscriber is located.

A.3 country (or Administration) of destination

F: pays (ou Administration) de destination

S: país (o Administración) de destino

The country of destination is the country in which the called subscriber is located.

A.4 terminal country (or Administration)

F: pays (ou Administration) terminal(e)

S: país (o Administración) terminal

A terminal country is both a country of origin and a country of destination in a given relation.

A.5 transit country (or Administration)

F: pays (ou Administration) de transit

S: país (o Administración) de tránsito

A.5.1 A transit country is a country through which traffic is routed between two terminal countries.

A.5.2 direct transit country

F: pays de transit direct

S: país de tránsito directo

A direct transit country is one through which traffic is routed on direct circuits, i.e. on circuits provided for the exclusive use of other countries.

A.5.3 switched-transit country

F: pays de transit en commutation

S: país de tránsito con conmutación

A switched-transit country is a transit country through which traffic is routed by switching in an international transit exchange.

A.6 international circuit

F: circuit international

S: circuito internacional

A.6.1 A circuit between two international exchanges situated in different countries is called an international circuit.

A.6.2 continental circuit

F: circuit continental

S: circuito continental

An international circuit between two international exchanges situated in two different countries in the same continent.

A.6.3 intercontinental circuit

F: circuit intercontinental

S: circuito intercontinental

An international circuit between two international exchanges in different continents.

A.7 national extension

F: prolongement national

S: prolongación nacional

A national extension is that part of the connection which extends from the national side of the international exchange to the subscribers.

A.8 remuneration for shared use and exclusive use

A.8.1 remuneration for shared use of circuits and equipment

F: rémunération pour utilisation en commun des circuits et des installations

S: remuneración por utilización en común de los circuitos y de las instalaciones

The expression "remuneration for shared use" refers to the remuneration paid to the Administration of a country P which makes its facilities available to a number of Administrations of other countries L_1, L_2, \dots, L_n for the routing of different international traffic streams. It may apply either to circuits or to switching equipment. Under the control of the owner Administration, the use of such facilities may be shared in any appropriate manner with other Administrations (including the Administration which owns them). The latter sets the price for the shared use of its facilities:

- a) either according to the number of traffic units; or
- b) by a fixed amount covering a certain period of time and based on the estimated volume of traffic and its time characteristics.

A.8.2 remuneration for exclusive use of circuits

F: rémunération pour utilisation exclusive des circuits

S: remuneración por utilización exclusiva de los circuitos

A.8.2.1 The remuneration for exclusive use is the remuneration paid to the Administration of a country which makes its circuits available for direct transit, each circuit being assigned on an exclusive basis. The volume of traffic, its origin and its fluctuations in time are not the concern of the owner Administration and have no effect on the amount of the remuneration, which is paid circuit by circuit. The owner does not control the traffic routed over the circuit. This is the conventional lease arrangement between Administrations.

A.8.2.2 For further clarification, it should be mentioned that:

- a) the general term “lease” (in French: *location*) used until now applies only to the case cited in § A.8.2.1 above where exclusive use is granted;
- b) the term “owner” in these definitions refers to an Administration which receives the remuneration and which grants the rights to another Administration. The owner may have real ownership or the indefeasible right of use of the facilities.

A.9 accounting rate

F: taxe de répartition.

S: tasa de distribución

The accounting rate is the rate per traffic unit agreed between the Administrations for a given relation which is used for the establishment of international accounts.

A.10 collection charge

F: taxe de perception

S: tasa de percepción

The collection charge is the charge collected by an Administration from its public for the use of the international telephone service. The establishment of that charge is a national matter.

A.11 flat-rate price (per circuit) procedure

F: méthode de rémunération forfaitaire (par circuit)

S: procedimiento de remuneración a tanto alzado (por circuito)

The flat-rate price procedure is a procedure which consists of remunerating an Administration on the basis of a flat-rate price per circuit.

A.12 traffic-unit price procedure

F: méthode de rémunération en fonction d'unités de trafic

S: procedimiento de remuneración en función de las unidades de tráfico

The traffic-unit price procedure is the procedure whereby remuneration of an Administration is based on traffic units.

A.13 conversation time

F: durée de conversation

S: duración de conferencia

A minute of conversation time is the traffic unit that is recommended for use in the traffic unit price procedure. Conversation time is the interval that elapses between:

- the moment when the reply condition (answer signal in the backward direction) is detected at the point where the recording of the call duration takes place, and
- the moment when the clear forward condition (clear forward signal) is detected at the same point.

A.14 accounting revenue division procedure

F: méthode de division des recettes de répartition

S: procedimiento de división de los ingresos de distribución

The accounting revenue division procedure is the procedure whereby accounting revenue is shared only between terminal Administrations.

ANNEX B

(to Recommendation D.150)

Differences between collection charges and accounting rates

B.1 The collection charge is the charge collected by an Administration from its public for the use of the international telephone service.

B.2 The accounting rate is the rate per traffic unit agreed between Administrations for a given relation, which is used for the establishment of international accounts.

B.3 Whilst, in general, Administrations correlate collection charges and accounting rates, the two cannot always be the same because, for example:

- a) in most countries collection charges and accounting rates will be expressed in different currencies;
- b) collection charges and accounting rates may be based on different traffic units;
- c) the value of national currencies can fluctuate relative to the gold franc;
- d) collection charges may be influenced by government fiscal policies.

B.4 As a general principle, in fixing the collection charges, Administrations should make every effort to avoid too large a dissymmetry between the charges applicable in each direction of the same relation.

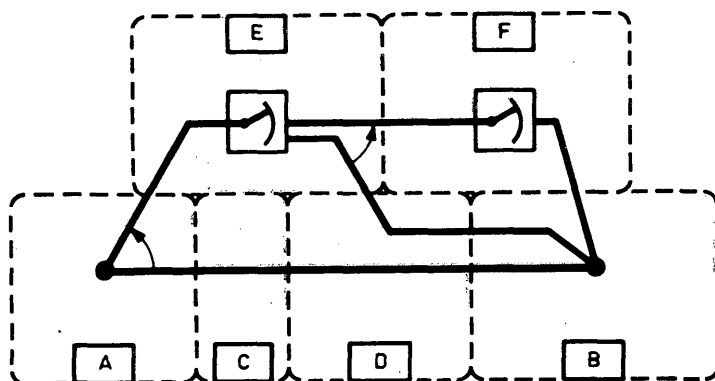
ANNEX C

(to Recommendation D.150)

Examples of the various procedures

C.1 General

C.1.1 The diagram in Figure C-1/D.150 shows a typical pattern of circuit interconnections between various countries, with particular reference to the exchange of traffic between countries A and B carried partly on direct circuits through countries C and D, and partly on switched transit circuits through country E which in turn may also make use of transit-switching facilities in country F.



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FIGURE C-1/D.150

Typical pattern of circuit interconnections between various countries

C.1.2 Three basic situations are examined in relation to use of Recommendation D.150:

C.1.2.1 Case 1 where countries A and B account for the total traffic between them on the basis of the accounting revenue division procedure and the sharing of the costs of facilities obtained from countries C, D, E and F.

C.1.2.2 Case 2 where countries A and B account for the total traffic between them on the basis of the traffic unit and/or flat-rate price procedure, each being responsible for accounting forward for the traffic it originates.

C.1.2.3 Case 3 where countries A and B account for some of their traffic on the basis of the accounting revenue division procedure, and the balance of their traffic on the basis of the traffic-unit price procedure.

C.1.3 The selection of methods of remuneration to be used will be agreed jointly between the Administrations of countries A and B taking into account, among other things, the routes and facilities made available and the traffic-unit and flat-rate prices quoted by countries C, D, E and F.

C.2 *Case 1 – Use of the accounting revenue division procedure for all traffic*

C.2.1 In accordance with the accounting revenue division procedure the Administrations of countries A and B jointly share the revenues of the traffic between their countries, each paying their appropriate shares (normally 50/50) of

- a) the remuneration due to direct transit countries C and D for the use of the circuit sections traversing those countries; and
- b) the costs incurred in use of overflow routes via E and F.

No separate or identified payment is made by the Administration of country A or country B for the facilities made available in country of destination B or A, at least for the portion of traffic using the direct route.

C.2.2 *Direct-transit traffic*

Remuneration to the Administrations of the direct-transit countries C and D is based on a flat-rate price per circuit and calculated according to the (crowflight) length of the circuit sections on the territories of countries C and D.

C.2.3 *Switched-transit traffic handled by the exchange in E*

C.2.3.1 The remuneration to the Administration of country E for traffic routed from A to B by switched transit at the exchange E is paid by the Administration of country A. The Administration of country E receives from the Administration of country A a payment calculated from the number of traffic units passed to country B on behalf of the Administration of country A.

Since the accounting revenue division procedure implies that each of the Administrations of the terminal countries A and B pays a share (normally half) of the remuneration due to the Administrations of the transit countries, irrespective of whether these are switched-transit or direct-transit countries, the appropriate share of the remuneration paid by the Administration of country A to the Administration of country E must be debited in the statement of revenue divided between the Administrations of countries A and B.

C.2.3.2 The Administration of country E fixes the price to be paid by the Administration of country A per unit of traffic between the transit exchange E to country B; the Administration of country E must take into consideration:

- its expenses on its own territory;
- the expenses incurred for the direct-transit circuits E-B through country D;
- the expenses for switched transit after overflow in E through the transit exchange in country F.

C.2.3.2.1 In determining expenses in its own territory, E should include expenses for the circuits A-E from the frontier AE to transit exchange E as well as its switching expenses.

C.2.3.2.2 The Administration of country E must also take into account the expenses relating to:

- the section of international circuits provided by the Administration of country B;
- the international exchange and the national extensions in that country.

These expenses may be:

- counted as part of the accounting revenue shared between the Administrations of country A and country B; or
- be included in the price fixed by country E, if it is more convenient or even necessary for that country to fix a price (normally one-half) for facilities made available in B. In this case A should, in principle, remunerate B with the appropriate share (normally one-half) of the gross revenue from this stream of traffic, minus:
 - i) *the appropriate share* (normally one-half) of the amount due from A to E for the transit of E and D or F, and minus
 - ii) *the whole* of the amount due from A to E for the destination country B.

In practice, it may be difficult for A to obtain the necessary information to split the total remuneration due to E into two parts i) and ii) above because E will have quoted a combined rate for the two routes via D and F and the amounts due to B for these two routes may be different; A will not know the distribution of traffic between the routes via D and F. In such cases, the Administrations of A and B may agree not to take into account the distribution of the traffic on the routes E-D-B and E-F-B and make separate arrangements to ensure the fair division of costs between A and B. For example B may agree with A on an average share for the extension on its territory of the routes D-B and F-B. These shares would be deducted from the gross revenue for the part of the traffic-transited via routes E-D-B and E-F-B. Alternatively, they may agree to dispense with the accounting revenue division procedure for this stream of traffic and account for it in accordance with § C.4 below.

C.3 *Case 2 – Use of traffic-unit and/or flat-rate price procedure for all traffic*

C.3.1 *Traffic on direct circuits*

C.3.1.1 *Remuneration to the Administrations of direct-transit countries*

The Administration of the country of origin A remunerates each of the Administrations of countries C and D for use of the sections of circuit A-B. Remuneration is based on a flat-rate price per circuit and is calculated according to the (crowflight) length of the circuit sections on the territories of countries C and D.

C.3.1.2 *Remuneration of the country of destination*

The Administration of the country of origin A should remunerate the Administration of country B:

- for the circuit section A-B provided by the Administration of country B;
- for the use of the international exchange in B;
- for the national extensions in country B.

Depending on the agreements concluded by the Administrations of countries A and B, the remuneration is based:

- a) either on a flat-rate price per circuit, or
- b) on the traffic-unit price.

C.3.1.3 *One-way operating and both-way operating*

In the case of one-way circuits the remuneration of an international circuit by the Administration of a country of origin presents no difficulty. In the case of both-way circuits, the Administrations of the terminal countries A and B decide how the costs of the international circuits are to be divided after taking account of the outgoing traffic of each.

C.3.2 *Switched-transit traffic handled by the exchange in E*

C.3.2.1 *Remuneration for circuits in the group A-E*

With respect to the traffic transiting the transit exchange in country E, the Administration of country A first of all remunerates the Administration of country E for the use of the section of the circuit A-E provided by the Administration of country E.

This remuneration is normally independent of the traffic in transit to country B, because the circuits A-E are used not only for traffic in transit to country B but also for terminal traffic from country A to country E. This is the case when the remuneration paid by the Administrations of countries A and E for terminal traffic between them is based on the flat-rate price procedure.

When the remuneration paid by the Administrations of countries A and E for terminal traffic between them is based on the traffic-unit price procedure, i.e. on the measurement of all traffic routed over the circuits A-E, a meter could be used to measure the whole of the traffic sent from A to E on the circuits A-E, regardless of the destination (i.e. regardless of the country codes); these measurements therefore would include traffic from A to B and A to F.

Alternatively, separate meters could be used in country A to measure the traffic destined for each of the countries B, E and F; this might facilitate the accounting for each of these streams of traffic.

C.3.2.2 Remuneration for transit routing by the exchange E

The Administration of country A remunerates the Administration of country E for routing calls to B beyond the transit exchange in E on the basis of the number of traffic units from A to B passing through the international transit exchange in E. This number of traffic units might be measured by a special meter, reserved for calls to country B, which could be placed in country A on the circuits A-E. The meter is activated only when the country code of country B is sent by the outgoing register of the exchange in country A.

The Administration of country E is credited by the Administration of country A for the transit traffic sent via its international transit exchange to country B on behalf of country A and is entirely responsible for remunerating the Administrations of countries D, F and B. This remuneration is included in the remuneration it makes for the entire traffic emanating from E and sent to country B, since the national traffic originating in E and the transit traffic originating in other countries is consolidated for accounting purposes.

In principle, the remuneration of the Administration of country B by the Administration of country E should comprise not only remuneration for use of the international circuit sections provided by the Administration of country B and remuneration for use of facilities in the international transit exchange in country B, but also any remuneration for use of national extensions in country B.

If the remuneration for the circuits in section A-E (which carry both terminal and transit traffic) is made on a flat-rate price basis which includes remuneration for the international exchange and the national extension, the transit traffic proportion of the amounts so included should be taken into account in calculating the remuneration to be paid by the Administration of country A to the Administration of country E for the traffic which is switched at E and routed to country B.

C.4 Case 3 — Use of the accounting revenue division procedure for the direct traffic between A and B and the traffic-unit price procedure for the traffic switched via country E

C.4.1 This case represents the situation where countries A and B wish to use the accounting revenue division procedure for the traffic carried over the direct A-B circuits and the traffic-unit price procedure for remuneration of the destination country for traffic switched through country E.

C.4.2 Traffic on direct circuits

By way of meters or statistical assessments the Administration of country A will identify that traffic sent on the direct circuits A-B, and account for that traffic on the basis of the accounting revenue division procedure as in Case 1 under § C.2.1 above.

C.4.3 Switched-transit traffic handled by the exchange in E

C.4.3.1 By way of meters or statistical assessments the Administration of country A will identify the traffic sent on the switched-transit route via country E, and account for that traffic on the basis of the traffic-unit price procedure as in Case 2 under § C.3.2 above.

C.4.3.2 The traffic-unit price quoted by country E in this case will include an amount for the facilities in country B. It should in fact be the same price as quoted in Case 2.

References

- [1] CCITT Recommendation *Chargeable duration of calls*, Vol. II, Fascicle II.2, Rec. E.230.
- [2] CCITT Recommendation *Basic technical problems concerning the measurement and recording of call durations*, Vol. II, Fascicle II.2, Rec. E.260.
- [3] CCITT Recommendation *The international routing plan*, Vol. II, Fascicle II.2, Rec. E.171.

Recommendation D.151

OLD SYSTEM FOR ACCOUNTING IN INTERNATIONAL TELEPHONY

1 Introduction

The new system for accounting (Recommendation D.150) might not always be applied in some relations especially where radiotelephone circuits are used and, in these cases, the following provisions may be adapted appropriately.

When Recommendation D.150 is not applied, it is recommended that the accounting rate for intercontinental calls, expressed in units of charged time, should be divided in accordance with the principles set out below.

2 Calls over direct intercontinental circuits

The accounting rate for calls over direct circuits should in principle be divided equally between the terminal Administrations unless other arrangements are agreed among the Administrations concerned ¹⁾.

3 Calls over a chain of intercontinental circuits

For calls over a chain of intercontinental circuits, the accounting rate should not exceed the sum of the accounting rates for calls over each of the individual circuits. However, the Administrations concerned may agree to fix a total accounting rate less than the sum of the individual accounting rates.

The total accounting rate should in principle be apportioned between the individual circuits in proportion to the accounting rate for direct calls over each individual circuit. The amounts accruing to each circuit should then be divided equally between the Administrations at each end of each circuit unless other arrangements are agreed between them.

4 Calls extended over continental landlines (that is, using them as an intermediate section or as an extension of an intercontinental circuit)

The principles for the determination of the total accounting rate are the same as in § 3 above, except that continental countries operating a radiotelephone circuit may agree to forego any share for the terminal land section used on their continent to extend calls over intercontinental circuits.

Administrations concerned in the provision of the landline section should not ask for higher payments than those applying in the case of calls obtained entirely by landline.

The total accounting rate should in principle be divided as follows:

- a) the part of the accounting rate accruing to the intercontinental circuit (or circuits) should be divided between the Administrations at the end of the intercontinental circuit (or circuits) as indicated in §§ 2 and 3 above;
- b) the part of the accounting rate accruing to the continental circuit should be divided in proportion to the amounts required by each Administration concerned in the provision of the continental circuit.

¹⁾ Certain large countries claim landline shares in respect of calls extended to places at a considerable distance from the intercontinental circuit terminal, before division of the balance of revenue.

Where the application of the above principles would result in different accounting rates for calls over different routes in a given relation, the Administrations concerned with the operation of the most expensive route (or routes) should agree how the rate should be scaled down to the lower figure. Unless otherwise decided by agreement between the Administrations concerned, this should be done by a proportionate reduction in the hypothetical shares applicable to the most expensive routes.

5 Similar considerations may apply to continental relations especially where radiotelephone circuits are used.

Recommendation D.152

MODE OF APPLICATION OF THE FLAT-RATE PRICE PROCEDURE SET FORTH IN RECOMMENDATION D.150 FOR REMUNERATION OF FACILITIES MADE AVAILABLE TO THE ADMINISTRATIONS OF OTHER COUNTRIES

1 Introduction

1.1 The general procedures for remuneration of Administrations for facilities made available are given in Recommendation D.150. In § 3 of Recommendation D.150 the principles for remuneration of transit countries by a flat-rate price procedure are given.

1.2 Practical methods for implementation in the case of facilities made available by transit countries are given for the following points:

- procedures for ordering facilities;
- provision of facilities;
- determining the period of remuneration;
- accounting;
- refunds for outages.

Throughout this Recommendation the term “facilities” embraces individual circuits and groups of circuits, e.g. groups (12 circuits), supergroups (60 circuits), etc.

2 Procedures for ordering facilities

2.1 After a preliminary enquiry on availability of facilities, price, etc., the terminal Administrations concerned should place an order with the transit Administration(s) for the facilities required. Such orders may be sent preferably by telex, or otherwise by telegram, or mail.

The following information should be given:

- 1) name of the Administration(s) to which the facilities are made available;
- 2) type of service to be provided (telephone, telegraph, telex, data transmission, etc.);
- 3) facilities to be made available (supergroup, group, telephone or telegraph circuit) and the number of such facilities;
- 4) type of transmission system used (submarine cable, satellite, etc.);
- 5) section of circuit or group (for multilink circuits);
- 6) expected in-service date;
- 7) preliminary technical information, if available, e.g. date and time for testing (to be settled by the technical services);
- 8) the duration required for temporary provision of facilities.

The order for the facilities should be sent well in advance so that the transit Administration(s) will have sufficient time for preparation.

2.2 In case of a change or cancellation of the order, the terminal Administrations should notify the transit Administration(s) of it as promptly as possible by telex, quoting a specific reference to the original order.

3 Provision of facilities

3.1 Confirmation of order

The transit Administration(s), when they have received an order, should give confirmation to the terminal Administrations of the availability of the requested facilities, the price per month or per year, and any other terms and conditions.

3.2 Notification of completion of order

When a telecommunication facility is being made available, the technical services of the Administrations concerned will naturally be in communication with each other as the work progresses. Nevertheless as soon as the facilities ordered are available a formal notification of the date of completion must be sent by the transit Administration(s) to all Administrations concerned.

4 Determining the period of remuneration

4.1 Beginning of the period

4.1.1 In accordance with the spirit of Recommendation D.150 payment is due when the facilities are made available by the transit Administrations, irrespective of the date on which the terminal Administrations bring the facilities into service.

In cases where the facilities are made available in advance of the ordered date, payment is based on the order date.

4.1.2 For *intercontinental* facilities, payment would be due from the day following that on which the facilities are made available to the terminal Administrations.

Thus for example, a request for the lease of an intercontinental facility for 1 July, would be handled as follows:

Date of availability: 24 June

Charging: from 2 July

Date of availability: 10 July

Charging: from 11 July

4.1.3 For *continental* facilities, a simplified method should be utilized for remuneration.

For the month during which the circuit(s) or the group(s) is(are) made available, terminal Administrations should remunerate the transit Administrations which made their facilities available as indicated below:

- for the whole month, if the facilities are made available between the 1st and the 15th;
- from the 1st of the following month if the facilities are made available between the 16th and the end of the calendar month.

However, within continents bilateral agreements may be made to apply the intercontinental method.

4.1.4 Nevertheless, in special circumstances the Administrations concerned may, by special agreement and in keeping with the basic principles, decide in the best interests of each party concerned on the procedure to be followed in selecting the date on which charging should start. Examples of cases where this could apply are:

i). *When there are several transit sections*

If, for example, two transit Administrations C and D do not complete their arrangements for making available the facilities requested by terminal Administrations A and B on the same date, it would be reasonable to select the date on which the entire transit section becomes operational.

ii) *Where the circuit orders relate to major projects, e.g. the opening of a new international exchange*

It is recognized that technical services will have a large circuit provision programme to meet which may extend over a considerable period before the new facility comes into service. The Administrations concerned may agree to the period for remuneration commencing at some later date after the facilities have been furnished.

4.2 Determination of the duration

The period during which facilities are made available should be determined as follows:

4.2.1 Facilities made available on a permanent basis — intercontinental

In calculating the period during which facilities are made available, one month shall mean one calendar month. Moreover, the day on which the facility is made available shall not be reckoned, whereas the day on which the facility is withdrawn shall be reckoned as a full day. Thus, a period of availability covering one month or more is calculated as follows:

- count the number of days beginning on the day following the day on which the facility was made available until the end of the month;
- thereafter count the number of full calendar months, if any; and
- count the number of service days in the last month, including the day on which the facility was withdrawn.

As regards charging:

- full calendar months are subject to the monthly rental;
- fractions of a month shall be subject to a daily charge equal to 1/30th of the monthly rental.

Examples are given in Table 1/D.152.

TABLE 1/D.152

Duration from the day of availability until the day of withdrawal	Chargeable time	Charge
30 October-15 December 30 October not counted 31 October = 1 day November = 1 month 1-15 December = 15 days	1 month 16 days	1 monthly rental + $\frac{16}{30}$ of this rental
30 November-15 January 30 November not counted December = 1 month 1-15 January = 15 days	1 month 15 days	1 monthly rental + $\frac{15}{30}$ of this rental
4 January-10 February 4 January not counted 5-31 January = 27 days 1-10 February = 10 days	37 days	$\frac{37}{30}$ of monthly rental

4.2.2 Facilities made available on a permanent basis — continental

In calculating the period during which facilities are made available, one month shall mean one calendar month. When the facilities are made available between the 1st and 15th of the month, remuneration shall be for the whole month. When the facilities are made available between the 16th and the end of the calendar month, remuneration shall commence from the 1st of the following month.

When the facilities are withdrawn between the 1st and 15th of the month, remuneration shall be made to the end of the previous month. When withdrawn between the 16th and the end of the calendar month, remuneration shall be made for the whole month.

4.2.3 Facilities made available on a temporary basis

By agreement between the Administrations concerned, it is possible to make facilities available for a period of less than one month.

In calculating the period during which facilities are made available on a temporary basis, one day shall mean a period of 24 consecutive hours.

The period during which a facility is made available should be calculated in multiples of 24 hours, the period starting from the time at which the facility is made available until the time at which it is withdrawn. If the number of days thus obtained contains a fraction of 24 hours, it should be rounded up to the next whole number.

Examples:

Circuit made available on 1 June, at 09.00 hours, cleared on 5 June at 09.00 hours:

4×24 hours, i.e. 4 chargeable days.

Circuits made available on 1 June, at 09.00 hours, cleared on 5 June at 11.00 hours:

$(4 \text{ days} + 2/24 \text{ day})$ i.e. 5 chargeable days.

The remuneration shall be equal to 1/30th of the monthly rental for each day of the period of availability ¹⁾.

4.3 *End of period of availability*

The period during which facilities are made available on a *permanent basis* will be terminated by the advice of the terminal Administrations. The notice of cancellation should normally be given to the transit Administration(s) one month in advance of the effective date of termination.

However, the period of availability for facilities provided on a *temporary basis* will end on the date and time agreed upon in advance.

5 **Accounting**

5.1 The procedure for accounting described in Recommendation D.170 should be applied. In principle the terminal Administrations will credit the transit Administration(s) with the sum due to it through the regular monthly accounts.

5.2 However, an agreement may be made between the Administrations concerned for only one of the terminal Administrations to credit the transit Administration(s) with the total remuneration due by means of regular monthly accounts and to debit the other terminal Administration.

5.3 There may also be specific cases, e.g. facilities made available on a temporary basis, provision of mutual aid facilities, where the Administrations concerned may agree that the country providing the facility should debit the country of origin.

6 **Refunds for outages**

6.1 *Need for rapid restoration of service*

When an outage occurs, the Administrations providing facilities should make every effort to restore interrupted facilities, or to make available at no extra charge the same facilities on an alternative routing, either through their own territory or through third countries.

6.2 *Intercontinental outages*

6.2.1 Automatic refunds will not be made. However, when an outage in a transit country exceeds 24 hours and the Administration of that country has not restored the facilities, the terminal Administration is entitled to claim a refund, particularly if it had to provide substitute facilities *at its own expense*.

This refund is calculated on the basis of 1/30th of the monthly rental per day or part of a day for the facilities which were temporarily interrupted.

6.2.2 When a transit Administration provides one or more intercontinental sections and an outage occurs in one of them, it shall refund for all the facilities it provides (including any continental section) and not solely for the section on which the failure occurred.

¹⁾ In order to simplify accounting methods and to stimulate mutual assistance among Administrations, the administrative and technical costs of establishing temporary circuits are not included. By special agreements between Administrations, these costs may, however, be recovered through a surcharge or installation charge equivalent to 2/30ths of the monthly rental.

6.2.3 When several countries are involved in making transit facilities available, only the Administration of the transit country in which the outage occurred shall be liable to pay a refund in the conditions set out above. If an outage occurs simultaneously in more than one country, the Administrations of those countries will be liable if a refund is claimed.

6.3 *Continental outages*

There will be no refunds for outages.

However, within continents, bilateral agreements may be made to apply the intercontinental method.

9.4 Establishment and exchange of international telephone accounts

Recommendation D.170

MONTHLY TELEPHONE ACCOUNTS

The following arrangements are recommended for the drawing up, exchange and acceptance of monthly telephone accounts between Administrations.

1 Each Administration of origin (and of transit where appropriate, e.g. in the case of § 3.1.4 below) shall prepare and forward monthly accounts. These should be drawn up separately on forms of the types shown below as specimens for:

- a) telephone traffic proper — Forms 1 or 2;
- b) sound- and television-programme and phototelegraph transmissions — Forms 1 or 2, suitably adapted.

The choice of form to be used for the accounts should be decided by the Administration which prepares the accounts, after consultation with the other Administration concerned. It may be convenient to use separate forms for originated and transit traffic.

The traffic details which must be included in the account are only those which are necessary for the purpose of international accounting. However, by agreement between the Administrations concerned, traffic information which is not essential for the accounts (e.g. the number of calls where this does not affect the accounting) may be included on the account forms.

In accordance with the *Telephone Regulation* [1], monthly accounts should be sent as promptly as possible but in any case before the end of the third month following that to which they relate.

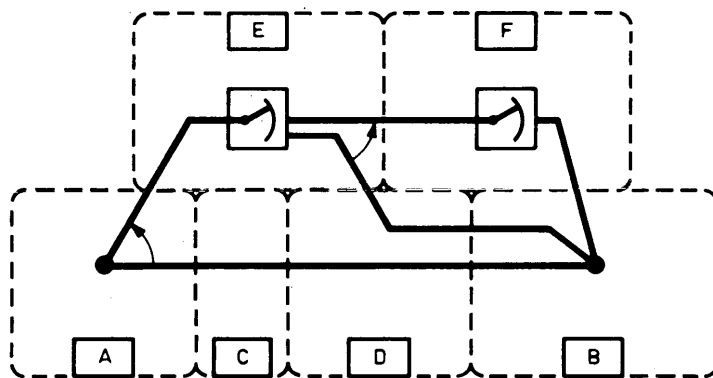
2 Accounts in international relations where Recommendation D.150 applies

The preparation of the monthly telephone accounts shall be as follows, using as an example the diagram in Figure 1/D.170 which is a reproduction from Annex C to Recommendation D.150. This diagram relates to the traffic from terminals A to B.

2.1 *When the accounting revenue division procedure is applied for accounting between A and B*

2.1.1 *For traffic on the direct route, A to B*

A shall prepare and forward to B a monthly account crediting B with one-half of the net revenue (accounting revenue), after deduction of the amounts due from A to C and D. A shall also account with C and D, either by including their remuneration in the monthly accounts for traffic from A which terminates in each of these countries, or by sending them a copy of the monthly account prepared for B, showing in it the amounts due to C and D.



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FIGURE 1/D.170

Typical pattern of circuit interconnections between various countries

2.1.2 For traffic on the route, A to B via E

There are two possibilities:

1) When the rate quoted by E includes an amount due to B

A shall prepare and forward to E a monthly account crediting E for A's traffic to B via E at the rate quoted by E to cover the transit of E and of D or F and also for the destination country B.

In principle A should include in its monthly account to B an amount crediting B with the appropriate share (normally one-half) of the gross revenue from this stream of traffic minus:

- the appropriate share, (normally one-half) of the amount due from A to E for the transit of E (and of D or F) and
- the whole of the amount due from A to E for the destination country B.

(For a better understanding of these procedures, see Recommendation D.150 and Annex C thereto, in particular.)

2) When the rate quoted by E does not include an amount due to B

A shall prepare and forward to E a monthly account crediting E for A's traffic to B via E at the rate quoted by E to cover the transit of E and of D or F.

A shall also include in its monthly account to B an amount crediting B with the appropriate share (normally one-half) of the net revenue after deduction of the amounts due (normally one-half) from A to E (the amount covering the transit by E and D or F regardless of the method of repayment: flat-rate or traffic-unit price procedure).

2.2 When the accounting revenue division procedure is not applied for the accounting between A and B

2.2.1 For traffic on the direct route A to B

A shall prepare and forward to B, C and D respectively a monthly account crediting the amounts due from A to each of them under whatever accounting procedure has been agreed with each of them (i.e. either the traffic-unit price or the flat-rate price procedure).

If the country of destination is remunerated under the traffic-unit price procedure, the flat-rate amounts for direct-transit countries should be divided in appropriate shares (normally equal) between the two terminal countries and the traffic-unit per minute price for passage through those transit countries should be divided in the same proportion between the two terminal countries. The application of this rule is necessary if the traffic accounting between the two terminal countries is to be fair, as this traffic-unit per minute price should be used by

each terminal Administration as a factor to be multiplied by the volume of outgoing traffic, which may not be the same in the two directions. Thus A will credit to B the traffic-unit price of B plus (normally one-half) of the traffic-unit price attributable to the transit of C and D.

2.2.2 *For traffic on the route A to B via E*

A shall prepare and forward to E a monthly account crediting E for all A's traffic to B via E, at the rate quoted by E to cover both:

- a) the transit of E and of D or F respectively,
- b) the remuneration due to B.

A shall not include this traffic in its monthly account with B.

2.3 *Accounting to be done by E in the cases described in §§ 2.1.2 and 2.2.2*

E shall prepare and forward to D, F and B respectively a monthly account crediting to each of them the amounts due to them in respect of traffic originating in E, and shall include in these accounts the amounts due to them for traffic from A (and any other countries transited by E). However, if the method of remuneration from E to either D, F or B is flat-rate price procedure, then E shall in principle retain the amount received from A (or any other countries upstream from E) relating to the section through the country being remunerated by the flat-rate price procedure.

3 **Preparation of accounts for relations to which Recommendation D.150 does not apply**

3.1 The following provisions apply to certain international relations to which Recommendation D.150 does not apply.

3.1.1 In direct relations the Administration of origin shall prepare and send a monthly account to the Administration of destination.

3.1.2 Where transit relations within the continent of origin are concerned, the Administration of origin shall prepare and send the monthly account to the Administration controlling the intercontinental circuit in the outgoing direction. At the same time a copy of the account shall be sent to each of the Administrations of transit countries concerned. The account shall show the share accruing to each of the Administrations of transit countries and in addition, in one amount, the share due to the Administration controlling the intercontinental circuit in the outgoing direction and the Administrations beyond its territory.

3.1.3 The Administration controlling the intercontinental circuit in the outgoing direction shall prepare and forward a monthly account, both for traffic which originates in its own country, and for that which passes in transit through its own territory, showing in one amount the share due to the Administration operating the other end of the intercontinental circuit, and, where applicable, the shares accruing to the Administrations beyond its territory.

3.1.4 The Administration operating the other end of the intercontinental circuit shall, where applicable, prepare a new account for each Administration concerned beyond its territory showing the share due to each.

3.2 In continental relations, except those covered by § 2.1 above, the Administration of origin shall prepare and send a monthly account to the Administration of destination and, where appropriate, a copy to each of the transit Administrations concerned showing the amount due to each of these Administrations.

4 **General remarks on the preparation of accounts**

In the preparation of monthly accounts, the following should be taken into account:

4.1 Separate entries should be made in respect of traffic sent over secondary or emergency routes which involve special remuneration.

4.2 The monthly account should include all special charges for telephone calls and, except when the traffic-unit price procedure as in Recommendation D.150 is applied or where there is agreement to the contrary, these special charges should be shared between the Administrations concerned in the same proportion as the charges for calls.

4.3 Collect calls should be included in the monthly account by the Administration of origin.

4.3.1 The Administration which collects the charge from the customer should credit to the Administration of origin the whole of the agreed accounting rate for this type of call under a transferred charge procedure on a separate entry in the monthly international accounts. Exceptions to this rule may be made for those relations in which the terminal Administrations apply the accounting revenue division procedure (as in Recommendation D.150) in which case it is possible to transfer only that share of the revenue which is due to the country of origin.

4.3.2 When the delay operator in the country of destination sets up a collect call [2], the two terminal Administrations may agree that the Administration of destination will retain the charges collected from the called party and consider the call as originating in its own country for the establishment of international accounts.

4.4 The rules for the preparation and submission of accounts for phototelegraph transmissions shall be the same as for telephone traffic proper.

4.5 The rules for the preparation and submission of accounts for sound- and television-programme transmissions shall be the same as for telephone traffic proper, except that the accounts shall be prepared by the Administration responsible for collecting the charge. Unless otherwise agreed these accounts should be accompanied by supplementary documents in which each sound- or television-programme transmission shall be separately identifiable.

4.6 Amounts in payment for telephone directories may be included in the monthly telephone account, or may, by arrangement, be the subject of a separate account which should be established at least once a year.

4.7 In relations in which a relatively large volume of transit traffic is routed through one (or more) transit country(ies), and in particular in relations in which direct circuits exist between two terminal Administrations, the terminal Administration of arrival may, on occasion, request the terminal Administration of origin to send it directly, *for information*, a copy of the monthly account (or an extract from this account) relating to the transit traffic routes through a transit Administration, in order to know without delay the volume of the monthly traffic thus routed in transit.

5 Queries relating to monthly accounts

In the absence of a specific agreement, it is recommended that queries relating to monthly accounts should not be made unless the differences involved exceed those shown in the following table (where references to gold francs should be read as applying equally to other accounting units):

<i>Amount of the account</i>	<i>Difference exceeding</i>
a) less than 10 000 gold francs	100 gold francs
b) from 10 000 to 300 000 gold francs	1% of the sum of the accounts
c) more than 300 000 gold francs	3000 gold francs

These limits shall apply separately to each of Forms 1 and 2 and separately also to:

- a) telephone traffic proper,
- b) sound- and television-programme and phototelegraph transmissions.

Queries shall not be further pursued once the difference involved no longer exceeds these limits.

A query may be justified, however, where a difference that does not qualify for query in an individual month appears to recur in subsequent months. In the case of a difference of opinion regarding the chargeable duration of a call or calls, the opinion of the Administration of origin shall prevail. Nevertheless, each Administration shall have the right to advise the Administration of origin of obvious errors in the monthly account.

6 Adjustments and refunds

For the accounting procedure in the case of adjustments and refunds see Recommendation D.171.

7 Checks of accounting data

Data relating to Forms 1 or 2 can be subject to sampling checks if the Administration of destination considers it desirable.

These traffic samples will be taken as follows:

On a given day the Administration of destination has observations made of a number of conversations chosen at random. For each of these, a determination is made of the route concerned, the time, the called subscriber's number, and on occasion the identity of the caller. (The first three factors can be obtained in semiautomatic service as well as in manual service.) Before noon on the following day the Administration of destination asks the Administration of origin to indicate the chargeable duration shown on the tickets for each of these calls.

An accounting check may also be made. In particular cases, where justified by the volume of traffic and by special agreement between Administrations, an official of the Administration receiving the account can visit the Administration which draws up the account, to see how the accounts are drawn up and to verify that the details of these calculations are as accurate as possible.

8 Keeping of vouchers

The vouchers which have served for the establishment of accounts should be preserved until those accounts have been settled, or in any case for at least six months.

Monthly telephone account

FORM 1

Traffic from To For 19.....

Month	Item	Number of minutes	Credit of B		Credit of C		Credit of D	
			Share of rate per minute	Total	Share of rate per minute	Total	Share of rate per minute	Total
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
		1405	2.40	3372.00	1.40	1967.00	1.20	1686.00
Totals.			—		—		—	

Explanatory notes for Form 1

1. In the heading, the Administration initiating the account in respect of transit traffic should insert the word "transiting" in place of "from".
2. If the account does not relate strictly to a calendar month (e.g. because of the arrangements for reading traffic meters in the automatic service), the period covered by the account should be shown.
3. Column (1), "Month" should contain the calendar month to which the data relates (e.g. in the case of transit traffic particularly, this would usually be earlier than the month of the account).
4. The form should have a "Credit of" column for each country to be remunerated.
5. Column (2) "Item" should be used and possibly sub-divided to specify any distinction required for international accounting purposes between zones of origin or destination, number of calls or call classification, special charges, etc. It may also be used to draw notice to the use of column (3) for recording number of calls or special charges rather than number of minutes.
6. Column (3), "Number of minutes", may be used to record either *a*) minutes of conversation time or *b*) minutes of charged time, according to the accounting procedure used. When minutes of charged time are recorded, any special charges equal to the charge for one minute or multiples thereof may be included.
7. Columns (4), (6) and (8) "Share of rate per minute" should show the amount for one minute payable to the Administration concerned.
8. Columns (5), (7) and (9), the "Total" should be obtained by multiplying the amount in columns (4), (6) and (8) respectively by the number of minutes in column (3).

FORM 2

Traffic from To For 19.....

Month	From	To	Classification	Number of		Gross accounting revenue	Share of rate per minute of call	Amount due to the "to" Administration
				Calls	Minutes			
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
			Personal fee	100	—	450.00	2.25	225.00
			Full rate		400	800.00	1.0	400.00
Totals.								

Explanatory notes for Form 2

1. In the heading, the name of the Administration initiating the account should be shown as the "From" country and the name of the Administration to whom the account is directed should be shown as the "To" Administration.
2. If the account does not relate strictly to a calendar month (e.g. because of the arrangements for reading traffic meters in the automatic service), the period covered by the account should be shown.
3. Column (1), "Month" should contain the calendar month to which the data relates.
4. Columns (2) and (3). These should contain a separate entry for each different combination of "from" Administration (or area), "to" Administration (or area) and call classification. Terminating and transit traffic should be grouped separately, and the latter should be further sub-divided between direct transit and switched transit if different accounting rates apply to each of these categories.
5. Column (4), "Classification" should contain the applicable classification used to determine the accounting rate. The terms used in this column may be abbreviated; e.g. "Personal fee" to "PF" or "*taxes afférentes aux conversations personnelles*" to "TCP".
6. Column (5), "Number of calls" may be used to show the number of calls where this is necessary for international accounting purposes and may also be used to report the number of special charges or other individual charge items that may be necessary.
7. Column (6), "Number of minutes", may be used to record either *a)* minutes of conversation time or *b)* minutes of charged time, according to the accounting procedure used. When minutes of charged time are recorded, any special charges equal to the charge for one minute or multiples thereof may be included.
8. Column (7) "Gross accounting revenue" should show the gross amount available for distribution where reporting of such data is agreed between Administrations concerned.
9. Column (8), "Share of rate per minute of call" indicates the share due to the "to" Administration and, where applicable, the Administrations beyond.
10. Column (9), "Amount due to the "to" Administration" should include the amount due to the "to" Administration and, where transit traffic is reported, amounts due to other Administrations for traffic routes to countries beyond the "to" Administrations.

References

- [1] *Final Acts of the World Administrative Telegraph and Telephone Conference, Telegraph Regulations, Telephone Regulations*, Article 8 of the Telephone Regulations, ITU, Geneva, 1973.
- [2] CCITT, *Instructions for the International Telephone Service*, (1st October 1981) Article 164, § 3.3, ITU, Geneva, 1981.

ADJUSTMENTS AND REFUNDS

The CCITT recommends that the following procedure for adjustments and refunds should be used in the international telephone service.

1 Any complaint made after the completion of an international telephone call which cannot be dealt with by operators shall be investigated by the international exchange of origin. According to circumstances, the other international exchange or exchanges concerned shall communicate direct to the international exchange of origin the information which may be necessary for the inquiry.

2 When a refund is granted, the international exchange responsible for charging is entitled to modify the entries in the documents used for the establishment of international accounts, if necessary after agreement with the other international exchanges concerned.

3 Any refunds granted to a subscriber which it has not been possible to deduct from the international accounts before they were sent out shall be borne by the Administration which levied the charge for the call in question. This provision does not cover the case of a collect call when the subscriber to whom it is charged claims that it was an ordinary call or that of an ordinary call when the caller to whom it is charged claims that it was a collect call. In both cases the international accounts may be adjusted subject to the consent of the Administrations concerned.

ACCOUNTING FOR CALLS CIRCULATED OVER INTERNATIONAL ROUTES FOR WHICH ACCOUNTING RATES HAVE NOT BEEN ESTABLISHED

Normally, when calls are circulated over international routes for which accounting rates have not been established,

- these calls shall be treated in the international accounts as if they had been sent via the primary route, or
- if no relation has been opened between two terminal countries, they shall not be included in the international accounts, provided that the chargeable duration of such calls does not exceed:
 - 25 minutes of call per month in an intercontinental relation,
 - 100 minutes of call per month in a continental relation.

The Administration of origin shall be responsible for keeping check of the total duration of such calls and for arranging to remunerate the Administration concerned if the duration exceeds the above-mentioned limits.

However, if the amount of such traffic becomes significant or if, for any other reasons, any one of the Administrations involved wishes to have a proper accounting rate established, all the Administrations concerned should consult together and establish the accounting rate and divisions thereof to be used for such traffic.

Recommendation D.173

DEFAULTING SUBSCRIBERS

1 It is in the interest of Administrations to know of telephone subscribers coming from a country where they have not settled their telephone accounts, and also to render each other assistance in the recovery of amounts due from such debtors.

2 In view of the differences in the law in different countries, it would be very difficult to regulate this assistance.

3 It is therefore recommended that when a telephone subscriber has left the country in which he was a subscriber without settling his telephone account, and has taken up residence in another country which is known, the Administration of the country of origin should advise the Administration in the other country and ask this latter, on a reciprocal basis, to take such steps or make such arrangements as it thinks fit to obtain payment of the accounts outstanding.

4 The minimum amount of unpaid telephone bills, for the recovery of which the assistance of another Administration is requested, should be 100 gold francs. Any such request for assistance should be made within two years from the date on which the unpaid telephone bill was submitted.

One Administration may appeal to another in special cases even when the amount owed is less than 100 gold francs; for example, if a punishable offence is involved and it is considered necessary for reasons of principle to recover the debt.

Recommendation D.174

CONVENTIONAL TRANSMISSION OF INFORMATION NECESSARY FOR BILLING AND ACCOUNTING REGARDING COLLECT AND CREDIT CARD CALLS

1 Information regarding collect and credit card calls, where the chargeable duration is determined in the outgoing country, should be transmitted promptly to the Administration which will be collecting the charges ideally within 10 days, but in any event within one month after the call took place, unless otherwise bilaterally arranged.

2 The method of transmitting this information (telecommunication or postal media) should be agreed between the Administrations concerned.

3 Where Administrations have not agreed on the exchange of tickets (or photocopies) and lists are used in order to facilitate prompt billing and establishment of accounts, the following minimum information should be transmitted:

- a) date of establishment of the call;
- b) calling party national number;
- c) called party national number;
- d) type (collect, credit card or third number paying);
- e) credit card number or billed number;
- f) basis of charging (full, reduced, personal or station);
- g) chargeable duration (minutes);
- h) connect hour.

4 By bilateral agreement between Administrations, certain items in § 3 above may be omitted or additional items included.

5 For uniformity it would be advantageous that the items be transmitted in the order listed in § 3 above.

**TRANSMISSION IN ENCODED FORM OF TELEPHONE REVERSED
CHARGE ¹⁾ BILLING AND ACCOUNTING INFORMATION**

1 Introduction

1.1 Under the provisions of Recommendation D.174 where the chargeable duration of a reversed charge telephone call is determined in the outgoing country, the details of the call should be transmitted promptly to the distant Administration to enable it to perform customer billing and in certain circumstances (Recommendation D.170, § 4.3) initiate international accounting.

1.2 A growing number of Administrations are processing telephone call data using computer based accounting systems. Information is drawn from traffic history tapes or from manually encoded data such as telephone tickets. It is usual, at present, to convert computer output from this processing to conventional printed accounts for dispatch to other Administrations. Where the receiving Administration also uses computer facilities, however, this information has to be re-encoded for further processing.

1.3 Transmission of data in encoded form avoids the decoding/re-encoding step. It also offers a faster transfer of information than by printed forms through the mail. The latter remains true even if the forwarding Administration has prepared the data by manual/mechanical means.

2 Aim

2.1 The aim of this Recommendation is:

2.1.1 to enable Administrations using computer based accounting systems to transfer information to each other in encoded form, without the need for decoding into conventional printed form and subsequent encoding into machine-readable form;

2.1.2 to enable other Administrations, if they so desire, to benefit from the greater efficiency of speedier transfer of information to them and to prepare themselves for the introduction of computer working by introducing transmission of data in encoded form in advance of installation of a computer;

2.1.3 to facilitate provision of printed output from computer based systems in a format suitable for manual/mechanical processing where it is to be forwarded to Administrations not using computer facilities;

2.1.4 to facilitate provision of printed output from manual/mechanical accounting systems in a format suitable for data encoding where it is to be forwarded to Administrations employing computer processing.

3 Method

3.1 Data record

3.1.1 The aim of this Recommendation can be met by use of a standard data record format for the various elements of information to be transferred. The information elements and their sequence must be compatible with the provisions of Recommendation D.174, so that decoding to and encoding from printed output for exchange of information with Administrations using manual/mechanical systems will be as simple as possible.

¹⁾ The term "Reversed Charge" is used to mean collect, collect pay phone, credit card and third number paying calls.

3.1.2 Between Administrations operating computer based accounting systems, adherence to the standard data record format for data transmission purposes will ensure that only one interface programme will be needed to enable any one computer installation to generate suitable input for, and accept output from, other computer installations.

3.2 *Data transfer*

3.2.1 Procedures already exist for transfer of data in conventional (printed) form through the mails. Data in encoded form could be transferred by mailing of magnetic or paper tapes, paper tape transmission by telex or data transmission over circuits utilized for this purpose.

3.2.2 While mailing of tapes avoids the encoding task for the receiving Administration there can be delays and loss in transit. In addition, there can be difficulties caused by the fragility of paper tape and incompatibility of various forms of magnetic tape recording.

3.2.3 Transfer of data via the telex service using paper tape transmission and reception can be advantageous for Administrations whether they have computer based accounting systems or manual/mechanical systems. As both page copy and punched paper tape can be generated at the receiving point users of either type of accounting system can benefit. Page copy can be used for checking paper tape with the latter becoming input to a computer. Page copy can also be used as the source of information for preparation of customer billing in a manual/mechanical system.

3.2.4 Where large volumes of data are to be exchanged transmission over higher speed circuits offers significant benefits: Where suitable data links are in use for service transmission, these could be utilized. Data terminals and modems capable of transmission speeds in the range 600 to 2400 bits per second should be sufficient but higher speeds could be used. For manual/mechanical systems, data received on data terminals can be reproduced as page copy for the production of customer billing. For computer based accounting systems, data transmission offers the possibility of complete automation of the process by computer-to-computer transfer.

4 **Specific recommendations**

4.1 It is recommended that:

4.1.1 where possible data transferred in printed form should be placed in the order shown in § A.2;

4.1.2 for transfer of data in encoded form the standard data record format detailed in the Annex should be followed;

4.1.3 transmission of data in encoded form be by the following means:

- a) use of the telex system;
- b) use of data transmission over telephone circuits, dedicated telegraph circuits or special data links;

4.1.4 transmission speeds, operating practices and technical standards should be agreed between the Administrations concerned and should conform with the appropriate CCITT Recommendations.

5 **Code maintenance**

The Secretariat of the CCITT is responsible for maintenance of the record of codes used for Items 1, 2, 6 and 7 of the Detail Record shown in Annex A.

New codes can be allocated by the authority of the Director of the CCITT. Applications should be made through the CCITT Secretariat who will arrange for the notification of new codes in the *Operational Bulletin*.

ANNEX A
(to Recommendation D.176)

**Telephone reversed charge billing information
Fixed record formats**

A.1 Batch header

Item Number	Contents	Field size	Justification	Fill	Comments
1	Record type identification number	3	—	—	Always <u>HDR</u>
2	Batch sequence number	3	Right	Zero	For a specific combination of two Administrations. Reset to 1 after 999
3	Service type	2	Right	Zero	Always 01 for telephone reversed charge data
4	Administration sending data	6	Left	Space	Code as agreed bilaterally between the sending and receiving Administrations
5	Creation date	6	—	—	Year, month and day on which data tape was created YYMMDD (January 01)
6	Administration receiving data	6	Left	Space	As for item 4
7	Filler	30	—	—	Space fill to give fixed size records

A.2 Detail record

Item Number	Contents	Field size	Justification	Fill	Comments
1	Reversed charge type code	1	—	—	1. Collect 2. Credit card 3. Third party paying 4. Collect pay phone
2	Service date	4	—	—	Month and day of service in place of origin – MMDD (January 01)
3	Calling party number	11	Left	Space	National (significant) number
4	Called party number	11	Left	Space	National (significant) number
5	Rate level 1	1	—	—	1. Personal rate 2. Station rate
6	Rate level 2	1	—	—	1. Full rate 2. Reduced rate A ^{a)} 3. Reduced rate B ^{a)}

^{a)} For telephone only.

A.2 Detail record (end)

Item Number	Contents	Field size	Justification	Fill	Comments
7	Charged duration	3	Right	Zero	Time to be paid for. Individual calls of over 999 minutes to be handled manually
8	Connect time	4	—	—	Time call connected in the place of origin — 0000 through 2359
9	Route	6	Left	Space	To indicate primary route has been used, record no data against this item (space fill still required). To indicate a route other than the primary, use the appropriate country code: — include the 3rd digit for country code 21, — include NPA code (and NPX code, if necessary) for World Numbering Zone 1
10	Charged number/credit card	13	Left	Space	National (significant) number or credit card number — use when charges are not to called number (item 4)
11	Additional charges	1	—	—	Additional charges to be collected: ADC (advice of duration of call)

A.3 Batch trailer

Item Number	Contents	Field size	Justification	Fill	Comments
1	Record type identification	3	—	—	Always <u>TRL</u>
2-6	(As for Batch header)	23	—	—	
7	Number of detail records in batch	6	Right	Zero	
8	Control total	7	Right	Zero	Total of all items 7 in <i>detail record</i>
9	Filler	17	—	—	Space fill to give fixed size records

Note 1 — New codes can be obtained from the Director of the CCITT. (Refer to § 5 of this Recommendation.)

Note 2 — Items not used should be space or zero filled as appropriate.

Note 3 — In telex transmissions records may be followed by “new line” function characters. Records may also be terminated at the end of significant data by “new line” function characters and the remainder of the record will then be interpreted by the Administration receiving the data as space or zero fill as appropriate.

SECTION 10

INTERNATIONAL SOUND- AND TELEVISION-PROGRAMME TRANSMISSIONS

Recommandation D.180

INTERNATIONAL SOUND- AND TELEVISION-PROGRAMME TRANSMISSIONS

1 General

In most cases, circuits used for sound- and television-programme transmissions are owned by Administrations although in some countries national broadcasting organizations own all or part of the circuits within national boundaries.

The provision of circuits for transmissions between two or more countries requires the closest cooperation between:

- the broadcasting organizations ¹⁾ concerned in a sound- or television-programme transmission, either as users or owners of sound-programme and television circuits or both, and
- the Administrations concerned.

It is therefore recommended that the following principles for ordering and charging should be observed for international sound- and television-programme transmissions.

This Recommendation is intended to cover the use of facilities for sound- and television-programme transmissions only and not other types of transmissions.

This Recommendation does not include provisions for the leasing for periods of one day or more of sound- and television-programme circuits, which are subject to the provisions of Recommendation D.4 and Recommendation D.310 R.

Provisions governing the technical aspects and maintenance of sound and television programmes and associated circuits are contained in the J, M and N Series Recommendations.

2 Definitions

The terms used in connection with sound- and television-programme transmissions, as defined below, apply to all such transmissions.

2.1 programme booking centre (PBC)

F: service centralisateur

S: centro de reserva de programas (CRP)

The office of an Administration (or broadcasting organization where circuits are provided for international service by such an organization) which receives orders for international circuits for sound and/or television programmes from broadcasting organizations in its own country or from a broadcasting organization in another country or from the PBC of another Administration and is charged with the task of making appropriate arrangements for providing the ordered circuits.

¹⁾ Any reference to broadcasting organizations in this Recommendation applies equally to other users.

2.2 international sound programme centre (ISPC)

F: centre radiophonique internationale (CRI)

S: centro radiofónico internacional (CRI)

A centre at which at least one international sound-programme (audio) circuit terminates and in which international sound-programme connections can be made by the interconnection of international and/or national sound-programme circuits.

The ISPC is responsible for setting up, lining up and maintaining international sound-programme links and for the supervision of the transmissions made on them.

2.3 international television programme centre (ITPC)

F: centre télévisuel international (CTI)

S: centro internacional de televisión (CIT)

A centre at which at least one international television circuit terminates and in which international television connections can be made by the interconnection of international and/or national television circuits.

The ITPC is responsible for setting up and maintaining international television connections and for the supervision of the transmissions made on them.

The centre at the end of a satellite television circuit is sometimes referred to as the satellite international television-programme centre (SITPC).

2.4 broadcasting organization

F: organisme de radiodiffusion

S: organismo de radiodifusión

A broadcasting organization is an organization which is concerned with either or both sound and television broadcasting.

Most of the customers ordering facilities for sound- and television-programme transmissions are broadcasting organizations, and for convenience, the term "broadcasting organization" is used in this Recommendation to denote activity of any user or customer, and where so used, is equally applicable to any other customer requiring sound- or television-programme transmissions.

2.5 Categories of transmissions

2.5.1 regular transmissions are those which take place at regular intervals, at fixed times between the same points. Some regular transmissions may be subject to special contractual arrangements.

2.5.2 occasional transmissions are all those which do not fall within the definition of regular transmissions. Some occasional transmissions may be subject to special contractual arrangements.

2.5.3 simple transmissions are one-way transmissions from a point of origin in one country to a receiving point in another.

2.5.4 multiple transmissions are those transmissions which originate in one or more countries, from one or more points of origin, and are transmitted simultaneously to two or more countries.

2.6 Categories of circuit

2.6.1 sound-programme circuit is a unidirectional circuit for the transmission of a sound programme or a sound component of a television programme ²⁾. The various types of audio circuits are described in § 3 below.

2.6.2 television circuit is a unidirectional circuit for the transmission of the video component of a television programme.

²⁾ More than one such audio circuit may be required for association with a single television circuit.

2.6.3 **control circuit** is a telephone-type circuit which may be used by a broadcasting organization for the supervision and/or coordination of a sound- or television-programme transmission ³⁾.

2.7 constitution of sound- and television-programme connections

2.7.1 An international sound- or television-programme connection is a unidirectional path between broadcasting organizations and consists of:

- the point to be regarded as that of the origin of the transmission (Point A of Figures 1/D.180 and 2/D.180);
- the outgoing national circuit which connects Point A to the first ISPC or ITPC (Point B);
- an international link comprised of any combination of international or national terrestrial, submarine cable, radio or satellite circuits or circuit sections; a satellite circuit consists of a satellite section, including the earth stations, extended by terrestrial means to the ISPCs or ITPCs at the ends of the satellite circuit;
- the incoming national circuit which connects the last ISPC or ITPC (Point C) to Point D;
- the point of destination of the transmission (Point D).

The various parts of international connections are illustrated in Figures 1/D.180 and 2/D.180.

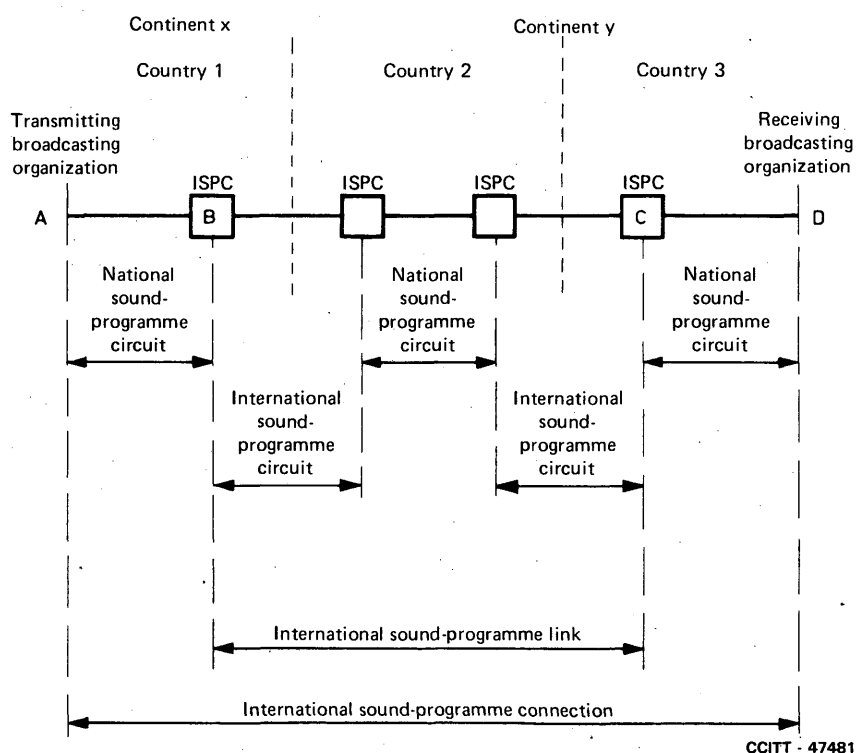


FIGURE 1/D.180

Example of an international sound-programme connection

³⁾ More than one such control circuit may be required for association with a single television circuit.

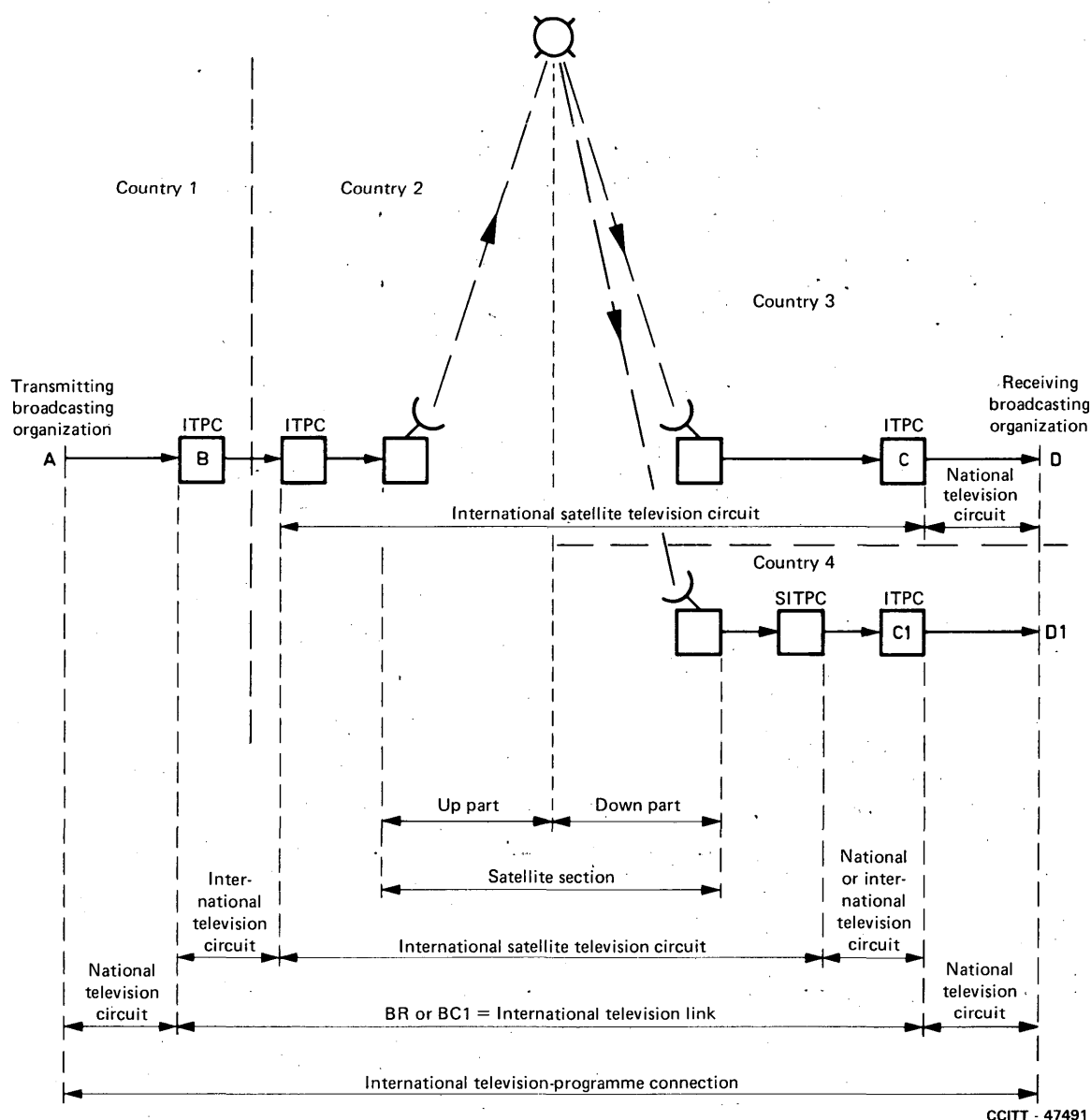


FIGURE 2/D.180

Example of an international television-programme connection involving a satellite circuit

2.7.2 The complete chain between A and D, including the international link B-C and the local ends (A-B and C-D) is the *international sound- or television-programme connection*.

2.7.3 Points A and D are, as a general rule, under the control of the transmitting and receiving broadcasting organizations.

Points B and C are, in principle, under the control of the Administrations of the corresponding countries.

The link B-C is generally under the control of the Administrations but certain of its component parts (which may be national or international circuits) and some ISPCs and ITPCs may be owned or operated by broadcasting organizations.

The local ends A-B and C-D may be under the control of either an Administration or a broadcasting organization, or both jointly, according to the actual arrangements in the countries concerned.

3 Types of sound circuits

3.1 The types of sound circuits that may be provided for audio transmission for sound and television programmes are referred to as follows for ordering and charging purposes:

	<i>Approximate bandwidth</i>
Narrow-band	3 kHz
Medium-band	5 kHz
Wide-band	10 kHz
Very wide-band	15 kHz
Stereophonic pair	2 at 15 kHz each

Detailed technical parameters of some types are given in the J and N Series Recommendations.

A stereophonic pair consists normally of two very wide-band circuits, which must be carefully matched. Each circuit of a stereophonic pair may also be used separately for monophonic transmissions.

3.2 Narrow-band audio circuits may be ordinary telephone circuits. They are provided in varying forms, but are routed through the ISPC for setting-up and maintenance. When provided on a 4-wire basis, the return path may be used as an unidirectional control circuit.

3.3 The five types of circuit in § 3.1 above provide for the continued use of existing facilities (e.g. circuits with a top nominal transmitted frequency of 6.4 kHz, both "old" and "new" types, would be medium-band circuits as well as those with a top nominal frequency of 5 kHz) as well as future requirements, and apply equally:

- for both sound- and television-programme transmissions, and
- for terrestrial, submarine cable, radio and satellite circuits.

3.4 Administrations may decide to provide only those sound circuits of the five types for which sufficient customer demand is indicated.

3.5 When an Administration cannot provide the type of circuit that is ordered, if time permits, it will inform the broadcasting organization of the type of circuit that can be made available. When time does not permit consultation with the broadcasting organization, the Administration should provide a circuit of the nearest suitable type available.

4 Ordering of circuits and conditions of acceptance

4.1 Orders

4.1.1 Orders for the use of circuits for sound- and television-programme transmissions should normally be addressed by a broadcasting organization to the Administration of its country. The broadcasting organizations concerned should coordinate their arrangements before placing orders for circuits. Orders for all the circuits to be established should usually be placed by the broadcasting organization which is to receive the transmission.

4.1.2 With prior agreement of the broadcasting organizations concerned, and particularly for some multiple transmissions, orders may be placed with the Administration of the country in which the transmission will originate or of any intermediate transit country.

4.1.3 Universal Coordinated Time (UTC) ¹⁾ should be used for bookings.

¹⁾ For operational purposes, Universal Coordinated Time can be considered equivalent to Greenwich Mean Time (GMT).

4.1.4 When agreement has been reached on the orders to be placed, the transmitting broadcasting organization should provide its Administration with a list, for information purposes, of all the circuits to be established.

Provision of this list does not constitute an order for circuits. In addition, if the broadcasting organizations concerned have appointed a coordinating centre for a transmission, it should send a list of all circuits to be established to the Administration concerned (see Recommendation N.52 [1]).

4.1.5 Each order, which should be clearly identified as such, carries with it an undertaking to pay all the charges relating to the use of the facilities ordered, including any cancellation fee or special expenses which may be incurred in connection with the order.

If time permits after an order has been placed, an estimate of any special expenses which are likely to be a major part of the total should be given to the broadcasting organization.

4.1.6 Orders for the use of circuits will be met subject to availability of facilities. The Programme Booking Centre (PBC) receiving orders should confirm acceptance and availability of circuit as soon as possible unless special arrangements have been made nationally between the Administration and the broadcasting organization which has placed the order. When time permits, orders and confirmations should normally be in written form (e.g. telex).

4.1.7 It is in the interest of both broadcasting organizations and Administrations that orders should be placed as soon as possible, preferably at least 24 hours before the transmission is scheduled to take place. Administrations should always do their best to provide circuits at shorter notice. Broadcasting organizations should always do their best to place orders as early as possible, particularly in those cases where special construction of facilities will be required.

4.2 *Handling of orders received by Administrations*

4.2.1 The Administration receiving an order is responsible for passing the order to all other Administrations concerned and for obtaining from them confirmation of the availability of the circuits and facilities required.

4.2.2 Facilities for sound- and television-programme transmissions should be allocated in the sequence in which orders are received.

4.2.3 For television-programme transmissions via satellite:

- a) the Administration receiving the order is responsible for arranging the circuits between the broadcasting organization and the appropriate ITPC at the end of the satellite circuit (SITPC);
- b) the Administration operating this ITPC is responsible for confirming the availability of the satellite circuit and for ordering its portion of that circuit; and
- c) the Administration operating the ITPC at the other end of the satellite circuit is responsible for ordering its portion of the satellite circuit and for arranging the circuits between its ITPC and the other broadcasting organization.

This procedure normally applies also to sound and control circuits provided by means of satellite channels specially assigned for use in association with television transmissions but not necessarily to other sound circuits provided via the satellite or to sound circuits provided by any other means, e.g. submarine cable.

4.3 *Cancellations*

4.3.1 A cancellation fee may be charged by Administrations if, for reasons not within their control, the order is cancelled:

- a) less than 24 hours, but more than 2 hours, before the time scheduled for the beginning of the transmission (see § 4.3.2 below); or
- b) less than 2 hours before the time scheduled for the beginning of the transmission (see § 4.3.3 below).

The time to be considered in determining these limits is the time at which the broadcasting organization submits its cancellation request to the PBC which received the original order.

4.3.2 The fee with regard to a) above should be such as to cover the administrative expenses already incurred by Administrations following receipt of the order. This should provide some incentive to broadcasting organizations to cancel orders in sufficient time for the circuits concerned to be made available to another customer. This fee should not be charged unless the order has been accepted and confirmed by the Administration concerned.

4.3.3 The fee with regard to b) above should be such as to cover, in addition to the expenses referred to in 4.3.2, any additional preparation for the transmission, and to compensate in part for loss of revenue which might have been obtained by making the circuit available to another customer. This fee may be charged whether or not the order has been confirmed by the Administration concerned.

4.3.4 In all cases, Administrations may require reimbursement of any documented special expenses incurred, e.g. in the provision of specially engineered circuits, even when the transmission is cancelled with more than 24 hours notice.

4.4 *Alterations in orders*

An alteration to an order for which the Administrations are not responsible should be considered as a new order which cancels the original one. The original order is therefore subject to the cancellation fee referred to in § 4.3 above when the alteration request is made within the specified time limit, except that no fee is payable in respect of:

- a) a change of less than a total of 2 hours in the time scheduled for the beginning of the transmission, regardless of the number of individual alterations;
- b) a change in the scheduled time such that the new transmission period overlaps the original period;
- c) a change in the overall duration of the programme;
- d) a change in the routing of circuits beyond the extremities of the international link provided that no alteration whatsoever is requested in the international link.

5 **Charging principles**

The total charge for an international programme transmission is the sum of the charges for the various circuit sections (see § 2.7 above and Figures 1/D.180 and 2/D.180).

The international charges should normally have two basic elements:

- 1) a fixed charge designed to cover preparation and operation, and
- 2) a charge based on duration of the connection.

The fixed charge may include a minimum duration of use.

In view of the great disparity in the cost of the various components of, on the one hand, terrestrial circuits of the type used mainly within continents and, on the other hand, satellite and long-distance submarine cable circuits used mainly for intercontinental relations, it is not possible to recommend one single method for developing the charges for each individual section.

Administrations which of necessity operate using more than one method of charging should define the interconnecting points for the application of the different methods. This should normally be an ISPC or an ITPC.

Whenever possible the same method of charging should be used within the same region.

5.1 *Charging for sound- and television-programme transmissions except those via satellite, radio or intercontinental submarine cable circuits*

5.1.1 The charge normally should be made up of the following elements:

- a) a fixed charge for the preparation and operation per transmission and per country having an interconnecting point (whatever the number of interconnecting points within the terminal and transit countries);
- b) a charge per minute of transmission per terminal country, which may be expressed differently for:
 - a sending terminal,
 - a receiving terminal,
 - a branching terminal in a multiple transmission;
- c) a charge per minute of transmission and per interconnecting point in a transit country;
- d) a charge per minute of transmission based on the length of line;
- e) any special expenses incurred in the setting up of special circuits to connect with existing facilities and any special charges for use of national facilities not covered by the charges of a) and d) above.

5.1.2 The use of a sound circuit established on a subcarrier of a channel used for television transmission is charged as for a sound circuit provided for an independent sound-programme transmission.

When a Sound-In-Sync (SIS) facility is used, no additional amount is added to the accounting rates. Any remuneration for extra expenses incurred by an Administration is a national matter between that Administration and its broadcasting organization.

5.1.3 In principle, use of different types of sound circuits to make up an international sound-programme link should be avoided. However, if it is necessary to use different types of circuits for any section of link, the charge applicable to all sections would be that for the lowest quality type used. The sharing of charges between Administrations should be on the basis of the lowest charges applied.

If a broadcasting organization orders a higher quality audio circuit for a particular section of the link, the charges for that higher quality type would apply to that section.

5.1.4 If a sound-type circuit is provided for use as a sound-programme circuit, items b), c) and d) in § 5.1.1 above may be combined in a charge related to the charge for an appropriate telephone call in the relation concerned.

Note — This does not obviate the need to pay the charges of a) and e) as appropriate.

When a circuit provided on a 4-wire basis is used for programme transmission in one direction and for supervision and/or coordination in the other direction (see § 3.2 above) an additional charge may be made.

5.1.5 A multiple transmission, where the programme is routed over an interconnected network of international circuits and is received simultaneously in several countries, is considered, from the charging point of view, as separate transmissions:

- from the point of origin to the first receiving terminal;
- from the first receiving terminal to the next receiving terminal, and so on;
- from a branching point across a circuit between two terminals to the next receiving point.

5.1.6 Broadcasting organizations should arrange among themselves which will pay charges for common sections of circuit in multiple transmissions. The diagram in Figure 3/D.180 illustrates how such arrangements and the principles in § 5.1.5 above should be applied.

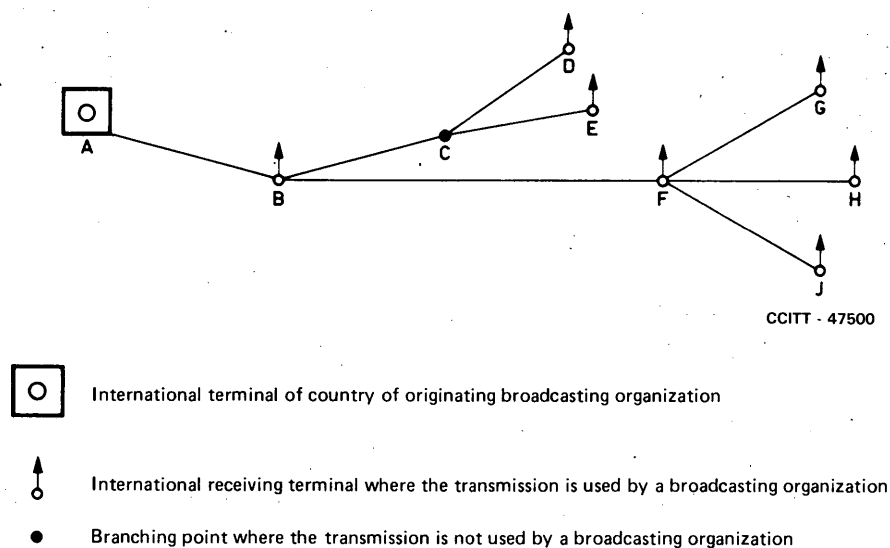


FIGURE 3/D.180
Example of a multiple transmission

In Figure 3/D.180, it is assumed that the broadcasting organization in B, which broadcasts the transmission coming from A, pays the charge for the circuit A-B, that the broadcasting organization in F pays the charge for the circuit B-F, while the broadcasting organizations in G, H and J pay for the circuits F-G, F-H and F-J respectively.

As C is not broadcasting the transmission, the broadcasting organizations in D and E should arrange in advance which of them will pay the charge for the circuit B-C. If, for example, the broadcasting organization in D agrees to pay the charge for the circuit B-C, the charges to be collected in D and in E respectively should be based on a transmission from B to D and a separate transmission from C to E.

If, during a transmission, an additional broadcasting organization is connected to any part of the international link, that broadcasting organization will be responsible for all additional charges concerned in that transmission.

5.1.7 When several different routes exist in any given relation the total charge for each of the routes is the sum of the shares due to each country for the actual route followed. The choice of route is normally left to the discretion of Administrations. However, a broadcasting organization may request a specific route, which should be provided by the Administration concerned if possible.

In the case of direct transit of a country where the transmission is not broadcast, and when there is more than one route through that country, its Administration should normally fix a uniform transit charge for transit of its country in a given relation.

5.1.8 There is a minimum chargeable duration for sound- and television-programme transmissions of three minutes.

5.1.9 The same charge should apply in principle to both colour and monochrome television transmissions and normally at all times of the day and night.

5.1.10 Where a normal telephone circuit is provided for use as a control circuit, the appropriate telephone charge between the two terminal countries should be applied. Where additional facilities are provided in connection with such a circuit, Administrations may make appropriate charges for such facilities.

5.1.11 When the vertical blanking interval is used to transmit special signals specified by the CCIR (such as VITS, VIRS, DIS and captions for the deaf) no additional charge should be levied provided that the information is directly related to the switching, quality control or content of the TV signal.

5.1.12 The clauses applied in certain regions of the world are given in the corresponding regional Recommendations found in the D.xxxR Series Recommendations. In regions for which no Recommendation has been adopted, the appropriate clauses of the D.xxxR Series Recommendations could possibly be applied.

5.2 *Charging for sound- and television-programme transmissions via circuits furnished by means of satellite, radio or intercontinental submarine cable*

5.2.1 A minimum charge should be made covering an initial period of 10 minutes hereinafter referred to as the *initial period charge*, plus a per-minute charge for each minute or part minute thereafter.

5.2.2 The charge for a satellite television circuit is made up of an *up part* and a *down part* charge, each including its terrestrial extension to the ITPC.

Each Administration should establish a charge for the part which it controls.

5.2.3 For sound-programme transmissions the charge between international centres shall be established by agreement between the Administrations concerned. This charge may be related to, but not necessarily the same as, the telephone rate and should be shared between Administrations in a similar manner.

5.2.4 For consecutive television transmissions ordered by different broadcasting organizations using the same satellite circuit, only one initial period charge may be made, as though they amounted to a single transmission. The duration of each of the consecutive transmissions should then be considered, for purposes of calculating the charges, at least as long as an initial chargeable period.

5.2.5 For a multiple transmission via satellite involving a satellite circuit with more than one receiving earth station, the satellite circuit is considered, for charging purposes, to have several separate parts:

- one between the point of origin and the satellite (up part);
- others between the satellite and each receiving earth station country (down parts).

The charge for the up part normally should be divided amongst the receiving earth station countries based on the time of usage of each down part. When this charge varies according to the point of destination, the highest charge should be applied.

The Administration providing the up part may levy a surcharge for a multiple transmission to cover the additional costs of preparation. This surcharge should be shared by the receiving countries in proportion to their time of usage.

The same procedure may apply to any charges for circuits earlier in the connection.

5.2.6 For alternate transmissions in which the direction of transmission alternates between two points in a given period, the individual durations may be summed to determine the chargeable duration in each direction.

5.2.7 When the vertical blanking interval is used to transmit special signals specified by the CCIR (such as VITS, VIRS, DIS and captions for the deaf) no additional charge should be levied provided that the information is directly related to the switching, quality control or content of the TV signal.

5.2.8 Administrations may offer services under special contractual arrangements to meet individual customer requirements such as:

- a) regular transmissions or receptions at fixed times and with fixed points of origination and termination;
- b) bulk transmissions without requirements for fixed times or fixed points of origination and termination;
- c) transmissions or receptions during off-peak hours.

5.2.9 Administrations may apply a charge for a television-associated audio circuit established by Administrations on a subcarrier of a channel used for television transmission.

5.3 *Determination of the chargeable duration*

5.3.1 The ISPCs and ITPCs concerned in a transmission should come to an agreement between themselves and broadcasting organizations at the end of each transmission as to the chargeable duration:

- a) the time at which the ordered connection was placed at the disposal of the broadcasting organization (beginning of the chargeable duration) — this is also the beginning of the preparatory period (see Recommendations N.4 [2] and N.54 [3]);
- b) the time at which the ordered connection was released by the broadcasting organization (end of chargeable duration) — sometimes referred to as the “goodnight time”.
- c) when necessary, the time and duration of any interruption which may have occurred.

The time at the beginning and end of the chargeable duration, as well as the time of any occurrence and duration of any interruptions are entered on a report. This report should be sent, preferably on the same day, to the office responsible for coordinating all the details necessary for the establishment of international accounts. In addition, details relative to interruptions are noted on the report sent periodically to the technical services concerned.

5.3.2 In case of disagreement, the opinion of the Administration in the receiving country on the duration of transmissions and interruptions shall prevail, except with regard to transmission orders which are placed and paid for at the transmitting end when the opinion of the Administration at that end shall prevail as regards the start and end times (though not as regards the duration of interruptions).

5.3.3 The start time of a transmission is the time scheduled when the order is placed, unless the circuit is handed over to the customer earlier at his request. It may be later than the scheduled time only if the Administrations have failed to provide the circuit in good working order on time.

5.3.4 There should be no obligation upon Administrations to monitor transmissions continuously. Consequently broadcasting organizations should be requested always to report at once if they are not satisfied with the transmission or if there is any interruption; Administrations, however, are not responsible for notifying broadcasting organizations of interruptions.

5.4 *Interruptions – allowances*

5.4.1 If during the course of a sound- or television-programme transmission, an interruption, even of short duration, occurs:

- whether on the connection, or
- in a section of that connection, or
- in one or more of the sound circuits associated with a television-programme transmission, or
- in the video circuit only of a television-programme transmission,

a credit allowance corresponding to the duration of the interruption shall be given to the broadcasting organizations affected by the interruption.

Where multipoint service is furnished, interruptions of one or more video or sound circuits receiving the television transmission shall not be considered as an interruption of the associated video or sound transmitting circuit if such video or sound transmitting circuit is continued in use for reception at another point.

5.4.2 The general test of whether an allowance is in order should be: Was the transmission used?

This implies that broadcasting organizations must decide whether to use or refuse an ordered connection.

In general, if a broadcasting organization continues to broadcast or record the programme transmission, the charges in respect of any circuits it uses remain payable in full. If, however, as a result of a fault or interruption on the circuit, no signals or faulty signals are received by one or more participating broadcasting organizations, an allowance in respect of the circuits serving each of these broadcasting organizations may be given. Each circuit used by any broadcasting organization which continues to broadcast or record the transmission remains payable in full.

Similarly, if in such circumstances broadcasting or recording of either the video or sound components of the programme (but not both) is discontinued by any broadcasting organization, an allowance in respect of the television or sound circuit concerned (but not both) may be given at that broadcasting organization's request (see also § 5.4.6 below).

5.4.3 Any interruption should be reported by the broadcasting organization; however, in cases of facility failures known to the Administration, such reports may not be required. While broadcasting organizations are normally required specifically to request allowances for interruptions, such requirement may be waived at the discretion of and according to the national practices of Administrations.

5.4.4 It will be for the Administration of the country of the receiving broadcasting organization to assess the validity of any claim for allowances and to assess the allowance to be made, where necessary in consultation with the other Administrations concerned. In the event of disagreement, the opinion of the Administration of the country of the receiving broadcasting organization shall prevail over that of the other Administrations concerned.

5.4.5 Credit for interruptions should be allowed on any transmission, regardless of the interval between the receipt of the order and the start of the transmission.

5.4.6 It is accepted that an interruption of either the picture or the sound component of a programme may render the whole transmission valueless to the customer. However, the charges for any connection which continues to be used by the customer for broadcasting or recording remain payable in accordance with § 5.4.2 above.

5.4.7 All Administrations concerned in a transmission should make the allowances for interruptions, regardless of where they took place.

5.4.8 No allowance will be given when the interruption is due to the negligence of the broadcasting organization or the failure of facilities provided by the broadcasting organization.

5.4.9 When a circuit failure makes it impossible to provide a transmission on the planned route, or causes an interruption in a transmission, an alternative routing should be established whenever possible, provided that the broadcasting organization undertakes to pay additional charges that may apply. However, for those sound-programme circuits which can be readily rerouted, the broadcasting organization should pay the same total charge that would have applied if no failure had occurred.

5.5 *Measurement of distances for terrestrial circuits*

5.5.1 When part or all of the charge for a transmission is based on the length of circuit, the distance is normally taken as:

- in the case of the terminal country, the crowflight distance between the ISPC or ITPC and the point where the circuit crosses the frontier;
- in the case of the transit country, the crowflight distance between the points of crossing the frontier by the circuit;
- in both cases, in order to take better account of the cost actually incurred with a radio-relay link, the point midway between the two stations on either side of the frontier may be used instead of the actual point of crossing of the section of the link straddling the frontier.

5.5.2 However, the relatively high cost of television circuits and the wide disparity in many relations between crowflight and actual distances could make it desirable to base distance measurement for television circuits on the actual distance.

Similarly, it might be appropriate to round up the actual distance in small rather than large steps (in some regions, actual distances are rounded up to the next 10 km).

It is recommended that regions should decide whether to use actual distance within their region or whether to retain the system of measurement described in § 5.5.1 above for terrestrial television circuits.

6 **Accounting**

6.1 *Collection of charges*

In principle, the Administration with which the order was placed is responsible for collecting the charge for a transmission from the broadcasting organization which placed the order.

6.2 *Remuneration of Administrations*

The Administration with which the order for a transmission is placed is responsible for ensuring that the remuneration to other Administrations is entered into the international accounts in accordance with the provisions of Recommendation D.170. Unless otherwise agreed, the consolidated monthly accounts should be accompanied by supporting documents which will allow each transmission to be separately identified.

7 **Directory for handling orders for international sound- and television-programme transmissions**

To ensure speedy and reliable arrangements for international sound- and television-programme transmissions, it is essential that detailed information regarding the PBCs all over the world which handle orders for such transmissions should be readily available to those concerned. This also applies to appropriate technical services and to the broadcasting organizations themselves.

A directory of this information has been established and kept up to date by the General Secretariat of the ITU, to which a request can be sent to obtain the necessary copies. In order that this directory be kept up-to-date and complete, each Administration should draw up an information sheet for every programme booking centre (PBC), international sound-programme (ISPC) and international television-programme centre (ITPC) under its control. It is recommended that broadcasting organizations which handle orders for international transmissions should also draw up information sheets.

To this end, up-to-date information sheets should be sent to the General Secretariat of the ITU.

The information sheets should include, where applicable, the following basic particulars:

- name of country;
- name of office for which information is given (PBC, ISPC, broadcasting organization, etc.);
- name of Administration or broadcasting organization;
- postal address;
- telephone number(s);
- telex number and answer-back;
- telegraphic address;
- office hours (UTC);
- languages spoken;
- senior staff and deputies;
- contact outside office hours and on holidays;
- office handling orders for leased circuits (if not PBC);
- earth station;
- local time reference UTC;
- name(s) of customer(s) for which orders are normally handled.

References

- [1] CCITT Recommendation *Multiple television transmissions and coordinating centres*, Vol. IV, Fascicle IV.3, Rec. N.52.
- [2] CCITT Recommendation *Definition and duration of the line-up period and the preparatory period*, Vol. IV, Fascicle IV.3, Rec. N.4.
- [3] CCITT Recommendation *Definition and duration of the line-up period and the preparatory period*, Vol. IV, Fascicle IV.3, Rec. N.54.

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SECTION 11

TRANSMISSION OF MONTHLY INTERNATIONAL ACCOUNTING INFORMATION

Recommendation D.190

TRANSMISSION IN ENCODED FORM OF MONTHLY INTERNATIONAL ACCOUNTING INFORMATION

1 Introduction

1.1 Under the provisions of Recommendations D.170, F.42 [1] and F.67 [2] Administrations engage in international accounting for telephone, telegram and telex traffic handled each month.

1.2 A growing number of Administrations are processing this monthly international accounting data using computer based accounting systems. Information is drawn from traffic history tapes or manually encoded from data such as inward international accounts and statistical summaries prepared by manual abstraction from copies of telegrams and telephone and telex tickets.

1.3 It is usual at present to complete computer processing by producing conventional printed accounts following the specifications described in the various accounting Recommendations (D.170 – telephone; F.67 [2] – telex; F.42 [1] – telegram). Where the receiving Administration also uses computer facilities, however, this information has to be re-encoded for processing through its system.

1.4 Transmission of data in encoded form avoids the decoding/re-encoding step. It also offers a faster transfer of information than by printed forms through the mail. The latter remains true even if the forwarding Administration has prepared the data by manual/mechanical means.

2 Aim

2.1 The aim of this Recommendation is:

2.1.1 to enable Administrations using computer based accounting systems to transfer information to each other in encoded form, without the need for decoding into conventional printed form and subsequent encoding into machine-readable form;

2.1.2 to enable other Administrations, if they so desire, to benefit from the greater efficiency of speedier transfer of information to them and to prepare themselves for the introduction of computer working by introducing transmission of data in encoded form in advance of installation of a computer.

2.1.3 to facilitate provision of printed output from computer based systems in a format suitable for manual/mechanical processing where it is to be forwarded to Administrations not using computer facilities;

2.1.4 to facilitate provision of printed output from manual/mechanical accounting systems in a format suitable for data encoding where it is to be forwarded to Administrations employing computer processing.

3 Method

3.1 Data record

3.1.1 The aim of this Recommendation can be met by use of a standard data record format for the various elements of information to be transferred. The information elements and their sequence must be compatible with the provisions of the various accounting Recommendations so that decoding to and encoding from printed output for exchange of information with Administrations using manual/mechanical systems will be as simple as possible.

3.1.2 Between Administrations operating computer based accounting systems, adherence to the standard data record format for data transmission purposes will ensure that only one interface programme will be needed to enable any one computer installation to generate suitable input for, and accept output from, other computer installations.

3.2 Data transfer

3.2.1 Procedures already exist for transfer of data in conventional (printed) form through the mails. Data in encoded form could be transferred by mailing of magnetic or paper tapes, paper tape transmission by telex or data transmission over circuits utilized for this purpose.

3.2.2 While mailing of tapes avoids the encoding task for the receiving Administration there can be delays and loss in transit. In addition, there can be difficulties caused by the fragility of paper tape and incompatibility of various forms of magnetic tape recording.

3.2.3 Transfer of data via the telex service using paper tape transmission and reception can be advantageous for Administrations whether they have computer based accounting systems or manual/mechanical systems. As both page copy and punched paper tape can be generated at the receiving point users of either type of accounting system can benefit. Page copy can be used for checking paper tape, with the latter becoming input to a computer. Page copy can also be used as the incoming international account avoiding the need for use of the postal service.

3.2.4 Where large volumes of data are to be exchanged, transmission over higher speed circuits offers significant benefits. Where suitable data links are in use for service transmissions these could be utilized. Data terminals and modems capable of transmission speeds in the range 600 to 2400 bits per second should be sufficient but higher speeds could be used. For manual/mechanical systems data received on data terminals can be reproduced as page copy representing an incoming international account. For computer based accounting systems data transmission offers the possibility of complete automation of the process by computer-to-computer transfer.

4 Specific recommendations

4.1 It is recommended that:

4.1.1 where possible data transferred in printed form should be placed in the order shown in § A.2;

4.1.2 for transfer of data in encoded form, the standard data record format detailed in Annex A should be followed;

4.1.3 transmission of data in encoded form be by the following means:

- a) use of the telex system;
- b) use of data transmission over telephone circuits, dedicated telegraph circuits or special data links;

4.1.4 transmission speeds, operating practices and technical standards should be agreed between the Administrations concerned and should conform with the appropriate CCITT Recommendations.

5 Code maintenance

The CCITT Secretariat is responsible for maintenance of the record of codes used for Item 3 of the Batch header and Items 5, 6, 7, 8 (except tariff indicators, see Recommendation F.31 [3]), 11 and 12 of the Detail Record shown in Annex A.

New codes can be allocated by the authority of the Director of the CCITT. Applications should be made through the CCITT Secretariat which will arrange for notification of the new codes in the *Operational Bulletin*.

ANNEX A

(to Recommendation D.190)

Monthly international accounting information Fixed record formats

A.1 Batch header

Item Number	Contents	Field size	Justification	Fill	Comments
1	Record type identifier	3	—	—	Always <u>HDR</u>
2	Batch sequence number	3	Right	Zero	For a specific combination of two Administrations. Reset to 1 after 999
3	Service type	2	Right	Zero	02 – Telephone 03 – Telex 04 – Telegram
4	Accounting month	4	—	—	Year and month of account – YYMM (January 01)
5	Administration sending data	6	Left	Space	Code as agreed bilaterally between the sending and receiving Administrations
6	Creation date	6	—	—	Year, month and day on which data tape created – YYMMDD
7	Administration receiving data	6	Left	Space	As for item 5
8	Filler	35	—	—	Space fill to give fixed size records

Item Number	Contents	Field size	Justification	Fill	Comments
1	Origin	4	Left	Space	F.96 [4] telegram country codes (and city codes if required). Use for telegram, telex and telephone services
2	Destination	4	Left	Space	
3	Route	2	Left	Space	
4	Year and month of service	4	—	—	Calendar year and month (January 01) YYMM
5	Payment indicator	1	—	—	1. Sent paid 2. Reversed charge (telephone)
6	Service sub-type	1	—	—	<p><i>For telephone</i></p> <p>1. Telephone 2. Not used (formerly sound programme) 3. Television-video 4. Television-sound 5. Transit rentals 6. Switched data</p> <p><i>For telex and telegram service</i></p> <p>1. Telex or telegram</p> <p><i>For sound programme</i></p> <p>1. Medium-band 2. Wide-Band</p> <p><i>For phototelegrams</i></p> <p>1. Public station to public station 2. Public station to private station 3. Private station to public station 4. Private station to private station</p>
7	Rate level 1	1	—	—	<p><i>For telephone.</i></p> <p>1. Personal rate 2. Station rate 3. International subscriber dialling rate</p> <p><i>For telegram</i></p> <p>Recommendation F.31 [3] tariff class indicator</p>
8	Rate level 2	1	—	—	<p><i>For telephone or telex</i></p> <p>1. Full rate 2. Reduced rate A ^{a)} 3. Reduced rate B ^{a)}</p>
9	Number of messages	8	Right	Zero	If required can also be used in conjunction with item 12 to record number of surcharges, etc.
10	Number of minutes/words	8	Right	Zero	
11	Monetary unit	1	—	—	1. New monetary unit selected by CCITT 2. Pound sterling 3. US dollar 4. Gold franc

A.2 Detail record (end)

Item Number	Contents	Field size	Justification	Fill	Comments
12	Surcharges and other additional charges	1	—	—	Use this item in conjunction with a separate detail record and with total value recorded in item 14 1. Personal call telephone surcharges or fixed component of binary telegram charges 2. Conference call telephone charges 3. Messenger telephone charges 4. Mobile station charges — all services ^{b)} 5. Reply paid telegram charges
13	Accounting rate	7	Right	Zero	Accounting rate share or other per unit charge due receiving Administration — 2 integer and 5 decimal places
14	Line value	11	Right	Zero	Accounting rate (item 13) × number of units (items 9 and 10) — or lump sum associated with additional charge code in item 12. 9 integer and 2 decimal places
15	Gross accounting revenue	11	Right	Zero	9 integer and 2 decimal places

^{a)} For telephone only.

^{b)} For use until mobile station charges are abolished.

A.3 Batch trailer

Item Number	Contents	Field size	Justification	Fill	Comments
1	Record type identifier	3	—	—	Always <u>TRL</u>
2-7	(As for Batch header)	27	—	—	
8	Number of detail records in batch	6	Right	Zero	
9	Control total	12	Right	Zero	Hash total of all items 14 in <i>detail records</i> — 10 integer and 2 decimal places
10	Filler	21	—	—	Space fill to give fixed size records

Note 1 — New codes can be obtained from the Director of the CCITT. (Refer to § 5 of the Recommendation.)

Note 2 — Items not used should be *space* or *zero* filled as appropriate.

Note 3 — In telex transmissions, records may be followed by *new line* function characters. Records may also be terminated at the end of significant data by *new line* function characters and the remainder of the record will then be interpreted by the Administration receiving the data as *space* or *zero* fill as appropriate.

References

- [1] CCITT Recommendation *Charging, accounting and refunds in the international public telegram service*, Vol. II, Fascicle II.4, Rec. F.42.
- [2] CCITT Recommendation *Charging and accounting in the international telex service*, Vol. II, Fascicle II.4, Rec. F.67.
- [3] CCITT Recommendation *Telegram transmission system*, Vol. II, Fascicle II.4, Rec. F.31.
- [4] CCITT Recommendation *List of destination indicators*, Vol. II, Fascicle II.4, Rec. F.96.

SECTION 12

SETTLEMENT OF INTERNATIONAL TELECOMMUNICATION BALANCES OF ACCOUNTS

Recommendation D.195

SETTLEMENT OF INTERNATIONAL TELECOMMUNICATION BALANCES OF ACCOUNTS

(Geneva, 1980)

The CCITT,

considering

(a) that the Administrative Council of the ITU instructed the CCITT to study the question of the monetary unit(s) to be used for rate-fixing and the establishment and settlement of accounts in international telecommunication relations;

(b) that no amendment can be made to the existing Convention before the next Plenipotentiary Conference which will not take place before 1982 and, consequently, the existing gold franc has to be retained as the monetary unit (as defined in Article 30 of the Convention [1]);

(c) that the ratification of the second amendment to the Articles of Agreement of the International Monetary Fund (IMF) has furthered the demonetization of gold and provided a legal framework for a more flexible exchange rate system;

(d) that Article 31 of the International Telecommunication Convention [1] reserves the right of Administrations and recognized private operating agencies (RPOAs) to make special arrangements;

(e) that Appendix 1, § 11, to the Telegraph and Telephone Regulations [2] stipulates that "if there should be a radical change in the international monetary system (e.g. a substantial general change in the official price of gold, or if gold ceased to be used generally as a basic reference for currencies) which invalidates or makes inappropriate one or more of the foregoing paragraphs, Administrations and RPOAs shall be free to adopt, by mutual agreement, different procedures for the payment of balances of accounts, pending revision of this Appendix";

(f) that certain provisions in the existing Appendix 1¹⁾ to the Telegraph and Telephone Regulations [2] are no longer valid following the second amendment to the IMF Articles of Agreement;

recognizing

that it is necessary to provide interim methods of settling international telecommunication balances of accounts pending amendment of the ITU Convention [1] and the Telegraph and Telephone Regulations [2] annexed thereto;

¹⁾ *Explanatory footnote* — For Administrations and RPOAs following IMF policy in this area, references to the official price of gold or to gold par values are no longer meaningful. Thus, subject to the special arrangements provided for in § 2 of the present Recommendation, any reference to such values in the following paragraphs of Appendix 1 is no longer applicable for such Administrations and RPOAs: 3, a); 3, b); 3.1; 5; 5.1; 10; 11.

Such Administrations and RPOAs should continue to be guided by the remaining paragraphs of Appendix 1 and those parts of paragraphs 5, 5.1, 10 and 11 which do not refer to gold values.

in order to meet the varying requirements of all ITU Member Administrations and RPOAs, either of the following interim methods for the conversion of gold franc balances into currencies of payment:

1 The use of the Special Drawing Right (SDR) as valued by the IMF as the basis for arriving at settlement in the specified currency. The method to be applied is as follows:

- a) convert the balance in gold francs into an amount of SDRs using a linking coefficient of 3.061 gold francs = 1 SDR;
- b) adopt the following provisions for the conversion of the amount in SDRs into an amount in the currency of payment:
 - for currencies for which the SDR exchange rate is published by the IMF, use the exchange rate on the day prior to payment or the most recent rate published;
 - for other currencies, calculate the amount due in the currency of payment as follows:

as a first stage, convert the amount in SDRs into an intermediate currency for which the value is published daily by the IMF in terms of the SDR, using the exchange rate on the day prior to payment or the most recent rate published;

as a second stage, convert the result thus obtained into the currency of payment, applying the latest rate of exchange quoted on the exchange market of the debtor country.

2 Special agreements to fix coefficients to convert from the existing accounting unit by the following procedures:

- a) conversion directly into the currency of payment:
 - i) by application of the fixed coefficients currently in use, or
 - ii) by establishing mutually agreeable new or modified coefficients;
- b) arriving at settlement through the SDR by using a mutually agreed linking coefficient.

References

- [1] *International telecommunication convention*, Malaga-Torremolinos, ITU, Geneva, 1973.
- [2] *Final Acts of the World Administrative Telegraph and Telephone Conference, Telegraph Regulations, Telephone Regulations*, ITU, Geneva, 1973.

PART II

Recommendations D.200 R to D.401 R

RECOMMENDATIONS FOR REGIONAL APPLICATION

STANDARD RATES APPLICABLE IN THE INTERNATIONAL TELECOMMUNICATION SERVICES

NOTE

The geographical scope of the Recommendations of this Part is normally limited, in the plan of the CCITT, to the region concerned which is generally specified in the title of the Recommendation. Naturally the Recommendations may be considered by Administrations of other regions as useful material for information and comparison, particularly for the purpose of international tariff studies.

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SECTION 1

RECOMMENDATIONS APPLICABLE TO THE AFRICAN REGION

Recommendation D.200 R

DETERMINATION OF ACCOUNTING RATE SHARES AND COLLECTION CHARGES IN TELEPHONE RELATIONS BETWEEN COUNTRIES IN AFRICA

Introduction

When, in full exercise of their sovereignty, the Administrations of the countries of Africa negotiate among themselves agreements for determining the accounting rate shares and the collection charges to be applied in their telephone relations, it is recommended that they take into consideration:

- for the determination of accounting rate shares and accounting rates, the provisions of § 2 (Determination of accounting rate) of this Recommendation;
- for fixing the collection charges, the provisions contained in § 3 of this Recommendation;
- for fixing tariffs and remuneration for the facilities used for international telephone traffic routed over radio circuits or via satellite, the provisions of § 4 of this Recommendation;
- for fixing tariffs for frontier relations, the provisions contained in § 5 of the Recommendation.

An explanation of some of the terms used in the Recommendation is given in § 1 below.

1 Explanation of some of the terms used in this Recommendation

1.1 (telephone) relation

F: relation (téléphonique)

S: relación (telefónica)

A (telephone) relation between two terminal countries exists when there is between them an exchange of telephone traffic (and, normally, a settlement of accounts).

1.2 country (or Administration) of origin

F: pays (ou Administration) d'origine

S: país (o Administración) de origen

The country of origin is the country in which the calling subscriber is located.

1.3 country (or Administration) of destination

F: pays (ou Administration) de destination

S: país (o Administración) de destino

The country of destination is the country in which the called subscriber is located.

1.4 terminal country (or Administration)

F: pays (ou Administration) terminal(e)

S: país (o Administración) terminal

A terminal country is both a country of origin and a country of destination in a given relation.

1.5 transit country (or Administration)

F: pays (ou Administration) de transit

S: país (o Administración) de tránsito

A transit country is a country through which traffic is routed between two terminal countries.

1.5.1 direct transit country

F: pays de transit direct

S: país de tránsito directo

A direct transit country is one through which traffic is routed on direct circuits, i.e. on circuits provided for the exclusive use of other countries.

1.5.2 switched transit country

F: pays de transit en commutation

S: país de tránsito con conmutación

A switched transit country is a transit country through which traffic is routed by switching in an international transit exchange.

1.6 international circuit

F: circuit international

S: circuito internacional

A circuit between two international exchanges situated in different countries is called an international circuit.

1.7 national extension

F: prolongement national

S: prolongación nacional

A national extension is that part of the connection which extends from the national side of the international exchange to the subscriber.

1.8 accounting rate (in gold francs)

F: taxe de répartition

S: tasa de distribución

The accounting rate is the rate per traffic unit agreed between the Administrations in a given relation, which is used for the establishment of international accounts.

1.9 accounting rate share (in gold francs)

F: quote-part de répartition

S: parte alicuota de distribución

The accounting rate share is that part of the total accounting rate per traffic unit (minute of telephone call) corresponding to the facilities made available in each country; this share is fixed by agreement among the Administrations.

1.10 collection charge

F: taxe de perception

S: tasa de percepción

The collection charge is the charge in its national currency collected by an Administration from its customers for the use of the international service. The establishment of the charge is a national matter.

2 Determination of accounting rate in telephone relations between countries in Africa

2.1 General

2.1.1 Since the setting up of any international call involves both the international network and the national networks of the terminal countries, the accounting rate share due to each country is derived from three basic elements, to which separate standard rates are applied:

- the *line* (transmission) part of the international network, which includes the various transmission systems used and is a function of the distance;
- the international exchange, i.e. the *switching* part of the international circuit, plus the terminal transmission equipment;
- the *national extension*, which denotes that part of the national network of each terminal country involved in completing the connection.

2.1.2 In special cases where the *line* (transmission) part of an international connection is:

- a tropospheric scatter link,
- a radio link, or
- a satellite link,

the provisions of this Recommendation with regard to the determination of an accounting rate share in relation to the length of the international circuit are not applicable, and accounting rate shares should be agreed upon between the Administrations concerned.

2.2 Charging zones

For calculating accounting rate shares, each country may be divided into charging zones. If need be, different charging zones may be fixed in a given country for traffic exchanged with different countries.

It is desirable that the number of charging zones for international traffic, in any one country, should be reduced to a minimum. As a general rule, in services between non-adjacent countries, each country should constitute one single zone.

2.3 Calculation of distance (line part)

2.3.1 Distances to be taken into consideration

2.3.1.1 General case

2.3.1.1.1 In determining the share payable to a country for the use of international circuits, the distance to be taken into consideration is:

in a terminal country

- *the crowflight distance between:*
 - a) the point at which the international circuit crosses the frontier, and
 - b) the international exchange at which the circuit terminates;

in a transit country

- *the crowflight distance* between the two frontier points at which the international circuit enters and leaves the country in question.

2.3.1.1.2 The same provisions apply to the determination of crowflight distances for groups and supergroups.

The above provisions for the calculation of distances apply to international circuits both on radio-relay links and land cables.

2.3.1.2 *Special cases*

2.3.1.2.1 *Radio-relay links crossing the sea or a third country*

When a frontier is crossed by a radio-relay section of an international circuit passing over a third country or over the sea, without an intermediate relay station, the frontier point for measuring the circuit length shall be the point midway between the two relay stations on either side of the frontier.

2.3.1.2.2 *Submarine cables*

With regard to international circuits which are routed in submarine cables, the distance to be used for accounting will be calculated as follows:

- a) for the land section of the circuit to the submarine cable station, the distance shall be calculated in accordance with the general principles (i.e. the crowflight distance), it being assumed that the point at which the circuit crosses the frontier is the cable station;
- b) for the submarine cable section, the distance used shall be the actual route distance between the submarine cable stations, as determined and agreed by the owners of the cable; the distance will be divided appropriately (normally 50/50) between the countries at the extremities of the cable.

2.3.1.2.3 *Special itineraries*

In exceptional circumstances, multiplication factors may be applied to the crowflight distance, from which the terminal and transit charges are calculated, to take account of special itineraries. For example, in the case of a direct transit country, the crowflight distance between the points of the frontier at which the circuit enters and leaves the country may (in exceptional circumstances) be replaced by a length representing the sum of two crowflight segments making up a broken line, etc.

2.3.2 *Possibility of weighting distances*

For calculation of the crowflight distances for the international section a weighting according to the number of circuits is normally applied in a given relation to simplify accounting:

- when there are several international arteries with different itineraries terminating at an international exchange;
- when there are several international exchanges in a country for the relation concerned.

This weighting serves to determine a length (crowflight distance) for fixing the accounting rate share relating to the international section and it would remain in force as long as the structure of the network was not significantly changed. This length of the international section would then be used to fix the *international section* element for the charges for international telephone circuits, groups and supergroups.

2.3.3 *Rounding off distances*

2.3.3.1 For the determination of accounting rates, distances measured as indicated above shall be rounded up to 50 km or to the *next highest* multiple of 50 km.

2.3.3.2 This rounding rule applies to the distances in each of the terminal countries and in each of the transit countries and is applied to the total distance calculated for any one country. It is applicable to the remuneration of Administrations both on the basis of a flat-rate price for the facilities made available and on the basis of traffic units.

2.3.3.3 When distances are weighted in accordance with the provisions of § 2.3.2 above, the rounding shall be applied only after the weighted distance has been calculated.

2.3.4 *Existence of several routes in a given relation*

When in a given relation there are several routes traversing different transit countries, these transit countries shall in all cases receive the share or flat-rate price normally due to them for the distance between the points of entry and exit; any cost of equalizing collection charges in a relation comprising different routes shall be borne solely by the Administration of the country of origin and no deduction shall be made from the remuneration due to the transit countries.

2.4 Standard rates to be applied for international accounting¹⁾

For international accounting purposes, there are two methods of remuneration for the facilities made available by Administrations:

- on the basis of traffic units;
- on the basis of a flat-rate price for the facilities made available.

2.4.1 Remuneration on the basis of traffic units

To determine the accounting rate shares due to each country, the following rates, *per minute of conversation time*, are recommended:

1) International network

a) Manual operation

- *per 100 km* of international circuit (excluding any national circuit required for connecting the international exchange to the national exchange serving the subscriber) 10 gold centimes
- for the manual international exchange in the country of origin or destination 47 gold centimes^{a)}
- for the manual international exchange in a transit country 50 gold centimes^{a)}

b) Semiautomatic and automatic operation

- *per 100 km* of international circuit (excluding any national circuit required for connecting the international exchange to the national exchange serving the subscriber) 8.6 gold centimes
- for the semiautomatic international exchange in the country of origin:
 - Operating cost 25 gold centimes
 - Switching cost 25 gold centimes^{a)}
 - Total 50 gold centimes
- for the automatic international exchange in the country:
 - of origin 18 gold centimes^{a)}
 - of destination 15 gold centimes^{a)}
- for an automatic international transit exchange (in a transit country) 30 gold centimes^{a)}

^{a)} This share includes the cost of the transmission equipment for one extremity in terminal operation and for two extremities in transit operation.

2) National extension

When determining the accounting rates, an amount may be added to cover the costs of the extension of calls over the national network. This amount should be determined by the Administration of each country after consideration of the volume and distribution of traffic on the national extension in its country for each relation concerned. It is recommended that as a general rule this amount should not exceed 50 gold centimes per minute. This amount is considered as covering the costs of switching and accounting operations and normally the costs of transmission on the national extension.

¹⁾ Use of charged time for international accounting instead of conversation time

According to their equipment, some Administrations may have to use charged time data for international accounts instead of conversation time, the charged time being given, for example, by the operator's ticket. In such a case, the Administration of origin will consult with the Administration of destination and, when necessary, with the Administration of transit countries to see whether it is necessary to adjust the number of minutes entered in the international accounts to make allowance for the small difference which may exist between the charged time they use and the conversation time they should use for accounting according to Recommendation D.150 and the present Recommendation.

2.4.2 Remuneration on the basis of a flat-rate price for the facilities made available

2.4.2.1 Remuneration of a direct transit country

2.4.2.1.1 To determine the flat-rate price for remuneration for the transmission facilities made available by Administrations, the following standard rates are recommended:

	Per year and per 100 km of transmission channel (line part)
— per supergroup	90 000 gold francs ^{a)}
— per group	30 000 gold francs ^{a)}
— per telephone circuit	3 000 gold francs ^{a)}

^{a)} Including, wherever applicable, use of modulation and demodulation equipment or throughband filters in the direct transit country.

2.4.2.1.2 When a circuit to a private user passes through a direct transit country, the Administration of this country will be remunerated by the Administrations of the terminal countries with a flat-rate price on the same basis as if the circuit were an ordinary public service circuit applying the rate in § 2.4.2.1.1 above.

2.4.2.2 Remuneration of a country of destination

To determine the flat-rate price for remuneration of countries of destination for facilities made available by Administrations, the following standard rates are recommended:

1) For the transmission channel (line part)

	Per 100 km and per year
— for a telephone circuit	3 000 gold francs
— for a group	30 000 gold francs
— for a supergroup	90 000 gold francs

2) For the international exchange (including the terminal transmission equipment).

— per year and per international circuit connected

Manual operation	Automatic operation
$0.47^a) \times 30\,000^b)$	$0.15^a) \times 35\,000^c)$
= 14 100 gold francs	= 5 250 gold francs

3) For the national extension

— per year and per international circuit connected

Manual operation	Automatic operation
$PN^d) \times 30\,000^b)$	$PN^d) \times 35\,000^c)$

^{a)} The cost of the transmission equipment for one extremity is included in the amounts of 47 and 15 gold centimes.

^{b)} Average number of minutes of traffic routed per year and per manual international telephone circuit.

^{c)} Average number of minutes of traffic routed per year and per semiautomatic or automatic international telephone circuit.

^{d)} PN represents the amount, per minute of conversation time, of the share to be fixed by each Administration for the extension of the connection on national territory.

- 4) The remuneration for terminal transmission equipment has been included in the above rates 2) of the present § 2.4.2.2 based on annual costs per extremity of:

— supergroup	7400 gold francs
— group	3500 gold francs
— circuits	1100 gold francs

2.4.3 All the amounts given in § 2 above are reproduced in the three tables in Annexes A, B and C.

3 Determination of collection charges in telephone relations between countries in Africa

3.1 General

The establishment of the collection charge is a national matter. Whilst, in general, Administrations correlate collection charges and accounting rates, the two will not necessarily be the same because, for example:

- in most countries, collection charges and accounting rates will be expressed in different currencies;
- collection charges and accounting rates may be based on different traffic units;
- the value of national currencies can fluctuate relative to the gold franc;
- collection charges may be influenced by government fiscal policies;
- Administrations frequently establish common collection charges for geographical zones or groups of countries;
- in many relations there will be different routes with different accounting rates to which a single collection charge will be applied.

3.2 Charging zones

For fixing collection charges each country may be divided into charging zones. If need be, different charging zones may be fixed in a given country for traffic exchanged with different countries.

It is desirable that the number of charging zones for international traffic, in any one country, should be reduced to a minimum. As a general rule, in services between non-adjacent countries, each country should constitute one single zone.

The fixing of zones for collection charges does not imply the same for zones of accounting rate shares which can be weighted appropriately to make allowances for a zonal structure. Similarly, the fixing of zones for accounting rate shares (§ 2.2 above) does not imply any requirement for fixing zones for collection charges.

3.3 Determination of collection charges

3.3.1 The collecting charge, in principle, should be the equivalent in national currency of the accounting rate. If, taking into account the above factors in §§ 3.1 and 3.2 above, an Administration wishes to fix a collection charge at a higher or lower amount than the direct equivalent of the accounting rate, this Administration may apply a multiplication factor K. This factor K should not be more than 1.5 when applied to the total accounting rate in the relation concerned.

As a general principle, Administrations should make every effort to avoid too large a dissymmetry between the collection charges applicable in each direction of the same relation and should endeavour to agree upon application of the same factor K. Collection charges should be fixed at reasonable levels and the factor $K = 1.5$ is a maximum which should not be automatically applied. The factor K may be different for the different relations operated by an Administration.

Note — It is emphasized that the application of a factor K should not affect international accounting.

3.3.2 In considering the collection charges for a relation in which automatic and semiautomatic working both exist, each Administration should decide to fix its charges:

- either by establishing different charges for each method of operation; or
- by establishing a single collection charge weighted according to the volume of each type of traffic.

3.4 Examples of how to apply the standard rates mentioned in § 2 in determining collection charges in gold francs

The following tables give examples of the application of standard rates to calculate collection charges and show how the latter can be used to establish scales of collection charges (in gold francs) for application in the African region.

These are on the principle of a sliding scale according to distance and therefore consist of rate steps corresponding to distance steps of 500 km and 1000 km.

To avoid excessive differences between collection charges and accounting charges for small distances (for example, in the relations between neighbouring countries) a factor K slightly more than 1 was applied, while for longer distances a higher factor K appeared suitable.

3.4.1 International manual telephone operation

Distance steps ^{a)}	Accounting rates			Collection charges			Factor K
	Share independent of distance (in gold francs)	Share based on distance ^{a)} (in gold francs)	Total (in gold francs)	Share independent of distance (in gold francs)	Share based on distance (in gold francs)	Total (in gold francs)	
0- 500 km	1.94 ^{b)}	0.50	2.44	2.00	0.60	2.60	1.06
500-1000 km	1.94	1.00	2.94	2.00	1.20	3.20	
1000-1500 km	1.94	1.50	3.44	2.00	1.80	3.80	
1500-2000 km	1.94	2.00	3.94	2.00	2.40	4.40	
2000-3000 km	1.94	3.00	4.94	2.00	3.60	5.60	
3000-4000 km	1.94	4.00	5.94	2.00	4.80	6.80	1.15
> 4000 km (5000 km)	1.94	5.00	6.94	2.00	6.00	8.00	

^{a)} To calculate the accounting rate share based on distance, the maximum distance in each step was taken.

^{b)} This share was calculated as follows:

	Country of origin	Country of destination
— National extension	0.50	0.50
— International exchange	0.47	0.47
Total	0.97	0.97
	1.94 gold francs	

3.4.2 International semiautomatic telephone operation

Distance steps ^{a)}	Accounting rates			Collection charges			Factor K
	Share independent of distance (in gold francs)	Share based on distance ^{a)} (in gold francs)	Total (in gold francs)	Share independent of distance (in gold francs)	Share based on distance (in gold francs)	Total (in gold francs)	
0- 500 km	1.65 ^{b)}	0.43	2.08	1.70	0.50	2.20	1.06
500-1000 km	1.65	0.86	2.51	1.70	1.00	2.70	
1000-1500 km	1.65	1.29	2.94	1.70	1.50	3.20	
1500-2000 km	1.65	1.72	3.37	1.70	2.00	3.70	
2000-3000 km	1.65	2.58	4.23	1.70	3.00	4.70	
3000-4000 km	1.65	3.44	5.09	1.70	4.00	5.70	1.12
>4000 km (5000 km)	1.65	4.30	5.95	1.70	5.00	6.70	

^{a)} To calculate the accounting rate share based on distance, the maximum distance in each step was taken.

^{b)} This share was calculated as follows:

	Country of origin	Country of destination
— National extension	0.50	0.50
— International exchange	0.50	0.15
Total	1.00	0.65
	1.65 gold francs	

4 Tariffs and remuneration for facilities used for international telephone traffic in Africa routed over radio circuits or via satellite

Some provisions on the fixing of tariffs and remuneration for the facilities used for international telephone traffic routed over radio circuits or via satellite are contained in Annex D to this Recommendation.

5 Frontier relations between African countries

The conditions governing the establishment and operation of frontier relations depend largely on the structure of the national networks in the frontier areas. These conditions tend to alter, particularly as a result of network automation, which leads in turn to automation of frontier relations. Consequently, the collection charges applied to these relations are tending to become increasingly subject to the limitations imposed by the automatic charging equipments used. The collection charges and accounting rates to be applied to frontier relations should therefore be fixed by agreement between the Administrations concerned.

Whenever the situation permits, there should be no exchange of international accounts for frontier calls, the entire charge being retained by the Administration which collects it.

ANNEX A

(to Recommendation D.200 R)

Standard rates to be applied in Africa in determining accounting rate shares in the telephone service (traffic unit basis)

A – Accounting rate shares applicable in *terminal countries* per *minute* of conversation time

Direction of operation	Manual operation		Semiautomatic operation		Automatic operation	
	Transmission (per 100 km of circuit)	International exchange ^{a)}	Transmission (per 100 km of circuit)	International exchange ^{a)}	Transmission (per 100 km of circuit)	International exchange ^{a)}
Outgoing. . . .	10 gold centimes	47 gold centimes	8.6 gold centimes	25 + 25 ^{b)} = 50 gold centimes	8.6 gold centimes	18 gold centimes
Incoming. . . .	10 gold centimes	47 gold centimes	8.6 gold centimes	15 gold centimes	8.6 gold centimes	15 gold centimes

B – Accounting rate shares applicable in *transit countries* per *minute* of conversation time

Direct transit		Switched transit			
Manual	Automatic	Manual		Automatic	
Transmission (per 100 km of circuit)	Transmission (per 100 km of circuit)	Transmission (per 100 km of circuit)	International exchange ^{a)}	Transmission (per 100 km of circuit)	International exchange ^{a)}
10 gold centimes	8.6 gold centimes	10 gold centimes	50 gold centimes	8.6 gold centimes	30 gold centimes

^{a)} Including the cost of the transmission equipments for one extremity in terminal operation and for two extremities in transit operation.

^{b)} Representing the operating costs at an outgoing semiautomatic exchange.

ANNEX B

(to Recommendation D.200 R)

Standard rates to be applied in Africa in remuneration for transmission facilities made available by Administrations in a direct transit country (flat-rate price basis)

Unit element considered	Transmission (line part)
	Rates per 100 km per annum (in gold francs)
Supergroup	90 000 ^{a)}
Group	30 000 ^{a)}
Telephone circuit	3 000 ^{a)}

^{a)} Including, wherever applicable, use of modulation and demodulation equipments or throughband filters in the direct transit country.

ANNEX C

(to Recommendation D.200 R)

Standard rates to be applied in Africa in remuneration for facilities made available between Administrations in a destination country (flat-rate price basis)

Unit element considered	Transmission (line part)	International exchange		National extension	
	Per 100 km and per year	Operation		Operation	
		Manual	Automatic	Manual	Automatic
		Per year	Per year	Per year	Per year
International circuit	3 000 gold francs	$0.47^{a)} \times 30\,000^{b)} =$ 14 100 gold francs	$0.15^{a)} \times 35\,000^{c)} =$ 5 250 gold francs	$PN^{d)} \times 30\,000^{b)}$	$PN^{d)} \times 35\,000^{c)}$
Group	30 000 gold francs				
Supergroup	90 000 gold francs				

a) The cost of the transmission equipment for one extremity is included in the figures of 47 and 15 gold centimes and was based on annual costs of 1100 gold francs for a circuit, which amount includes an allowance for the terminal equipment of a group (3500 gold francs) and supergroup (7400 gold francs).

b) Average number of minutes of traffic routed per year and per manual international telephone circuit.

c) Average number of minutes of traffic routed per year and per semiautomatic number or automatic international telephone circuit.

d) PN represents the amount, per minute of conversation time, of the share to be fixed by each Administration for the extension of the connection on national territory.

ANNEX D

(to Recommendation D.200 R)

Tariffs and remuneration for the facilities used for international telephone traffic in Africa routed over radio circuits or via satellite

D.1 Tariffs

Contrary to what may be observed with regard to relations depending on cable or radio-relay circuits, the distance factor has little effect on the cost of the facilities used to set up radio or satellite links. Nevertheless, it is generally desirable for a number of reasons (uniformity of rates regardless of the transmission medium used, concept of service rendered, political considerations, etc.) to establish a rates system based on distance in relations using these transmission facilities, i.e. to apply the same scale of collection charges as in relations established on cable and radio-relay transmission systems.

D.2 Remuneration for facilities

D.2.1 Direct circuits between terminal countries

When satellite or radio circuits are used, the remuneration for the facilities made available in the country of destination may be based, in accordance with Recommendation D.150, on either of the following:

- the accounting revenue division procedure, or
- the traffic unit price procedure.

D.2.1.1 *Accounting revenue division procedure*

When the accounting revenue division procedure is applied, it is generally agreed that the revenue should be shared on a 50/50 basis, regardless of the mode of operation.

D.2.1.2 *Traffic unit price procedure*

When the traffic unit price procedure is used, the accounting rate shares might initially be fixed as follows:

a) *Satellite circuits*

Share per minute: 2.30 gold francs.

This share covers only the path between the satellite and the international exchange (excluding that exchange). The shares for the international exchange and for the national extension, as laid down in § 2 above, should therefore be added.

The share of 2.30 gold francs per minute mentioned above is based on the assumption that the earth station provides 60 circuits, each of which handles an average of 35 000 minutes of conversation time per year. On the same assumption, the cost of the space segment (1/2 circuit) was fixed at 28 000 gold francs per year.

b) *Radiotelephone circuit*

On the assumption that both types of circuit handle an identical average volume of traffic per year, the cost per minute in the country of destination is practically the same as for a satellite circuit.

D.2.2 *Transit circuits*

D.2.2.1 *Direct satellite circuit established in transit via an earth station in a third country*

The Administration operating the earth station in the third country is remunerated on the flat-rate price basis. This remuneration might be fixed initially at *50 000 gold francs per year per circuit*. This amount covers the costs both of the earth station (excluding the space segment) and of the extension to the international exchange in that country. It was based on the assumption that the earth station would set up 60 circuits.

D.2.2.2 *Switched transit circuit*

The remuneration of the country providing switched transit and of the country of destination may be based either on the accounting revenue division procedure in accordance with an agreed key or on the traffic unit price procedure. In the latter case the shares to be considered are those shown in the present annex and in the Recommendation itself.

Recommendation D.201 R

DETERMINATION OF ACCOUNTING RATE SHARES AND COLLECTION CHARGES IN TELEX RELATIONS BETWEEN COUNTRIES IN AFRICA

Introduction

When, in full exercise of their sovereignty, the Administrations of the countries of Africa negotiate among themselves agreements for determining the accounting rate shares and the collection charges to be applied in their telex relations, it is recommended that they take into consideration:

- for the determination of accounting rate shares and accounting rates the provisions of § 2 (Determination of accounting rates) of this Recommendation;
- for fixing the collection charges, the provisions contained in § 3 of this Recommendation;
- for fixing tariffs and remuneration for the facilities used when radio or satellite links are employed in the international telex service, the provisions of § 4 of this Recommendation.

An explanation of some of the terms used in this Recommendation is given in § 1 of Recommendation D.200 R.

1 Explanation of some of the terms used in this Recommendation

(see § 1 of Recommendation D.200 R)

2 Determination of accounting rates in telex relations between countries in Africa

2.1 General

2.1.1 Since the setting-up of any international call involves both the international network and the national networks of the terminal countries, the accounting rate share for each country is derived from three basic elements, to which separate standard rates are applied:

- the *line* (transmission) part of the international network, which includes the various transmission systems used and is a function of the distance;
- the international exchange, i.e. the *switching* part of the international circuit, plus the terminal transmission equipment;
- the *national extension*, which denotes that part of the national network of each terminal country involved in completing the connection.

2.1.2 In special cases where the *line* (transmission) part of an international connection is:

- a tropospheric scatter link,
- a radio link, or
- a satellite link,

the provisions of this Recommendation with regard to the determination of an accounting rate share in relation to the length of the international circuit are not applicable and accounting rate shares should be agreed upon between the Administrations concerned.

2.2 Calculation of distances (line part)

2.2.1 Distances to be taken into consideration

2.2.1.1 General case

In determining the share payable to a country for the use of international circuits, the distance to be taken into consideration is, in principle:

in a terminal country

- *the crowflight distance between:*
 - a) the point at which the international circuit crosses the frontier, and
 - b) the international exchange at which the circuit terminates;

in a transit country

- *the crowflight distance* between the two frontier points at which the international circuit enters and leaves the country in question.

The above provisions for the calculation of distances apply to international circuits both on land cables and on radio-relay links.

2.2.1.2 Special cases

2.2.1.2.1 Radio-relay links crossing the sea or a third country

When a frontier is crossed by a radio-relay section of an international circuit passing over a third country or over the sea, without an intermediate relay station, the frontier point for measuring the circuit length shall be the point midway between the two relay stations on either side of the frontier.

2.2.1.2.2 *Submarine cables*

With regard to international circuits which are routed in submarine cables, the distance to be used for accounting will be calculated as follows:

- a) for the land section of the circuit to the cable station, the distance shall be calculated in accordance with the general principles (i.e. the crowflight distance), it being assumed that the point at which the circuit crosses the frontier is the cable station;
- b) for the submarine cable section, the distance used shall be the actual route distance between the submarine cable stations, as determined and agreed by the owners of the cable; the distance will be divided appropriately (normally 50/50) between the countries at the extremities of the cable.

2.2.1.2.3 *Special itineraries*

In exceptional circumstances, multiplication factors may be applied to the crowflight distance, from which the terminal and transit charges are calculated, to take account of special itineraries. For example, in the case of a direct transit country, the crowflight distance between the points on the frontier at which the circuit enters and leaves the country may (in exceptional circumstances) be replaced by a length representing the sum of two crowflight segments making up a broken line, etc.

2.2.2 *Possibility of weighting distances*

For calculation of the crowflight distances for the international section a weighting according to the number of circuits is normally applied in a given relation to simplify accounting:

- when there are several international arteries with different itineraries terminating at an international exchange;
- when there are several international exchanges in a country for the relation concerned.

This weighting serves to determine a length (crowflight distance) for fixing the accounting rate shares relating to the international section and it would remain in force as long as the structure of the network was not significantly changed. This length of the international section would then be used to fix the *international section* element for the charges for international telex circuits.

2.2.3 *Rounding off distances*

2.2.3.1 In determining the accounting rate shares, the distances measured as indicated above shall be rounded up to 50 km or to the next highest multiple of 50 km.

2.2.3.2 This rounding rule applies to the distances in each of the terminal countries and in each of the transit countries and is applied to the total distance calculated for any one country. It is applicable to the remuneration of Administrations both on the basis of a flat-rate price for the facilities made available and on the basis of traffic units.

2.2.3.3 When distances are weighted in accordance with the provisions of § 2.2.2 above, the rounding shall be applied only after the weighted distance has been calculated.

2.2.4 *Existence of several routes in a given relation*

When, in a given relation, there are several routes traversing different transit countries, these transit countries shall in all cases receive the share or flat-rate price normally due to them for the distance between the points of entry and exit; any cost of equalizing collection charges in a relation comprising different routes shall be borne solely by the Administration of the country of origin and no deduction shall be made from the remuneration due to the transit countries.

2.3 *Standard rates to be applied for international accounting*

For international accounting purposes, there are two methods of remuneration for the facilities made available by Administrations:

- on the basis of traffic units;
- on the basis of a flat-rate price for the facilities made available.

2.3.1 Remuneration on the basis of traffic units

To determine the accounting rate shares for each country, the following standard rates, *per minute of telex call*, are recommended:

1) International network

a) Manual operation

- *per 100 km* of international circuit (excluding any national circuit required for connecting the international exchange to the national exchange serving the subscriber) 1.5 gold centimes ^{a)}
- for the manual international exchange in the country of origin or destination 75 gold centimes ^{b)}
- for a manual international exchange in a transit country 80 gold centimes ^{b)}

^{a)} Where, in order to establish a telex circuit, telegraph channels are connected in a direct transit country, an additional charge of 10 gold centimes shall be made for the translating equipment used to connect them.

^{b)} This charge includes the cost of the transmission equipment for one extremity in terminal operation and for two extremities in transit operation.

b) Semiautomatic and automatic operation

- *per 100 km* of international circuit (excluding any national circuit required for connecting the international exchange to the national exchange serving the subscriber) 1.5 gold centimes ^{a)}
- for the semiautomatic international exchange in the country of origin:
 - Operating cost 44 gold centimes
 - Switching cost 31 gold centimes ^{b)}
 - Total 75 gold centimes
- for the automatic international exchange in the country:
 - of origin 20 gold centimes ^{b)}
 - of destination 15 gold centimes ^{b)}
- for an automatic international exchange in a transit country 30 gold centimes ^{b)}

^{a)} Where, in order to establish a telex circuit, telegraph channels are connected in a direct transit country, an additional charge of 10 gold centimes shall be made for the translating equipment used to connect them.

^{b)} This charge includes the cost of the transmission equipment for one extremity in terminal operation and for two extremities in transit operation.

2) National extension

An amount may be added to cover the costs of the extension of calls over the national network. This amount should be determined by the Administration of each country after consideration of the volume and distribution of traffic on the national extension in its country for each relation concerned. It is recommended that as a general rule this amount should not exceed 50 gold centimes per minute. This amount is considered as covering the costs of accounting operations as well as the costs of switching and of transmission over the national extension.

2.3.2 Remuneration on a basis of flat-rate price for the facilities made available

2.3.2.1 Remuneration of a direct transit country

2.3.2.1.1 To determine the flat-rate price for remuneration for the transmission facilities made available by Administrations the following standard rates are recommended:

	Per year and per 100 km of transmission channel (line part)
— per 50-baud telegraph channel	300 gold francs ^{a)}
— per VFT bearer circuit	3000 gold francs

^{a)} Where, in order to establish a circuit, two telegraph channels in a direct transit country are connected, an additional charge shall be made for the lease of the transmission equipment for two telegraph channel extremities, i.e. $2 \times 1000 = 2000$ gold francs, irrespective of the number of such connections in the direct transit country.

2.3.2.1.2 When a circuit leased to a private user passes through a direct transit country, the Administration of this country will be remunerated by the Administrations of the terminal countries with a flat-rate price on the same basis as if the circuit were an ordinary public service circuit applying the rate in § 2.3.2.1.1 above.

2.3.2.2 Remuneration of a country of destination

To determine the flat-rate price for remuneration of the country of destination for the facilities made available by Administrations, the following standard rates are recommended:

1) For the transmission channel (line part)

	Per year and per 100 km
— per 50-baud telegraph channel	300 gold francs
— per VFT telephone bearer circuit	3000 gold francs

2) For the international exchange (including terminal transmission equipment)

- per year and per 50-baud international circuit connected

Manual operation

$$0.75 \times 20\,000^a) \\ = 15\,000 \text{ gold francs } ^b)$$

Automatic operation

$$0.15 \times 20\,000^a) \\ = 3\,000 \text{ gold francs } ^b)$$

a) Average number of minutes of traffic routed per year and per international telex circuit.

b) The cost of the terminal telex transmission equipment for one extremity is included in the amounts of 75 and 15 gold centimes.

3) For the national extension

- per year and per 50-baud international circuit connected

Manual operation

$$PN^b) \times 20\,000^a)$$

Automatic operation

$$PN^b) \times 20\,000^a)$$

a) Average number of minutes of traffic routed per year and per international telex circuit.

b) PN represents the amount, per minute of telex call, of the share to be fixed by each Administration for the extension of the connection on national territory.

2.3.3 All the amounts contained in § 2 above are reproduced in the three tables in Annexes A, B and C.

3 Determination of collection charges in telex relations between countries in Africa

3.1 General

The establishment of the collection charge is a national matter. Whilst, in general, Administrations correlate collection charges and accounting rates, the two will not necessarily be the same because, for example:

- in most countries, collection charges and accounting rates will be expressed in different currencies;
- collection charges and accounting rates may be based on different traffic units;
- the value of national currencies can fluctuate relative to the gold franc;
- collection charges may be influenced by government fiscal policies;
- Administrations frequently establish common collection charges for geographical zones or groups of countries;
- in many relations there will be different routes with different accounting rates to which a single collection charge will be applied.

3.2 Determination of collection charges

3.2.1 The collection charge, in principle, should be the equivalent in national currency of the accounting rate. If, taking into account the factors in § 3.1 above, an Administration wishes to fix a collection charge at a higher or lower amount than the direct equivalent of the accounting rate, this Administration may apply a multiplication factor K. This factor K should not be more than 1.8 when applied to the accounting rate in the relation concerned.

As a general principle, Administrations should make every effort to avoid too large a dissymmetry between the collection charge applicable in each direction of the same relation and should endeavour to agree upon application of the same factor K. Collection charges should be fixed at reasonable levels and the factor K = 1.8 is a maximum which should not be automatically applied. The factor K may be different for the different relations operated by an Administration.

Note — It is emphasized that the application of a factor K should not affect international accounting.

3.2.2 In considering the collection charges for a relation in which automatic and semiautomatic working both exist, each Administration should decide to fix its charges:

- either by establishing different charges for each method of operation; or
- by establishing a single collection charge weighted according to the volume of each type of traffic.

3.3 Examples for the application of the standard rates mentioned in § 2 above for fixing the collection charges in gold francs

The following tables give examples of the application of standard rates to calculate collection charges and show how the latter can be used to establish scales of collection charges (in gold francs) for application in the African region.

These are on the principle of a sliding scale according to distance and therefore consist of rate steps corresponding to distance steps of 1000 km.

To avoid excessive differences between collection charges and accounting charges for small distances (for example, in the relations between neighbouring countries) a factor K slightly more than 1 was applied, while for longer distances a higher factor K appeared suitable.

3.3.1 International telex operating (manual)

Distance stages ^{a)}	Accounting rates			Collection charges			Coef- ficient K
	Share independent of distance (in gold francs)	Share as a function of distance ^{a)} (in gold francs)	Total (in gold francs)	Share independent of distance (in gold francs)	Share as a function of distance (in gold francs)	Total (in gold francs)	
0-1000 km	2.50 ^{b)}	0.15	2.65	2.50	0.50	3.00	1.13
1000-2000 km	2.50	0.30	2.80	2.50	1.00	3.50	
2000-3000 km	2.50	0.45	2.95	2.50	1.50	4.00	
3000-4000 km	2.50	0.60	3.10	2.50	2.00	4.50	
> 4000 km (5000 km)	2.50	0.75	3.25	2.50	2.50	5.00	1.53

^{a)} In calculating the accounting rate share as a function of the distance, the maximum distance of each stage has been assumed.

^{b)} This share is calculated as follows:

	Country of origin	Country of destination
— National extension	0.50	0.50
— International exchange	0.75	0.75
Total	1.25	1.25
	2.50 gold francs	

3.3.2 International telex operation (semiautomatic)

Distance stages ^{a)}	Accounting rates			Collection charges			Coef- ficient K
	Share independent of distance (in gold francs)	Share as a function of distance ^{a)} (in gold francs)	Total (in gold francs)	Share independent of distance (in gold francs)	Share as a function of distance (in gold francs)	Total (in gold francs)	
0-1000 km	1.90 ^{b)}	0.15	2.05	2.00	0.50	2.50	1.22
1000-2000 km	1.90	0.30	2.20	2.00	1.00	3.00	
2000-3000 km	1.90	0.45	2.35	2.00	1.50	3.50	
3000-4000 km	1.90	0.60	2.50	2.00	2.00	4.00	
> 4000 km (5000 km)	1.90	0.75	2.65	2.00	2.50	4.50	1.7

^{a)} In calculating the accounting rate share as a function of the distance, the maximum distance of each stage has been assumed.

^{b)} This share is calculated as follows:

	Country of origin	Country of destination
— National extension	0.50	0.50
— International exchange	0.75	0.15
Total	1.25	0.65
	1.90 gold francs	

4 Tariffs and remuneration for the facilities used when radio or satellite links are employed in Africa in the international telex service

Certain provisions relating to tariffs and remuneration for the facilities used when radio or satellite links are employed in the international telex service are the subject of Annex D to this Recommendation.

ANNEX A

(to Recommendation D.201 R)

Standard rates to be applied in Africa in determining accounting rate shares in the telex service (traffic unit basis)

A – Accounting rate shares applicable in *terminal countries* per *minute* of telex call

Direction of operation	Manual operation		Semiautomatic operation		Automatic operation	
	Transmission (per 100 km of circuit)	International exchange ^{a)}	Transmission (per 100 km of circuit)	International exchange ^{a)}	Transmission (per 100 km of circuit)	International exchange ^{a)}
Outgoing	1.5 gold centimes	75 gold centimes	1.5 gold centimes	31 + 44 ^{b)} = 75 gold centimes	1.5 gold centimes	20 gold centimes
Incoming	1.5 gold centimes	75 gold centimes	1.5 gold centimes	15 gold centimes	1.5 gold centimes	15 gold centimes

B – Accounting rate shares applicable in *transit countries* per *minute* of telex call

Direct transit		Switched transit			
Manual	Automatic	Manual		Automatic	
Transmission (per 100 km of circuit) ^{c)}	Transmission (per 100 km of circuit) ^{c)}	Transmission (per 100 km of circuit) ^{c)}	International exchange ^{a)}	Transmission (per 100 km of circuit) ^{c)}	International exchange ^{a)}
1.5 gold centimes	1.5 gold centimes	1.5 gold centimes	80 gold centimes	1.5 gold centimes	30 gold centimes

^{a)} Including the cost of the transmission equipment for one extremity in terminal operation and for two extremities in transit operation.

^{b)} Representing the operating costs at an outgoing semiautomatic exchange.

^{c)} Where, in order to establish a telex circuit, telegraph channels are connected in a direct transit country, an additional charge of 10 gold centimes is applied for translating equipment used to connect them.

ANNEX B

(to Recommendation D.201 R)

Standard rates to be applied in Africa in remuneration for transmission facilities made available by Administrations in a direct transit country (flat-rate price basis)

Unit element considered	Transmission (line part)
	Rates per 100 km per annum (in gold francs)
VFT bearer circuit	3 000 ^{a)}
Telegraph channel, 50 bauds	300 ^{b)}

^{a)} Including, whenever applicable, use of modulation and demodulation equipment or throughband filters in the direct transit country.

^{b)} Where, in order to establish a circuit, two telegraph channels in a direct transit country are connected, an additional charge is made for the lease of transmission equipment for two telegraph channel extremities, i.e. $2 \times 1000 = 2000$ gold francs, irrespective of the number of such connections in the direct transit country.

ANNEX C

(to Recommendation D.201 R)

Standard rates to be applied in Africa in remuneration for facilities made available by Administrations in a destination country (flat-rate price basis)

Unit element considered	Transmission (line part)	International exchange		National extension	
	Per 100 km and per year	Operation		Operation	
		Manual	Automatic	Manual	Automatic
		Per year	Per year	Per year	Per year
Per international circuit – 50 bauds	300 gold francs	$0.75 \times 20\,000^a) = 15\,000$ gold francs ^{b)}	$0.15 \times 20\,000^a) = 3\,000$ gold francs ^{b)}	$PN^{c)} \times 20\,000^a)$	$PN^{c)} \times 20\,000^a)$
VFT bearer	3000 gold francs	Not applicable	Not applicable	Not applicable	Not applicable

^{a)} Average number of minutes of traffic routed per year and per international telex circuit.

^{b)} The cost of telex terminal transmission equipment for one extremity is included in the amounts of 75 and 15 gold centimes.

^{c)} PN represents the amount, per minute of telex call, of the share to be fixed by each Administration for the extension of the connection on national territory.

(to Recommendation D.201 R)

**Tariffs and remuneration for the facilities used when radio or satellite links are employed in Africa
in the international telex service**

D.1 *Tariffs*

Contrary to the situation with respect to land circuit relations, the distance factor only slightly affects the cost of the facilities used for radio or satellite links. Nevertheless, for various reasons (uniformity of tariffs whatever transmission medium is used, the concept of the service provided, political reasons, etc.), it is generally desirable, in relations provided by these transmission media, to establish a tariff system based on distance. That is to say to apply the same scale for the collection charges as the one applied to land transmission systems.

D.2 *Remuneration for the facilities*

D.2.1 *Direct links between the terminal countries*

When satellite circuits or radio links are used, remuneration for the facilities made available in the country of destination may be effected by applying the following method, by analogy with the provisions of Recommendation D.150:

- accounting revenue division procedure, or
- traffic unit price procedure.

D.2.1.1 *Accounting revenue division procedure*

When the accounting revenue division procedure is applied, it is generally agreed that the revenue is shared equally, regardless of the operating method used.

D.2.1.2 *Traffic unit price procedure*

When the traffic unit price procedure is used, the accounting rate shares may be fixed as follows in the initial stage:

a) *Satellite link*

Share per minute: 40 gold centimes.

This share covers only the path between the satellite and the international exchange (excluding that exchange). To this share should be added the shares relating to the international exchange and to the national extension as determined in § 2 of this Recommendation.

The share of 40 gold centimes per minute mentioned above has been calculated on the theory that the earth station provides for the setting-up of 60 telephone circuits, each VFT telephone bearer circuit serving to establish about 10 telegraph channels, over each of which an average of 20 000 minutes of communications pass annually. On the same basis the cost of the space segment (1/2 telephone circuit) has been fixed at 28 000 gold francs per annum.

b) *Radiotelegraph channel*

Share per minute: 1 gold franc.

This share covers only the terminal station (including the terminal equipment of a protected circuit). The shares for the international exchange and the national extension which are specified in § 2 of this Recommendation should therefore be added to this share.

The share of 1 gold franc is based on an annual charge of 20 000 gold francs per channel and on the assumption that an average yearly traffic of 20 000 minutes is routed via this channel.

D.2.2 *Transit links*

D.2.2.1 *Direct satellite link set up in transit via an earth station in a third country*

The Administration operating the earth station in the third country is remunerated on a flat-rate basis. This remuneration might be fixed in an initial stage at 7800 gold francs per year per telegraph circuit.

This amount covers the costs of the earth station, the space segment and the extension to the international exchange of the third country. It is based on the assumption that the earth station provides for the setting up of 60 telephone circuits. For the channel extension from the international exchange, the rates referred to in § 2.3.2.1.1 are applied.

D.2.2.2 *Switched transit link*

The remuneration of the switched transit country and of the country of destination may be effected either by the accounting revenue division procedure using an agreed key or by the traffic unit price procedure. In the latter case the shares are those given in this annex and in the Recommendation itself.

SECTION 2

RECOMMENDATIONS APPLYING IN EUROPE AND THE MEDITERRANEAN BASIN

Recommendation D.300 R

DETERMINATION OF ACCOUNTING RATE SHARES AND COLLECTION CHARGES IN TELEPHONE RELATIONS BETWEEN COUNTRIES IN EUROPE AND THE MEDITERRANEAN BASIN ¹⁾

Introduction

When, in full exercise of their sovereignty, the Administrations of the countries of Europe and the Mediterranean Basin negotiate among themselves agreements for determining the accounting rate shares and when they fix the collection charges to be applied in their telephone relations, it is recommended that they take into consideration:

- for the determination of accounting rate shares and accounting rates, the provisions of § 2 (Determination of accounting rates) of this Recommendation;
- for fixing the collection charges, the provisions contained in § 3 of this Recommendation;
- for fixing tariffs for frontier relations, the provisions contained in § 4 of this Recommendation.

An explanation of some of the terms used in the Recommendation is given in § 1 of Recommendation D.200 R.

1 Explanation of some of the terms used in this Recommendation

(See § 1 of Recommendation D.200 R)

2 Determination of accounting rate in telephone relations between countries in Europe and the Mediterranean Basin

2.1 General

2.1.1 Since the setting up of any international call involves both the international network and the national networks of the terminal countries, the accounting rate share due to each country is derived from three basic elements, to which separate standard rates are applied:

- the *line* (transmission) part of the international network, which includes the various transmission systems used and is a function of the distance;
- the international exchange, i.e. the *switching* part of the international circuit, plus the terminal transmission equipment;

¹⁾ Countries in the Mediterranean Basin are the countries not belonging to Europe but bordering the Mediterranean Sea.

- the *national extension*, which denotes that part of the national network of each terminal country involved in completing the connection.

2.1.2 In special cases where the *line* (transmission) part of an international connection is:

- a tropospheric scatter link,
- a radio link, or
- a satellite link,

the provisions of this Recommendation with regard to the determination of an accounting rate share in relation to the length of the international circuit are not applicable and accounting rate shares should be agreed upon between the Administrations concerned.

2.1.3 When a reduced rate is introduced in a given relation, the accounting rates remain fixed in accordance with the provisions below, except in the case of special agreement. Each Administration of origin will determine the collection charges for its outgoing traffic.

2.2 *Charging zones*

For calculating accounting rate shares, each country may be divided into charging zones. If need be, different charging zones may be fixed in a given country for traffic exchanged with different countries.

It is desirable that the number of charging zones for international traffic, in any one country, should be reduced to a minimum. As a general rule, in services between non-adjacent countries, each country should constitute one single zone.

2.3 *Calculation of distances (line part)*

2.3.1 *Distances to be taken into consideration*

2.3.1.1 *General case*

2.3.1.1.1 In determining the share payable to a country for the use of international circuits, the distance to be taken into consideration is:

in a terminal country

- the *crowflight distance* between:
 - a) the point at which the international circuit crosses the frontier, and
 - b) the international exchange at which the circuit terminates;

in a transit country

- the *crowflight distance* between the two frontier points at which the international circuit enters and leaves the country in question.

2.3.1.1.2 The same provisions apply to the determination of crowflight distances for groups, supergroups, mastergroups and supermastergroups.

The above provisions for the calculation of distances apply to international circuits both on land cables and on radio-relay links.

2.3.1.2 *Special cases*

2.3.1.2.1 *Radio-relay links crossing the sea or a third country*

When a frontier is crossed by a radio-relay section of an international circuit passing over a third country or over the sea, without an intermediate relay station, the frontier point for measuring the circuit length shall be the point midway between the two relay stations on either side of the frontier.

2.3.1.2.2 *Submarine cables*

With regard to international circuits which are routed in submarine cables, the distance to be used for accounting will be calculated as follows:

- a) for the land section of the circuit to the submarine cable station, the distance shall be calculated in accordance with the general principles (i.e. the crowflight distance), it being assumed that the point at which the circuit crosses the frontier is the cable station;
- b) for the submarine cable section, the distance used shall be the actual route distance between the submarine cable stations as determined and agreed by the owners of the cable; the distance will be divided appropriately (normally 50/50) between the countries at the extremities of the cable.

2.3.1.2.3 *Special itineraries*

In exceptional circumstances, multiplication factors may be applied to the crowflight distance, from which the terminal and transit shares are calculated, to take account of special itineraries. For example, in the case of a direct transit country, the crowflight distance between the points on the frontier at which the circuit enters and leaves the country may (in exceptional circumstances) be replaced by a length representing the sum of two crowflight segments making up a broken line, etc.

2.3.2 *Possibility of weighting distances*

For calculation of the crowflight distances for the international section a weighting according to the number of circuits is normally applied in a given relation to simplify accounting:

- when there are several international arteries with different itineraries terminating at an international exchange;
- when there are several international exchanges in a country for the relation concerned.

This weighting serves to determine a length (crowflight distance) for fixing the accounting rate share relating to the international section and it would remain in force as long as the structure of the network was not significantly changed. This length of the international section would then be used to fix the *international section* element for the charges for international telephone and telegraph circuits, groups, supergroups, mastergroups and supermastergroups.

2.3.3 *Rounding off distances*

2.3.3.1 Distances less than 50 km shall be rounded up to 50 km.

Example: distance of 24 km rounded up to 50 km.

2.3.3.2 Other distances shall be rounded to the nearest multiple of 50 km.

Examples:

- distance of 72 km rounded to 50 km;
- distance of 126 km rounded to 150 km;
- distance of 175 km rounded to 200 km.

2.3.3.3 This rounding rule applies to the distances in each of the terminal countries and in each of the transit countries and is applied to the total distance calculated for any one country. It is applicable to the remuneration of Administrations both on the basis of a flat-rate price for the facilities made available and on the basis of traffic units.

2.3.3.4 When distances are weighted in accordance with the provisions of § 2.3.2 above, the rounding shall be applied only after the weighted distance has been calculated.

2.3.4 *Existence of several routes in a given relation*

When in a given relation there are several routes traversing different countries, these transit countries shall in all cases receive the share or flat-rate price normally due to them for the distance between the points of entry and exit; any cost of equalizing collection charges in a relation comprising different routes shall be borne solely by the Administration of the country of origin and no deduction shall be made from the remuneration due to the transit countries.

2.4 *Standard rates to be applied for international accounting*²⁾

For international accounting purposes, there are two methods of remuneration for the facilities made available by Administrations:

- on the basis of traffic units;
- on the basis of a flat-rate price for the facilities made available.

2.4.1 *Remuneration on the basis of traffic units*

To determine the accounting rate shares due to each country, the following standard rates, *per minute of conversation time*, are recommended:

1) *International network*

a) *Manual operation*

- *per 100 km* of international circuit (excluding any national circuit required for connecting the international exchange to the national exchange serving the subscriber) 4.5 gold centimes ^{a)}
- for the manual international exchange in the country of origin or destination 100 gold centimes ^{b)}
- for a manual international exchange in a transit country 100 gold centimes ^{b)}

b) *Semiautomatic and automatic operation*

- *per 100 km* of international circuit (excluding any national circuit required for connecting the international exchange to the national exchange serving the subscriber) 3 gold centimes ^{a)}
- for the semiautomatic international exchange in the country of origin:
 - operating cost 80 gold centimes
 - switching cost 20 gold centimes ^{b)}
 - Total 100 gold centimes
- for the automatic international exchange in the country of origin 20 gold centimes ^{b)}
- for the semiautomatic international exchange in the country of destination 12 gold centimes ^{b)}
- for an automatic international transit exchange (in a transit country) 18 gold centimes ^{b)}

^{a)} The standard rates adopted for the *line* elements per 100 km of circuit and per minute may not be appropriate to some small capacity submarine cables. In these cases the rates should be fixed by agreement among the parties concerned, preferably by introduction of a correction factor to the standard rates.

^{b)} This share includes the cost of the transmission equipments for one extremity in terminal operation and for two extremities in transit operation.

2) *National extension*

An amount may be added to cover the costs of the extension of calls over the national network, taking into account:

- the (weighted average) number of national exchanges by which an outgoing or incoming international call is routed;

²⁾ *Use of charged time for international accounting instead of conversation time*

According to their equipment, some Administrations may have to use charged time data for international accounts instead of conversation time, the charged time being given, for example, by the operator's ticket. In such a case, the Administration of origin will consult the Administration of destination and, when necessary, the Administration of transit countries, to see whether it is necessary to adjust the number of minutes entered in the international accounts to make allowance for the small difference which may exist between the charged time they use and the conversation time they should use for accounting according to Recommendation D.150 and the present Recommendation.

- the (weighted average) number of terminal transmission equipments (component A)³⁾ by which an outgoing or incoming international call is routed;
- the (weighted average) crowflight length of the national circuit used for setting up an outgoing or incoming international call;
- the cost per minute of use of a national exchange in an international call;
- the cost per minute of use of a terminal transmission equipment (component A)³⁾ in an international call;
- the cost per minute of use of 100 km (crowflight) of national circuit in an international call;
- the administrative cost per minute of an outgoing or incoming international call.

Administrations are recommended, when determining the remuneration of their national extension per minute of international call, not to exceed the maximum values indicated below:

- a) for outgoing traffic:
 - 0.40 gold francs, from 1 January 1981
- b) for incoming traffic:
 - 0.30 gold francs from 1 January 1981
 - 0.35 gold francs from 1 January 1983.

2.4.2 Remuneration on the basis of a flat-rate price for the facilities made available

2.4.2.1 Remuneration of a direct transit country

2.4.2.1.1 To determine the flat-rate price for remuneration for the transmission facilities made available by Administrations, the following standard rates are recommended.

	Per year and per 100 km of transmission channel (line part)
– for a telephone circuit	1 600 gold francs ^{a), b)}
– for a group	16 000 gold francs ^{a), b)}
– for a supergroup	64 000 gold francs ^{a), b)}
– for a mastergroup	256 000 gold francs ^{b)}
– for a supermastergroup	640 000 gold francs ^{b)}

^{a)} To allow for the small capacity of some submarine cables, a correction factor may be applied to these rates.

^{b)} Including, wherever applicable, use of modulation and demodulation equipments or throughband filters in the direct transit country.

2.4.2.1.2 When a circuit leased to a private user passes through a direct transit country, the Administration of this country will be remunerated by the Administrations of the terminal countries with a flat-rate price on the same basis as if the circuit were an ordinary public service circuit applying the rates in § 2.4.2.1.1 above.

³⁾ The cost of international telecommunication circuits should be expressed in the form $A + B \frac{l}{100}$; A represents all costs relating to terminal transmission equipment for one end of the international circuit, B represents the costs per 100 km of real length l , of the circuit.

2.4.2.2 Remuneration of a country of destination

To determine the flat-rate price for remuneration of countries of destination for facilities made available by Administrations, the following standard rates are recommended:

1) For the transmission channel (line part)

	Per year and per 100 km
— for a telephone circuit	1 600 gold francs ^{a)}
— for a group	16 000 gold francs ^{a)}
— for a supergroup	64 000 gold francs ^{a)}
— for a mastergroup	256 000 gold francs
— for a supermastergroup	640 000 gold francs

^{a)} To allow for the small capacity of some submarine cables a correction factor may be applied to the above rates.

2) For the international exchange (including the terminal transmission equipment)

— per year and per international circuit connected:

Manual operation	Automatic operation
$1.00^a) \times 35\,000^b)$ = 35 000 gold francs	$0.12^a) \times 55\,000^c)$ = 6 600 gold francs

3) For the national extension

— per year and per international circuit connected:

Manual operation	Automatic operation
$PN^d) \times 35\,000^b)$	$PN^d) \times 55\,000^c)$

^{a)} The cost of the transmission equipment for one extremity is included in the amounts of 1.00 and 0.12 gold francs.

^{b)} Average number of minutes of traffic routed per year and per manual international telephone circuit.

^{c)} Average number of minutes of traffic routed per year and per semiautomatic or automatic international telephone circuit.

^{d)} PN represents the amount, per minute of conversation time, of the share to be fixed by each Administration for the extension of the connection on national territory.

4) The remuneration for terminal transmission equipment has been included in the above rates [2) of § 2.4.2.2] based on annual costs per extremity of:

- 30 000 gold francs for a supermastergroup;
- 15 000 gold francs for a mastergroup;
- 6 000 gold francs for a supergroup;
- 3 500 gold francs for a group;
- 1 300 gold francs for a circuit.

2.4.3 All the amounts given in § 2 above are reproduced in the three tables in Annexes A, B and C.

2.5 Remuneration for facilities made available for the extension of intercontinental circuits

In principle the rates mentioned in § 2 above apply also to the remuneration of facilities made available for the extension of intercontinental cable or satellite circuits.

3 Determination of collection charges in telephone relations between countries in Europe and the Mediterranean Basin

3.1 General

The establishment of the collection charge is a national matter. Whilst, in general, Administrations correlate collection charges and accounting rates, the two will not necessarily be the same because, for example:

- a) in most countries, collection charges and accounting rates will be expressed in different currencies;
- b) collection charges and accounting rates may be based on different traffic units;
- c) the value of national currencies can fluctuate relative to the gold franc;
- d) collection charges may be influenced by government fiscal policies;
- e) Administrations frequently establish common collection charges for geographical zones or groups of countries;
- f) in many relations there will be different routes with different accounting rates to which a single collection charge will be applied.

3.2 Charging zones

For fixing collection charges each country may be divided into charging zones. If need be, different charging zones may be fixed in a given country for traffic exchanged with different countries.

It is desirable that the number of charging zones for international traffic, in any one country, should be reduced to a minimum. As a general rule, in services between non-adjacent countries, each country should constitute one single zone.

The fixing of zones for collection charges does not imply the same for zones for accounting rate shares which can be weighted appropriately to make allowances for a zonal structure. Similarly, the fixing of zones for accounting rate shares (§ 2.2) does not imply any requirement for fixing zones for collection charges.

3.3 Determination of collection charges

3.3.1 The collection charge, in principle, should be the equivalent in national currency of the accounting rate. If, taking into account the above factors in §§ 3.1 and 3.2 above, an Administration wishes to fix a collection charge at a higher or lower amount than the direct equivalent of the accounting rate, this Administration may apply a multiplication factor K. This factor K should not be more than 1.8 when applied to the total accounting rate in the relation concerned.

As a general principle, Administrations should make every effort to avoid too large a dissymmetry between the collection charges applicable in each direction of the same relation and should endeavour to agree upon application of the same factor K. Collection charges should be fixed at reasonable levels and the factor $K = 1.8$ is a maximum which should not be automatically applied. The factor K may be different for the different relations operated by an Administration.

Note — It is emphasized that the application of a factor K should not affect international accounting.

3.3.2 In considering the collection charges for a relation in which automatic and semiautomatic working both exist, each Administration should decide to fix its charges:

- either by establishing different charges for each method of operation;
- or by establishing a single collection charge weighted according to the volume of each type of traffic.

4 Frontier relations between countries in Europe and the Mediterranean Basin

The conditions governing the establishment and operation of frontier relations depend largely on the structure of the national networks in the frontier areas. These conditions tend to alter, particularly as a result of network automation, which leads in turn to automation of frontier relations. Consequently, the collection charges applied to these relations are tending to become increasingly subject to the limitations imposed by the automatic charging equipments used. The collection charges and accounting rates to be applied to frontier relations should therefore be fixed by agreement between the Administrations concerned.

Whenever the situation permits, there should be no exchange of international accounts for frontier calls, the entire charge being retained by the Administration which collects it.

ANNEX A

(to Recommendation D.300 R)

Standard rates to be applied in Europe and the Mediterranean Basin in determining accounting rate shares in the telephone service (traffic unit basis)

A – Accounting rate shares applicable in *terminal countries* per *minute* of conversation time

Direction of operation	Manual operation		Semiautomatic operation		Automatic operation	
	Transmission (per 100 km of circuit) ^{a)}	International exchange ^{b)}	Transmission (per 100 km of circuit) ^{a)}	International exchange ^{b)}	Transmission (per 100 km of circuit) ^{a)}	International exchange ^{b)}
Outgoing	4.5 gold centimes	100 gold centimes	3 gold centimes	20 + 80 ^{c)} = 100 gold centimes	3 gold centimes	20 gold centimes
Incoming	4.5 gold centimes	100 gold centimes	3 gold centimes	12 gold centimes	3 gold centimes	12 gold centimes

B – Accounting rate shares applicable in *transit countries* per *minute* of conversation time

Direct transit		Switched transit			
Manual	Automatic	Manual		Automatic	
Transmission (per 100 km of circuit) ^{a)}	Transmission (per 100 km of circuit) ^{a)}	Transmission (per 100 km of circuit) ^{a)}	International exchange ^{b)}	Transmission (per 100 km of circuit) ^{a)}	International exchange ^{b)}
4.5 gold centimes	3 gold centimes	4.5 gold centimes	100 gold centimes	3 gold centimes	18 gold centimes

^{a)} The standard rates adopted for the *line* element per 100 km of circuit and per minute may not be appropriate to some small capacity submarine cables. In these cases the rates should be fixed by agreement among the parties concerned, preferably by the application of a correction factor to the above rates.

^{b)} Including the cost of the transmission equipments for one extremity in terminal operation and for two extremities in transit operation.

^{c)} Representing the operating costs at an outgoing semiautomatic exchange.

ANNEX B

(to Recommendation D.300 R)

Standard rates to be applied in Europe and the Mediterranean Basin in remuneration for transmission facilities made available by Administrations in a direct transit country (flat-rate price basis)

Unit element considered ^{a)}	Transmission (line part)
	Rates per 100 km per annum (in gold francs)
Telephone circuit	1 600 ^{b) c)}
Group	16 000 ^{b) c)}
Supergroup	64 000 ^{b) c)}
Mastergroup	256 000 ^{c)}
Supermastergroup	640 000 ^{c)}

- a) The correspondence between the various unit elements considered is as follows, with reference to a 4 kHz bandwidth per telephone circuit :
- a group consists of 12 telephone circuits,
 - a supergroup consists of 5 groups, i.e. 60 telephone circuits,
 - a mastergroup consists of 5 supergroups, i.e. 300 telephone circuits,
 - a supermastergroup consists of 3 mastergroups, i.e. 900 telephone circuits.
- b) To allow for the small capacity of some submarine cables a correction factor may be applied to the above rates.
- c) Including, wherever applicable, use of modulation and demodulation equipments or throughband filters in the direct transit country.

ANNEX C

(to Recommendation D.300 R)

Standard rates to be applied in Europe and the Mediterranean Basin in remuneration for facilities made available between Administrations in a destination country (flat-rate price basis)

Unit element considered	Transmission (line part)	International exchange		National extension	
	Per 100 km and per year	Operation		Operation	
		Manual	Automatic	Manual	Automatic
		per year	per year	per year	per year
Circuit	1 600 gold francs ^{a)}	$1.00^b \times 35\,000^c = 35\,000$ gold francs ^{a)}	$0.12^b \times 55\,000^d = 6\,600$ gold francs ^{a)}	$PN^e \times 35\,000^c$	$PN^e \times 55\,000^d$
Group	16 000 gold francs ^{a)}	} not applicable	} not applicable	} not applicable	} not applicable
Supergroup	64 000 gold francs ^{a)}				
Mastergroup	256 000 gold francs				
Supermastergroup	640 000 gold francs				

- a) To allow for the small capacity of some submarine cables a correction factor may be applied to the above rates.
- b) The cost of the transmission equipment for one extremity is included in the figures of 1.00 and 0.12 gold franc and was based on annual costs of 1300 gold francs for a circuit, which amount includes an allowance for the terminal equipment of a group (3500 gold francs) and supergroup (6000 gold francs).
- c) Average number of minutes of traffic routed per year and per manual international telephone circuit.
- d) Average number of minutes of traffic routed per year and per semiautomatic or automatic international telephone circuit.
- e) PN represents the amount, per minute of conversation time, of the share to be fixed by each Administration for the extension of the connection on national territory beyond the international exchange.

Recommendation D.301 R

DETERMINATION OF ACCOUNTING RATE SHARES AND COLLECTION CHARGES IN TELEX RELATIONS BETWEEN COUNTRIES IN EUROPE AND THE MEDITERRANEAN BASIN ¹⁾

Introduction

When, in full exercise of their sovereignty, the Administrations of the countries of Europe and the Mediterranean Basin negotiate among themselves agreements for determining the accounting rate shares and when they fix the collection charges to be applied in their telex relations, it is recommended that they take into consideration:

- for the determination of accounting rate shares and accounting rates the provisions of § 2 (Determination of accounting rates) of this Recommendation;
- for fixing the collection charges, the provisions contained in § 3 of this Recommendation.

An explanation of some of the terms used in this Recommendation is given in § 1 of Recommendation D.200 R.

¹⁾ Countries in the Mediterranean Basin are countries not belonging to Europe but bordering the Mediterranean Sea.

1 Explanation of some of the terms used in this Recommendation

(See § 1 of Recommendation D.200 R)

2 Determination of accounting rates in telex relations between countries in Europe and the Mediterranean Basin

2.1 General

2.1.1 Since the setting up of any international call involves both the international network and the national networks of the terminal countries, the accounting rate share for each country is derived from three basic elements, to which separate standard rates are applied:

- the *line* (transmission) part of the international network, which includes the various transmission systems used and is a function of the distance;
- the international exchange, i.e. the *switching* part of the international circuit, plus the terminal transmission equipment;
- the *national extension*, which denotes that part of the national network of each terminal country involved in completing the connection.

2.1.2 In special cases where the *line* (transmission) part of an international connection is:

- a tropospheric scatter link,
- a radio link, or
- a satellite link,

the provisions of this Recommendation with regard to the determination of an accounting rate share in relation to the length of the international circuit are not applicable and accounting rate shares should be agreed upon between the Administrations concerned.

2.2 Calculation of distances (line part)

2.2.1 Distances to be taken into consideration

2.2.1.1 General case

In determining the share payable to a country for the use of international circuits, the distance to be taken into consideration is, in principle:

in a terminal country

- the *crowflight distance* between:
 - a) the point at which the international circuit crosses the frontier, and
 - b) the international exchange at which the circuit terminates;

in a transit country

- the *crowflight distance* between the two frontier points at which the international circuit enters and leaves the country in question.

The above provisions for the calculation of distances apply to international circuits both on land cables and on radio-relay links.

2.2.1.2 Special cases

2.2.1.2.1 Radio-relay links crossing the sea or a third country

When a frontier is crossed by a radio-relay section of an international circuit passing over a third country or over the sea, without an intermediate relay station, the frontier point for measuring the circuit length shall be the point midway between the two relay stations on either side of the frontier.

2.2.1.2.2 *Submarine cables*

With regard to international circuits which are routed in submarine cables, the distance to be used for accounting will be calculated as follows:

- a) for the land section of the circuit to the cable station, the distance shall be calculated in accordance with the general principles (i.e. the crowflight distance), it being assumed that the point at which the circuit crosses the frontier is the cable station;
- b) for the submarine cable section, the distance used shall be the actual route distance between the submarine cable stations, as determined and agreed by the owners of the cable; the distance will be divided appropriately (normally 50/50) between the countries at the extremities of the cable.

2.2.1.2.3 *Special itineraries*

In exceptional circumstances, multiplication factors may be applied to the crowflight distance, from which the terminal and transit charges are calculated, to take account of special itineraries. For example, in the case of a direct transit country, the crowflight distance between the points on the frontier at which the circuit enters and leaves the country may (in exceptional circumstances) be replaced by a length representing the sum of two crowflight segments making up a broken line, etc.

2.2.2 *Possibility of weighting distances*

For calculation of the crowflight distances for the international section a weighting according to the number of circuits is normally applied in a given relation to simplify accounting:

- when there are several international arteries with different itineraries terminating at an international exchange;
- when there are several international exchanges in a country for the relation concerned.

This weighting serves to determine a length (crowflight distance) for fixing the accounting rate shares relating to the international section and it would remain in force as long as the structure of the network was not significantly changed. The length of the international section would then be used to fix the *international section* element for the shares for international telex circuits.

2.2.3 *Rounding off distances*

2.2.3.1 Distances less than 50 km shall be rounded up to 50 km.

Example: distance of 24 km rounded up to 50 km.

2.2.3.2 Other distances shall be rounded to the nearest multiple of 50 km.

Examples:

- distance of 72 km rounded to 50 km;
- distance of 126 km rounded to 150 km;
- distance of 175 km rounded to 200 km.

2.2.3.3 This rounding rule applies to the distances in each of the terminal countries and in each of the transit countries and is applied to the total distance calculated for any one country. It is applicable to the remuneration of Administrations both on the basis of a flat-rate price for the facilities made available and on the basis of traffic units.

2.2.3.4 When distances are weighted in accordance with the provisions of § 2.2.2, the rounding shall be applied only after the weighted distance has been calculated.

2.2.4 *Existence of several routes in a given relation*

When in a given relation there are several routes traversing different transit countries, these transit countries shall in all cases receive the share or flat-rate price normally due to them for the distance between the points of entry and exit; any cost of equalizing collection charges in a relation comprising different routes shall be borne solely by the Administration of the country of origin and no deduction shall be made from the remuneration due to the transit countries.

2.3 Standard rates to be applied for international accounting

For international accounting purposes there are two methods of remuneration for the facilities made available by Administrations:

- on the basis of traffic units;
- on the basis of a flat-rate price for the facilities made available.

2.3.1 Remuneration on the basis of traffic units

To determine the accounting rate shares for each country, the following standard rates, *per minute of telex call*, are recommended:

1) International network

a) Manual operation

- *per 100 km* of international circuit (excluding any national circuit required for connecting the international exchange to the national exchange serving the subscriber) 0.3 gold centimes ^{a), b)}
- for the manual international exchange in the country of origin or destination 150 gold centimes ^{c)}
- for a manual international exchange in a transit country 150 gold centimes ^{c)}

b) Semi-automatic and automatic operation

- *per 100 km* of international circuit (excluding any national circuit required for connecting the international exchange to the national exchange serving the subscriber) : 0.3 gold centimes ^{a), b)}
- for the semi-automatic international exchange in the country of origin:
 - Operating cost 100 gold centimes
 - Switching cost 20 gold centimes ^{c)}
 - Total 120 gold centimes
- for the automatic international exchange in the country of origin . . . 13 gold centimes ^{c)}
- for the automatic international exchange in the country of destination 9 gold centimes ^{c)}
- for an automatic international exchange in a transit country 15 gold centimes ^{c)}

^{a)} The standard rates adopted for the *line* elements per 100 km of circuit and per minute may not be appropriate to some small capacity submarine cables. In these cases the rates should be fixed by agreement among the parties concerned, preferably by the application of a correction factor to the standard rates.

^{b)} Where, in order to establish a telex circuit, telegraph channels are connected in a direct transit country, an additional charge of 5 gold centimes shall be made for the translating equipment used to connect them.

^{c)} This share includes the cost of the transmission equipment for one extremity in terminal operation and for two extremities in transit operation.

2) National extension

An amount may be added to cover the cost of the extension of calls over the national network, taking into account:

- the (weighted average) number of national exchanges by which an outgoing or incoming international call is routed;
- the (weighted average) number of terminal transmission equipments (component A) ²⁾ by which an outgoing or incoming international call is routed;
- the (weighted average) crowflight length of the national circuit used for setting up an outgoing or incoming international call;
- the cost per minute of use of a national exchange in an international call;
- the cost per minute of use of a terminal transmission equipment (component A) ²⁾ in an international call;

²⁾ The cost of international telecommunication circuits should be expressed in the form $A + B \frac{l}{100}$; A represents all costs relating to terminal transmission equipment *for one end of the international circuit*, B represents the costs per 100 km of real length *l*, of the circuit.

- the cost per minute of use of 100 km (crowflight) of national circuit in an international call;
- the administrative cost per minute of an outgoing or incoming international call.

Administrations are recommended, when determining the remuneration of their national extension per minute of international call, not to exceed the maximum values indicated below:

- a) for outgoing traffic:
 - 0.26 gold francs,
- b) for incoming traffic:
 - 0.23 gold francs.

2.3.2 Remuneration on a basis of flat-rate price for the facilities made available

2.3.2.1 Remuneration of a direct transit country

2.3.2.1.1 To determine the flat-rate price for remuneration for the transmission facilities made available by Administrations the following standard rates are recommended:

		Per year and per 100 km of transmission channel (line part)
– per telegraph channel	50 bauds	90 gold francs ^{a), b)}
	100 bauds	180 gold francs ^{a), b)}
	200 bauds	360 gold francs ^{a), b)}
– per VFT telephone bearer circuit		1600 gold francs ^{b)}

^{a)} To allow for the small capacity of some types of submarine cables a correction factor may be applied to the above rates.

^{b)} Where, in order to establish a circuit, two telegraph channels in a direct transit country are connected, an additional charge shall be made for the lease of the transmission equipment for two telegraph channel extremities, irrespective of the number of such connections in the direct transit country, as follows:

- $1000 \times 2 = 2000$ gold francs for a 50-baud circuit,
- $1200 \times 2 = 2400$ gold francs for a 100-baud circuit,
- $1300 \times 2 = 2600$ gold francs for a 200-baud circuit.

2.3.2.1.2 When a circuit leased to a private user passes through a direct transit country, the Administration of this country will be remunerated by the Administrations of the terminal countries with a flat-rate price on the same basis as if the circuit were an ordinary public service circuit applying the rate in § 2.3.2.1.1.

2.3.2.2 Remuneration of a country of destination

To determine the flat-rate price for remuneration of the country of destination for the facilities made available by Administrations, the following standard rates are recommended:

1) For the transmission channel (line part)

		Per year and per 100 km
– per telegraph channel	50 bauds	90 gold francs ^{a)}
	100 bauds	180 gold francs ^{a)}
	200 bauds	360 gold francs ^{a)}
– per VFT telephone bearer circuit		1600 gold francs ^{a)}

2) For the international exchange (including terminal transmission equipment)

- per year and per 50 bauds international circuit connected:

Manual operation
 $1.50^b) \times 25\,000^c)$
 = 37 500 gold francs

Automatic operation
 $0.09^b) \times 40\,000^d)$
 = 3600 gold francs

3) *For the national extension*

- per year and per 50 bauds international circuit connected:

Manual operation

Automatic operation

$PN^{e)} \times 25\,000^{c)}$

$PN^{e)} \times 40\,000^{d)}$

- a) To allow for the small capacity of some submarine cables a correction factor may be applied to the above rates.
- b) The cost of the terminal telex transmission equipment for one extremity is included in the amounts of 1.50 and 0.09 gold francs.
- c) Average number of minutes of traffic routed per year and per manual international telex circuit.
- d) Average number of minutes of traffic routed per year and per semi-automatic or automatic international telex circuit.
- e) PN represents the amount, per minute of telex call, of the share to be fixed by each Administration for the extension of calls on national territory.

4) The rentals for telegraph channel transmission terminal equipment, per year, per terminal, are as follows:

- 1000 gold francs per telegraph channel at 50 bauds,
- 1200 gold francs per telegraph channel at 100 bauds,
- 1300 gold francs per telegraph channel at 200 bauds.

The remuneration of the international exchange given in 2) of § 2.3.2.2 takes into account an amount of 1000 gold francs relating to 50-baud terminal equipment.

2.3.3 All the amounts contained in § 2 above are reproduced in the three tables in Annexes A, B and C.

2.4 *Remuneration for facilities made available for the extension of intercontinental circuits*

In principle, the rates mentioned in § 2 above apply also to the remuneration of facilities made available for the extension of intercontinental cable or satellite circuits.

3 Determination of collection charges in telex relations between countries in Europe and the Mediterranean Basin

3.1 *General*

The establishment of the collection charge is a national matter. Whilst, in general, Administrations correlate collection charges and accounting rates, the two will not necessarily be the same because, for example:

- a) in most countries, collection charges and accounting rates will be expressed in different currencies;
- b) collection charges and accounting rates may be based on different traffic units;
- c) the value of national currencies can fluctuate relative to the gold franc;
- d) collection charges may be influenced by government fiscal policies;
- e) Administrations frequently establish common collection charges for geographical zones or groups of countries;
- f) in many relations there will be different routes with different accounting rates to which a single collection charge will be applied.

3.2 *Determination of collection charges*

3.2.1 The collection charge, in principle, should be the equivalent in national currency of the accounting rate. If, taking into account the factors in § 3.1 above, an Administration wishes to fix a collection charge at a higher or lower amount than the direct equivalent of the accounting rate, it may apply a multiplication factor K. This factor K should not be more than 1.8 when applied to the accounting rate in the relation concerned.

As a general principle, Administrations should make every effort to avoid too large a dissymmetry between the collection charges applicable in each direction of the same relation and should endeavour to agree upon application of the same factor K. Collection charges should be fixed at reasonable levels and the factor K = 1.8 is a maximum which should not be automatically applied. The factor K may be different for the different relations operated by an Administration.

Note – It is emphasized that the application of a factor K should not affect international accounting.

3.2.2 In considering the collection charges for a relation in which automatic and semiautomatic working both exist, each Administration should decide to fix its charges:

- either by establishing different charges for each method of operation; or
- by establishing a single collection charge weighted according to the volume of each type of traffic.

ANNEX A

(to Recommendation D.301 R)

Standard rates to be applied in Europe and the Mediterranean Basin in determining accounting rate shares in the telex service (traffic unit basis)

A – Accounting rate shares applicable in *terminal countries* per *minute* of telex call

Direction of operation	Manual operation		Semiautomatic operation		Automatic Operation	
	Transmission (per 100 km of circuit) ^{a)}	International exchange ^{b)}	Transmission (per 100 km of circuit) ^{a)}	International exchange ^{b)}	Transmission (per 100 km of circuit) ^{a)}	International exchange ^{b)}
Outgoing	0.3 gold centime	150 gold centimes	0.3 gold centime	20 + 100 ^{c)} = 120 gold centimes	0.3 gold centime	13 gold centimes
Incoming	0.3 gold centime	150 gold centimes	0.3 gold centime	9 gold centimes	0.3 gold centime	9 gold centimes

B – Accounting rate shares applicable in *transit countries* per *minute* of telex call

Direct transit	Switched transit			
	Manual		Automatic	
Transmission (per 100 km of circuit) ^{a) d)}	Transmission (per 100 km of circuit) ^{a) d)}	International exchange ^{b)}	Transmission (per 100 km of circuit) ^{a) d)}	International exchange ^{b)}
0.3 gold centime	0.3 gold centime	150 gold centimes	0.3 gold centime	15 gold centimes

a) The standard rates adopted for the *line* element per 100 km of circuit and per minute may not be appropriate to some small capacity submarine cables. In these cases the rates should be fixed by agreement among the parties concerned, preferably by the application of a correction factor to the standard rates.

b) Including the cost of the transmission equipments for one extremity in terminal operation and for two extremities in transit operation.

c) Representing the operating costs at an outgoing semiautomatic exchange.

d) Where, in order to establish a telex circuit, telegraph channels are connected in a direct transit country, an additional charge of 5 gold centimes is applied for the translating equipment used to connect them.

ANNEX B

(to Recommendation D.301 R)

Standard rates to be applied in Europe and the Mediterranean Basin in remuneration for transmission facilities made available by Administrations in a direct transit country (flat-rate price basis)

Unit element considered	Transmission (line part)
	Rates per 100 km per annum (in gold francs)
Voice frequency telegraph (VFT) bearer circuit	1600 a) b)
Telegraph channel {	50 bauds 90 a) c)
	100 bauds 180 a) c)
	200 bauds 360 a) c)

a) To allow for the small capacity of some submarine cables a correction factor may be applied to the above rates.

b) Including, wherever applicable, use of modulation and demodulation equipment or throughband filters in the direct transit country.

c) Where, in order to establish a circuit, telegraph channels in a direct transit country are connected, an additional charge is made for the lease of transmission equipment for two telegraph channel extremities, irrespective of the number of such connections in the direct transit country, as follows :

- $1000 \times 2 = 2000$ gold francs for a 50 baud circuit,
- $1200 \times 2 = 2400$ gold francs for a 100 baud circuit,
- $1300 \times 2 = 2600$ gold francs for a 200 baud circuit.

ANNEX C

(to Recommendation D.301 R)

Standard rates to be applied in Europe and the Mediterranean Basin in remuneration for facilities made available between Administrations in a destination country (flat-rate price basis)

Unit element considered	Transmission (line part)	International exchange		National extension	
	Per 100 km and per year	Operation		Operation	
		Manual	Automatic	Manual	Automatic
		per year	per year	per year	per year
Per international telegraph circuit:					
– 50 bauds.....	90 gold francs	$1.50^a) \times 25\,000^b) = 37\,500$ gold francs ^{a)}	$0.09^a) \times 40\,000^c) = 3\,600$ gold francs ^{a)}	$PN^d) \times 25\,000^b)$	$PN^d) \times 40\,000^c)$
– 100 bauds.....	180 gold francs	not applicable	not applicable	not applicable	not applicable
– 200 bauds.....	360 gold francs				
Per voice frequency telegraph (VFT) bearer circuit.....	1600 gold francs				

^{a)} The cost of telex terminal transmission equipment for one extremity is included in the amounts of 1.50 and 0.09 gold francs.

^{b)} Average number of minutes of traffic routed per year and per manual international telex circuit.

^{c)} Average number of minutes of traffic routed per year and per semiautomatic or automatic international telex circuit.

^{d)} PN represents the amount, per minute of telex call, of the share to be fixed by each Administration for the extension of the connection on national territory.

Recommendation D.302 R

DETERMINATION OF THE ACCOUNTING RATE SHARES AND COLLECTION CHARGES FOR THE INTERNATIONAL PUBLIC TELEGRAM SERVICE APPLICABLE TO TELEGRAMS EXCHANGED BETWEEN COUNTRIES IN EUROPE AND THE MEDITERRANEAN BASIN ¹⁾

Introduction

When, in full exercise of their sovereignty, the Administrations of the countries of Europe and the Mediterranean Basin negotiate among themselves agreements for determining the accounting rate shares and the collection charges to be applied to telegrams exchanged between them, it is recommended that they take into consideration:

- for the determination of accounting rate shares and accounting rates, the provisions of § 2 this Recommendation;
- for fixing the collection charges, the provisions contained in § 3 of this Recommendation.

§ 4 of the Recommendation contains special provisions concerning charges and accounting for certain telegrams or special services.

An explanation of some of the terms used in the Recommendation is given in § 1 below.

¹⁾ Countries in the Mediterranean Basin are countries not belonging to Europe but bordering the Mediterranean Sea.

1 Explanation of some of the terms used in this Recommendation

1.1 relation (international public telegram service)

F: relation (service télégraphique public international)

S: relación (servicio público internacional de telegramas)

A relation between two terminal countries exists when telegrams are exchanged between them (and, normally, accounts are settled).

1.2 country (or Administration) of origin

F: pays (ou Administration) d'origine

S: país (o Administración) de origen

The country of origin is the country in which the telegram is handed in.

1.3 country (or Administration) of destination

F: pays (ou Administration) de destination

S: país (o Administración) de destino

The country of destination is the country in which the telegram is to be delivered.

1.4 terminal country (or Administration)

F: pays (ou Administration) terminal(e)

S: país (o Administración) terminal

A terminal country is both a country of origin and a country of destination of a telegram.

1.5 per word tariff system

F: système de tarification par mot

S: sistema de tarificación por palabra

In the per word tariff system, rates are established per word purely and simply, the word-counting provisions of the relevant CCITT Recommendations being applied. A minimum rate per telegram corresponding to the rate for a certain number of words is applied.

1.6 binary tariff system

F: système de tarification binaire

S: sistema binario de tarificación

The binary tariff system has two components:

- a) a fixed component representing the costs involved in the acceptance and delivery of a telegram (fixed charge), and
- b) a component proportional to the length of the telegram representing the costs involved in transmitting and receiving the telegram and the cost of using the telegraph network (charge per word).

1.7 accounting rate (in gold francs)

F: taxe de répartition (en francs-or)

S: tasa de distribución (en francos oro)

In the per word tariff system the accounting rate is the rate per word *purely and simply* of an ordinary private telegram, without any special service, agreed between the Administrations in a given relation, and used for the establishment of international accounts.

In the binary tariff system the accounting rate is the fixed rate per ordinary private telegram without any special service plus the rate per word of such a telegram, both rates being agreed between Administrations in a given relation and being used for the establishment of international accounts.

1.8 accounting-rate share (in gold francs)

F: quote-part de répartition (en francs-or)

S: parte alicuota de distribución (en francos oro)

The accounting rate share is that part of the accounting rate corresponding to the facilities made available in each country; this share is fixed by agreement among the Administrations.

1.9 terminal share

F: quote-part terminale

S: parte alicuota terminal

The terminal share is that part of the accounting rate which is due to a terminal country.

1.10 transit share

F: quote-part de transit

S: parte alicuota de tránsito

The transit share is that part of the accounting rate which is due to a country through which traffic is routed between two terminal countries.

1.11 collection charge

F: taxe de perception

S: tasa de percepción

The collection charge is the charge in its national currency collected by an Administration from its customers for the use of the international service. The establishment of the collection charge is a national matter.

2 Determination of accounting rate shares applicable to telegrams exchanged between countries in Europe and the Mediterranean Basin

Preliminary remarks

By a cost study in 1975 relevant to the Region, it was found that in the per word tariff system the cost price per word per terminal country is 60.6 gold centimes and that in the binary tariff system the cost price per terminal country is 706 gold centimes for the fixed charge of a telegram and 32.4 gold centimes for the charge per word.

However, since such an increase of the accounting rates would necessarily lead to a rather sharp increase of the collection charges, Administrations have decided on an exceptional basis to recommend only a lower increase of the accounting rates at this time.

2.1 Standard rates to be applied for international accounting

The accounting rate shares may be determined either on the basis of a system of accounting rate per word or by applying a binary tariff system. The recommended standard rates for both systems are given below.

2.1.1 Accounting-rate shares determined by the per word tariff system

2.1.1.1 Terminal shares

For ordinary private telegrams without any special service, the terminal share per word per terminal country is fixed at 0.48 gold francs from 1 January 1981²⁾.

²⁾ The Administration of the U.S.S.R. has decided to apply a terminal share per word of 0.60 gold francs from 1 January 1981.

2.1.1.2 *Transit shares*

For ordinary private telegrams without any special service, the recommended transit share per word, per country, is:

— direct transit	0.003 gold francs
— transit via a gentex transit centre	0.018 gold francs
— manual transit	0.30 gold francs
— transit via a telegram retransmission centre (automatic retransmission of messages) ³⁾	

These shares are not cumulative; they are based on an average length of 1000 km for the international transit circuits.

2.1.2 *Accounting-rate shares determined by the binary tariff system* ⁴⁾

2.1.2.1 *General*

To take account of the fact that for every telegram there are two types of cost, viz:

- fixed costs for acceptance and delivery;
- variable costs depending on the length of the text for transmission and reception and for the use of the telegraph network;

The recommended standard rates for the binary tariff system are those given in the following §§ 2.1.2.2 and 2.1.2.3.

2.1.2.2 *Terminal shares*

The shares due to each terminal country for ordinary private telegrams without any special service:

	As from 1.1.81
— fixed rate per telegram	6.00 gold francs
— rate per word (see footnote 2 to § 2.1.1.1 above)	0.24 gold franc

These shares were established on the assumption of an average number of 25 words per telegram.

2.1.2.3 *Transit shares*

Transit shares are determined in accordance with the provisions of § 2.1.1.2 above.

Note — To allow for the small capacity of some submarine cables, a corrective factor may be applied to the rates in § 2.1 above.

2.2 *Special provisions concerning transit shares*

2.2.1 In relations where transit facilities are made available to Administrations of terminal countries in accordance with a flat-rate price procedure, the transit shares referred to in § 2.1.1.2 above are not applied.

2.2.2 An additional transit share may be charged by countries owning submarine cable circuits used for routing telegrams.

³⁾ Administrations providing this service indicate the shares they apply for the use of their telegram retransmission centre in the "Table of Telegraph Rates" [1] published by the General Secretariat of the ITU.

⁴⁾ It is pointed out that application of a binary tariff system normally should entail in the relation concerned, if necessary by bilateral arrangements:

- discontinuation of a minimum charge per telegram;
- discontinuation of letter telegrams and press telegrams;
- discontinuation of reduced charges for all telegrams except those concerning persons protected in time of war by the Geneva Convention of 12 August 1949 (RCT).

2.2.3 When two countries rent direct transit circuits on a flat-rate basis from a third country and make these circuits available to a fourth country, the fourth country pays half the direct transit share to each of the countries renting the circuits.

2.3 *Accounting rate*

Because transit shares are small and because most transit facilities made available among the Administrations of countries in Europe and the Mediterranean Basin are remunerated on a flat-rate basis, it is recommended that a single accounting rate fixed by adding together the shares of the two terminal countries should be applied to telegrams exchanged between those countries. The shares payable to the transit countries, if any, are deducted from the share of the country of origin.

3 **Determination of collection charges applicable to telegrams exchanged between countries in Europe and the Mediterranean Basin**

3.1 *General*

The establishment of the collection charge is a national matter. While, in general, Administrations correlate collection charges and accounting rates, the two will not necessarily be the same because, for example:

- a) in most countries, collection charges and accounting rates will be expressed in different currencies;
- b) the value of national currencies can fluctuate relative to the gold franc;
- c) the collection charges may be based on the per word tariff system and the accounting rate on the binary system or vice versa;
- d) collection charges may be influenced by government fiscal policies;
- e) Administrations may establish common collection charges for geographical zones or groups of countries.

3.2 *Determination of collection charges*

3.2.1 It is recommended that a single telegraph collection charge should be applied for telegrams exchanged among countries in Europe and the Mediterranean Basin. This single collection charge is the sum of the terminal quotas of the two terminal countries fixed in accordance with the provisions of §§ 2.1.1.1 and 2.1.2.2 of this Recommendation. Administrations may fix a single charge per word (with or without a minimum charge) or apply a binary collection charge. If they choose the charge per word system they may nevertheless agree to use the binary system for the establishment of international accounts.

3.2.2 In principle, the collection charge should be the equivalent in national currency of the accounting rate. If, taking into account the factors in § 3.1 above, an Administration wishes to fix a collection charge at a higher or lower amount than the direct equivalent of the accounting rate, it may apply a multiplication factor K. The factor K may be different for the different relations operated by an Administration.

As a general principle, Administrations should make every effort to avoid too large a dissymmetry between the collection charges applicable in each direction of the same relation. Collection charges should be fixed at reasonable levels.

Note – It is emphasized that the application of a factor K should not affect international accounting.

4 **Provisions common to accounting rates and collection charges applicable to telegrams exchanged between countries in Europe and the Mediterranean Basin**

Having regard to the provisions of the Telegraph Regulations [2] and the CCITT Recommendations, the following rules shall be taken into consideration when fixing accounting rates and collection charges:

- a) for urgent telegrams, the charge is equal to twice the charge for an ordinary telegram for the same destination and by the same route;
- b) for telegrams concerning persons protected in time of war by the Geneva Conventions of 12 August 1949 (RCT), the total charge is reduced by 75%;

- c) when a charged service message includes an amount for a prepaid reply (RP), such amount is equivalent to the charge for an ordinary private seven-word telegram for the same destination and by the same route.

References

- [1] *Table of telegraph rates*, ITU, Geneva, 1975.
- [2] *Final Acts of the World Administrative Telegraph and Telephone Conference - Telegraph Regulations, Telephone Regulations*, ITU, Geneva, 1973.

Recommendation D.303 R

DETERMINATION OF ACCOUNTING RATE SHARES AND COLLECTION CHARGES APPLICABLE TO OCCASIONAL SOUND- AND TELEVISION-PROGRAMME TRANSMISSIONS BETWEEN COUNTRIES IN EUROPE AND THE MEDITERRANEAN BASIN ¹⁾

Introduction

When, in full exercise of their sovereignty, the Administrations of the countries of Europe and the Mediterranean Basin negotiate among themselves agreements for determining the accounting rate shares and when they fix the collection charges to be applied in their relations for sound- and television-programme transmissions, it is recommended that they take into consideration:

- the charging principles specified in CCITT Recommendation D.180;
- for the determination of accounting rate shares, the provisions of § 1 of the present Recommendation;
- for fixing the collection charges, the provisions contained in § 2 of the present Recommendation.

An explanation of some of the terms used in this Recommendation is given in Recommendation D.180.

1 Determination of accounting rate shares to be applied to sound- and television-programme transmissions between countries in Europe and the Mediterranean Basin

1.1 General

1.1.1 The accounting rate shares due to each terminal and transit country is derived from several elements, to which separate standard rates are applied, such as:

- the *international line* part, which includes the various transmission systems used and for which the remuneration is a function of the distance and the duration;
- the terminal equipments in each terminal country, or the interconnection equipments in transit countries, the remuneration of which is a function of the duration;
- the preparation and operation of each sound- or television-programme transmission.

1.1.2 In special cases where the *line* (transmission) part of an international connection is:

- a tropospheric scatter link,
- a radio link, or
- a satellite link,

the provisions of this Recommendation with regard to the determination of an accounting rate share in relation to the length of the international circuit are not applicable and accounting rate shares should be agreed upon between the Administrations concerned.

¹⁾ Countries in the Mediterranean Basin are countries not belonging to Europe but bordering the Mediterranean Sea.

1.1.3 The rates for intercontinental sound- and television-programme transmissions to or from countries in Europe and the Mediterranean Basin are normally obtained by adding together the rates for the intercontinental and European sections. The rates for each section are calculated in accordance with the tariff rules in force in each of the systems concerned.

1.2 *Calculation of distances (line part)*

1.2.1 *Sound-programme transmissions*

In determining the accounting rate share due to a country for the use of international circuits, the distance to be taken into consideration is:

in a terminal country

- the crowflight distance between the point at which the international circuit crosses the frontier and the international sound-programme centre (ISPC)²⁾;

in a transit country

- the crowflight distance between the two frontier points at which the international circuit enters and leaves the country.

In addition, the special provisions in Recommendation D.300 R on the calculation of distances for telephone circuits also are applicable. These provisions refer to special cases, to the possibility of weighting distances and to rounding off distances.

1.2.2 *Television-programme transmissions*

In determining the accounting rate share due to each terminal or transit country, the chargeable distance is based on the actual length of the international circuits rounded up to the nearest 10 km.

For a terminal country A and adjacent country B, the distance is measured from the international television programme centre (ITPC)³⁾ in country A to the midpoint of the radio-relay link which connects the radio-relay stations in countries A and B.

For transit country B between two countries A and C, the actual length of the international circuit is measured from the midpoint of the radio-relay link which connects the radio-relay stations in countries A and B, to the midpoint of the radio-relay link which connects the radio-relay stations in countries B and C.

1.3 *Standard rates to be applied for international accounting*

For remuneration of Administrations for the facilities made available, the traffic unit price procedure is applied. However, when sound-programme circuits pass through a direct transit country, remuneration of the transit country shall normally be based on the flat-rate price procedure.

1.3.1 *Sound-programme transmissions*

To determine the accounting rate shares due to each country, the following standard rates are recommended:

- 1) *Fixed rates for preparation and operation per monophonic (15 kHz, 10 kHz or narrow-band) or stereophonic transmission:*
 - in a terminal country 60 gold francs
 - in a transit country having an interconnecting point (whatever the number of interconnecting points in that country) 60 gold francs

²⁾ In some countries the distance is measured to the studio and not to the ISPC.

³⁾ In some countries the distance is measured to the studio and not to the ITPC.

- 2) *Rate for terminal equipment in a terminal country, per minute:*
 - transmission over 10 kHz or 15 kHz circuits 1 gold franc
 - transmission over narrow-band (telephone-type) circuits telephone rate ⁴⁾
 - stereophonic transmission 2 gold francs
- 3) *Rate for interconnection equipment in a transit country, per minute ⁵⁾:*
 - transmission over 10 kHz or 15 kHz circuits 1.60 gold francs
 - transmission over narrow-band (telephone-type) circuits telephone rate ⁴⁾
 - stereophonic transmission 3.20 gold francs
- 4) *Rate per 100 km of international circuit per minute of transmission:*
 - for 10 kHz or 15 kHz circuits 0.30 gold francs
 - for narrow-band (telephone-type) circuits telephone rate ⁴⁾
 - for a stereophonic pair 0.70 gold francs
- 5) *Fixed surcharge per transmission to be added to the telephone rate applied in the relation in question for extension through the ISPC (or ITPC) of a narrow-band (telephone-type) circuit used as a sound-programme or control circuit:*
 - in a terminal country 20 gold francs
 - in a transit country when there is interconnection 20 gold francs

When the telephone circuit is used as a sound-programme (narrow-band) circuit, this fixed surcharge is levied in addition to the fixed rate mentioned in 1) of § 1.3.1 above.

- 6) *Any special expenses per transmission for setting up and clearing down temporary national extensions*

These expenses are calculated on the basis of the national rules in force in each country.

Note 1 — The minimum chargeable duration for sound-programme transmissions is three minutes.

Note 2 — When a narrow-band (telephone-type) circuit is provided with a 4-wire terminal and is used for any purpose, the fixed surcharge per transmission given in 5) of § 1.3.1 above is 40 gold francs.

Note 3 — The use of a sound-programme circuit established on a sub-carrier of a channel used for television transmission is charged as for a 10-kHz or 15-kHz sound programme.

Note 4 — When a *sound-in-sync* (SIS) facility is used, no additional amount is added to the accounting rates. Any remuneration for extra expenses incurred by an Administration is a national matter between that Administration and its broadcasting organization.

Examples of calculation of the rates for sound-programme transmissions are given in Annex B.

1.3.2 *Television-programme transmissions*

To determine the accounting rate shares due to each country, the following standard rates are recommended:

- 1) *Fixed rate for preparation and operation per television-programme transmission:*
 - in a terminal country 100 gold francs
 - in a transit country having an interconnecting point (whatever the number of interconnection points in that country) 100 gold francs

⁴⁾ The charges given in 2), 3) and 4) of § 1.3.1 are combined to form a single rate equivalent to the telephone rate of the relation considered.

⁵⁾ Usually only one interconnecting point is remunerated per transit country.

- | | |
|---|----------------|
| 2) Rate for terminal equipment in a terminal country, per minute | 7 gold francs |
| 3) Rate for interconnection equipment and operation in a transit country, per minute ⁵⁾ | 12 gold francs |
| 4) Rate per 100 km of international circuit per minute of transmission | 12 gold francs |
| 5) Any special expenses per transmission for provision of national extensions beyond the ITPC and for setting up and clearing down temporary extensions | |

These expenses are calculated on the basis of the national rules in force in each country.

The rate for a control circuit provided by extension of a telephone circuit through the ITPC is given in 5) of § 1.3.1 above.

1.3.3 Cancellation fee

For the cancellations and alterations of bookings provided for in §§ 4.3 and 4.4 of Recommendation D.180, application of the following fees is recommended:

- a) Half the fixed rate for preparation and operation mentioned in 1) of § 1.3.1 and 1) of § 1.3.2 respectively, if the cancellation or alteration of the order is made between 24 and 2 hours before the time scheduled for the beginning of the transmission.
- b) The entire fixed rate for preparation and operation mentioned in 1) of § 1.3.1 and 1) of § 1.3.2 respectively, if the cancellation or alteration of the order is made less than 2 hours before the time scheduled for the beginning of the transmission.

Note 1 — The minimum chargeable duration for television-programme transmissions is three minutes.

Note 2 — When an Administration provides a transcoder (e.g., PAL to SECAM or vice versa) or a standards converter (e.g., 625 lines PAL to 525 lines NTSC), it may apply a charge per minute of transmission not exceeding:

- | | |
|---------------------------------------|------------------------------|
| — for a transcoder | 10 gold francs ⁶⁾ |
| — for a standards converter | 50 gold francs ⁶⁾ |

Note 3 — When a television-programme circuit is used with a *sound-in-sync* (SIS) facility, the conditions of § 1.3.1, Note 4 above apply.

Note 4 — When a television-programme circuit is used and line 16/329 is also used for data transmission associated directly with the programme transmission supervision, remote control and monitoring, no extra charge will be applied.

Examples of the calculation of the rates for television-programme transmissions are given in Annex B.

All values mentioned in § 1 above are shown in the table in Annex A.

2 Determination of collection charges for sound- and television-programme transmissions between countries in Europe and the Mediterranean Basin

2.1 General

The establishment of the collection charge is a national matter. While, in general, Administrations correlate collection charges and accounting rates, the two will not necessarily be the same because, for example:

- a) in most countries, collection charges and accounting rates will be expressed in different currencies;
- b) the value of national currencies can fluctuate relative to the gold franc;
- c) collection charges may be influenced by government fiscal policies;
- d) Administrations frequently establish common collection charges for geographical zones or groups of countries.

⁵⁾ Usually only one interconnecting point is remunerated per transit country.

⁶⁾ Application of this rate is left to the discretion of each Administration.

2.2 Determination of collection charges

In principle, the collection charge should be the equivalent in national currency of the accounting rate. If, taking into account the factors in § 2.1 above, an Administration wishes to fix a collection charge at a higher or lower amount than the direct equivalent of the accounting rate, it may apply a multiplication factor K. The factor K may be different for the different relations operated by an Administration.

As a general principle, Administrations should make every effort to avoid too large a dissymmetry between the collection charges applicable in each direction of the same relation. Collection charges should be fixed at reasonable levels.

Note — It is emphasized that the application of a factor K should not affect international accounting.

ANNEX A

(to Recommendation D.303 R)

Standard rates to be applied in Europe and the Mediterranean Basin to occasional sound- and television-programme transmissions routed over sound- and television-programme circuits

	Sound-programme circuit						Television programme circuit
	Narrow-band (telephone-type circuit)		Wide-band at approximately 10 kHz)	Established on a television channel sub-carrier	Very wide-band at approximately 15 kHz)	Stereo- phonic pair	
	2-wire terminal	4-wire terminal					
	Gold francs	Gold francs	Gold francs	Gold francs	Gold francs	Gold francs	Gold francs
1) Fixed rate for preparation and operation per transmission and per country having an interconnection point (whatever the number of interconnecting points within terminal and transit countries)	60	60	60	60	60	60	100
2) Charge per minute of transmission per terminal country ^{a)}	} tele- phone rate	} tele- phone- rate	1	1	1	2	7
3) Charge per minute of transmission and per interconnecting point in a transit country ^{a) b)}			1.60	1.60	1.60	3.20	12
4) Charge per minute of transmission per 100 km of circuit ^{a)}			0.30	0.30	0.30	0.70	12
5) Fixed surcharge per transmission per terminal country and per transit country with an interconnecting point for the provision of a narrow-band (telephone-type circuit) ^{c)}	20	40					

^{a)} The rates five in 2), 3), and 4) refer to telephone service regardless of the mode of operation.

^{b)} Usually only one interconnecting point is remunerated per transit country.

^{c)} This fixed surcharge should be collected in addition to the fixed rate mentioned in 1).

Maximum rate per minute of transmission for the provision of a transcoder (PAL to SECAM, or vice versa) or of a standards converter (for example, 625 lines PAL to 525 lines NTSC):

- for a transcoder 10 gold francs ^{a)}
- for a standards converter 50 gold francs ^{a)}

^{a)} Application of this rate is left to the discretion of each Administration.

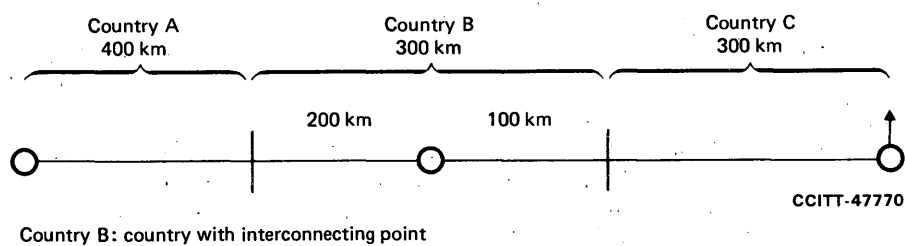
ANNEX B

(to Recommendation D.303 R)

Examples of charges for occasional sound- and television-programme transmissions

B.1 Sound-programme transmissions

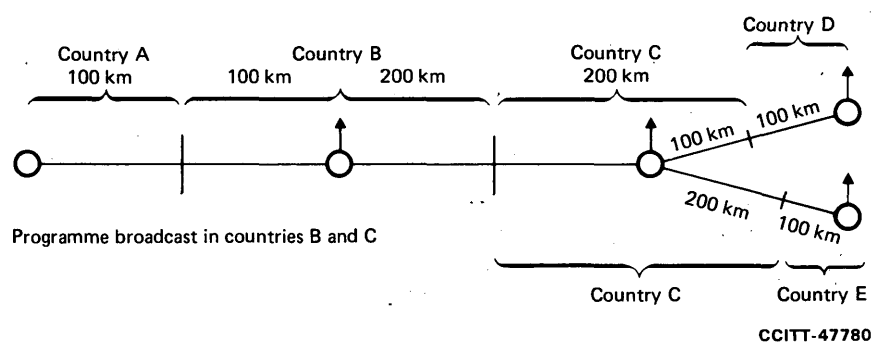
Example 1 — Sound-programme transmission: 20 minutes



Accounting rate shares

Country A	$\left\{ \begin{array}{l} 60 \\ 1.00 \times 20 \\ 0.30 \times 4 \times 20 \end{array} \right.$	104 gold francs
Country B	$\left\{ \begin{array}{l} 60 \\ 1.60 \times 20 \\ 0.30 \times 3 \times 20 \end{array} \right.$	110 gold francs
Country C	$\left\{ \begin{array}{l} 60 \\ 1.00 \times 20 \\ 0.30 \times 3 \times 20 \end{array} \right.$	98 gold francs
Accounting rate		312 gold francs

Example 2 — Sound-programme transmission: 20 minutes



Accounting rate shares

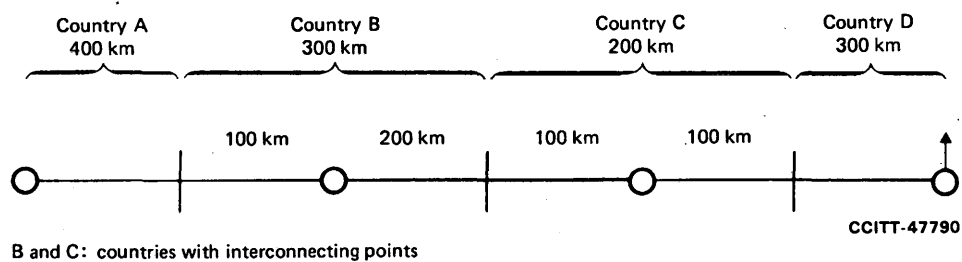
Country A	$\left\{ \begin{array}{l} 60 \\ 1.00 \times 20 \\ 0.30 \times 1 \times 20 \end{array} \right.$	86 gold francs
Country B	$\left\{ \begin{array}{l} 60 \\ 1.00 \times 20 \\ 0.30 \times 1 \times 20 \\ 60 \\ 1.00 \times 20 \\ 0.30 \times 2 \times 20 \end{array} \right.$	178 gold francs
Country C	$\left\{ \begin{array}{l} 60 \\ 1.00 \times 20 \\ 0.30 \times 2 \times 20 \\ 60 \\ 1.00 \times 20 \\ 0.30 \times 1 \times 20 \\ 60 \\ 1.00 \times 20 \\ 0.30 \times 2 \times 20 \end{array} \right.$	270 gold francs
Country D	$\left\{ \begin{array}{l} 60 \\ 1.00 \times 20 \\ 0.30 \times 1 \times 20 \end{array} \right.$	86 gold francs
Country E	$\left\{ \begin{array}{l} 60 \\ 1.00 \times 20 \\ 0.30 \times 1 \times 20 \end{array} \right.$	86 gold francs

Accounting rate

706 gold francs

B.2 Television-programme transmissions

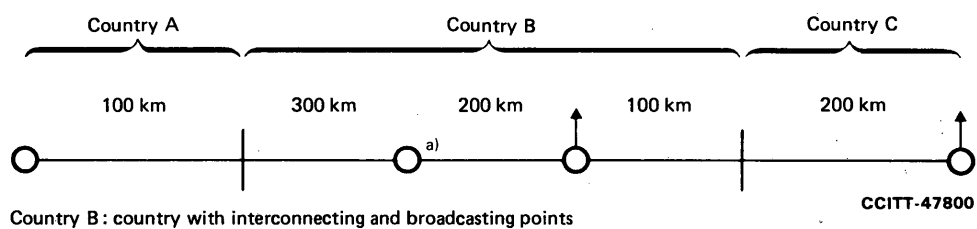
Example 1 – Television-programme transmission: 30 minutes



Accounting rate shares

Country A	$\left\{ \begin{array}{l} 100 \\ 7 \times 30 \\ 12 \times 4 \times 30 \end{array} \right.$	1750 gold francs
Country B	$\left\{ \begin{array}{l} 100 \\ 12 \times 30 \\ 12 \times 3 \times 30 \end{array} \right.$	1540 gold francs
Country C	$\left\{ \begin{array}{l} 100 \\ 12 \times 30 \\ 12 \times 2 \times 30 \end{array} \right.$	1180 gold francs
Country D	$\left\{ \begin{array}{l} 100 \\ 7 \times 30 \\ 12 \times 3 \times 30 \end{array} \right.$	1390 gold francs
Accounting rate		5860 gold francs

Example 2 — Television-programme transmissions: 50 minutes



Accounting rate shares

Country A	$\left\{ \begin{array}{l} 100 \\ 7 \times 50 \\ 12 \times 1 \times 50 \end{array} \right.$	1050 gold francs
Country B	$\left\{ \begin{array}{l} 100 \\ 7 \times 50 \\ 12 \times 5 \times 50 \\ 100 \\ 7 \times 50 \\ 12 \times 1 \times 50 \end{array} \right.$	4500 gold francs
Country C	$\left\{ \begin{array}{l} 100 \\ 7 \times 50 \\ 12 \times 2 \times 50 \end{array} \right.$	1650 gold francs
Accounting rate		7200 gold francs

a) Charging for this point is admitted only when a circuit is tapped at this point, in which case the terminal rate for the tapped circuit should be charged.

**DETERMINATION OF RENTALS FOR THE LEASE OF INTERNATIONAL
PROGRAMME (SOUND- AND TELEVISION-) CIRCUITS FOR PRIVATE
SERVICE IN RELATIONS BETWEEN COUNTRIES IN EUROPE
AND THE MEDITERRANEAN BASIN ¹⁾**

Preamble

This Recommendation, which should be applied in conjunction with the provisions of Recommendations D.1, D.2 and D.4, fixes the results for the lease of international sound- and television-programme circuits for private service in relations between countries in Europe and the Mediterranean Basin.

1 Monthly rentals for the lease of sound-programme circuits

1.1 The monthly rental for the lease of a telephone-type circuit for *all uses*²⁾, as provided in Recommendation D.2, with a multiplication coefficient of 1.00, is taken as reference for the determination of the rental for the lease of sound-programme circuits.

1.2 The following monthly rentals are recommended for the lease of the different types of sound-programme circuit:

- a) narrow-band circuit (telephone-type circuit at approximately 3 kHz) with a 2-wire termination at the user's end:
 - 0.667 times the amount of the monthly rental for the lease of a telephone-type circuit for *all uses*;
- b) narrow-band circuit (telephone-type circuit at approximately 3 kHz) with a 4-wire termination at the user's end, used either for the transmission of a sound programme in each direction or for the transmission of a sound programme in one direction and as a control circuit in the other:
 - 0.833 times the amount of the monthly rental for the lease of a telephone-type circuit for *all uses*;

Note — Whenever the circuit is used solely for telephone calls (coordination and/or control circuit), a coefficient of 0.667 will be applied.
- c) sound-programme circuits at approximately 10 kHz:
 - rental equal to the monthly rental for the lease of a telephone-type circuit for *all uses*;
- d) sound-programme circuits at approximately 15 kHz:
 - 1.33 times the amount of the monthly rental for the lease of a telephone-type circuit for *all uses*;
- e) stereophonic pair:
 - 2.66 times the amount of the monthly rental for the lease of a telephone-type circuit for *all uses*.

2 Annual rentals for the lease of television-programme circuits

The following annual rentals are recommended for the lease of television-programme circuits:

- 90 000 gold francs per terminal equipment at each end;
- 160 000 gold francs per 100 kilometres of line.

¹⁾ Countries in the Mediterranean Basin are countries not belonging to Europe but bordering the Mediterranean Sea.

²⁾ A definition of a telephone-type circuit for *all uses* is given in Recommendation D.2.

**ACCOUNTING SYSTEM IN THE INTERNATIONAL AUTOMATIC
TELEPHONE SERVICE**

In the international automatic service in Europe, the charge will, in general, be automatically registered on subscribers' meters and Administrations will no longer have tickets available for working out the distribution of charges on the basis of the chargeable duration of calls.

Although technically possible, the recording, for international accounts, of the chargeable duration of each effective call would require the installation of new equipment which does not seem justified with the sole object of establishing international accounts. The various systems used for charging subscribers would also result in different chargeable durations for the same traffic.

In these circumstances, after the question had been studied in the period 1957-1960, the IInd Plenary Assembly of the CCITT (New Delhi, 1960) recommended the application of certain provisions concerning continental telephone accounts. These provisions, applying only to Europe, were embodied in a Recommendation last published in the *White Book* (Mar del Plata, 1968) as number E.280 [1]. In view of the new international accounting system described in Recommendation D.150, former Recommendation E.280 was revised when Volume II-2 of the *Green Book* (Geneva, 1973) was prepared.

The new provisions, revised in the light of Recommendation D.150, read as follows:

1 International accounts for traffic in automatic service should be drawn up on the basis of the total of all call durations measured in the international exchanges of the country of origin on the appropriate meters or equivalent devices. A charge in gold francs per minute of call duration, valid in both directions of the relation, will be fixed by agreement between Administrations on the basis of the international standard tariffs in Recommendation D.300 R.

Exceptions to this general rule may occur in the following cases:

- a) When the Administrations concerned agree to dispense with accounts or to adopt lump-sum settlement.
- b) When one or both of the Administrations concerned already possess equipment capable of showing the chargeable durations incurred by the subscribers. The accounts prepared on these bases must give the same result as if the call durations had been measured, by applying if necessary the appropriate correction factors.
- c) When in automatic international service either or both of the Administrations concerned use a national type of simplified code-signalling system which makes it impossible to assess the call durations without excessive complications, the Administrations shall measure the total holding time of the outgoing international circuits. In that case, a correction factor shall be applied to the measured holding time values in order to obtain the real call duration which should have been measured as a total on the outgoing international circuits. The correction factors to be applied must be determined by agreement between the Administrations concerned.

2 International accounts for semiautomatic traffic shall be established on the same basis as those for automatic traffic (see Recommendation D.150, § 1.2.2).

3 To take account of the special system of charging for frontier relations (reduced charges between neighbouring frontier zones), special steps will have to be taken to discriminate between automatic calls in frontier relations and other automatic calls. This discrimination will be made every time that frontier traffic is routed wholly or partly (overflow) by international circuits having devices for measuring call duration.

This discrimination will, in general, necessitate:

- a) a more complete analysis of the national (significant) number of the called subscriber than the one which is quoted in Recommendation E.163 [2], and
- b) the determination of the origin of the calls, since frontier charges depend on the distance between the outgoing and the incoming frontier zones.

4 Measurement of the call duration on meters shall be made according to country of destination. When the country of destination comprises several charging zones, these measurements will ordinarily be made according to the charging zone.

5 The measurement of call durations made by the international exchange in the country of origin to a given country of destination shall not distinguish between the routes involving different transit countries, provided that the traffic is transmitted over direct circuits which constitute the normal route. For accounting purposes, the total volume of traffic sent by each route is assumed to be proportional to the number of circuits in service on the 15th of each month on each route.

6 The provisions of Recommendation D.150 shall be applied whenever the traffic is routed via a transit exchange in another country.

It is to be noted that when Recommendation E.280 [1] was prepared in 1960 the following rule was permitted to simplify matters and to avoid the need for an analysis of routes actually taken by a call beyond a transit exchange when several routes passing through different countries to the destination in question are possible from the transit exchange:

“The distribution of transit traffic over these different routes shall be taken to be the same as the distribution of traffic originating at the transit exchange for the destination concerned.”

7 In international accounts the traffic expressed in minutes relating to test calls, service calls and calls terminating at wrong numbers should not be deducted, since the overall duration of these various types of call is very small in relation to the total traffic.

Nevertheless, when the percentage of wrong numbers due to faults in the equipment in the country of destination is greatly in excess of what is regarded as a reasonable percentage in a service of good quality, the Administration in the country of origin will be entitled to make certain deductions, in agreement with the Administration of the country of destination.

When free calls are allowed, for example during international telecommunication conferences, deductions may be made in the international accounts by the Administrations of the country on whose territory the conferences are held.

8 The arrangements concerning the acceptance of international accounts as defined in [3] are applicable to automatic traffic.

Accounts shall be drawn up monthly but, to avoid errors which might be serious in the event of the meters being faulty, the call duration meters shall be read every day.

9 It is not essential that call duration meters be read at midnight on the last day of the month: it will suffice if they are read on the last day of the month at the most convenient time. Should the last day of the month not be a working day, these meters can be read the day before or the day after.

The monthly account forwarded to the other Administrations shall show the day on which meters were read. It ought to be possible to arrange for all meters in an exchange to be read on the same day, since there are relatively few circuits on which call duration meters have to be read.

10 The degree of accuracy of the call duration measurement equipment shall be $\pm 2\%$ with a confidence limit of 95%, on the understanding that the result is obtained for a set of measurements covering an adequate number of calls, which, in light traffic relations, may lead to acceptance of the fact that $\pm 2\%$ accuracy should be obtained on the overall measurements for the year, but not for each of the partial measurements made during that year (monthly measurements, for example, if the monthly interval is retained for the establishment of international accounts).

References

- [1] CCITT Recommendation *Accounting system in the automatic telephone service*, White Book, Vol. II-A, Rec. E.280, ITU, Geneva, 1969.
- [2] CCITT Recommendation *Numbering plan for the international telephone service*, Vol. II, Fascicle II.2, Rec. E.163.
- [3] *Final Acts of the World Administrative Telegraph and Telephone Conference - Telegraph Regulations, Telephone Regulations*, Article 8, Accounting, of the Telephone Regulations, ITU, Geneva, 1973.

Recommendation D.391 R

CHARGES FOR CALLS CARRIED BY EMERGENCY ROUTES

- 1 The call charges for conversations exchanged over emergency routes are the same as for use of the primary route.
- 2 Calls exchanged over emergency routes always enter into the international accounts for their full chargeable duration.
- 3 When an emergency route is used, the total charge for the primary route (between first charging zones of the terminal countries) is divided equally between the various Administrations concerned in the emergency route under consideration: that is to say that all these Administrations receive an equal part, whatever the nature or the length of the circuits used. When the network of destination is beyond the first charging zone, the Administration of the country of origin should carry into the account for the Administration of the country of destination a portion of the charge equal to the difference between that appropriate to the situation of the network of destination and the charge for the first zone. In order to permit the application of this procedure in the case of a call involving an international transit exchange, it is necessary for the operator at the transit exchange to indicate each time to the operator at the international exchange of the country of origin the emergency route used.

Examples:

Service *Netherlands-France*: Emergency route: Amsterdam-Zürich (passing through Belgium and France) and Zürich-Paris.

Total charge for the primary route (between first zones): 2.60 gold francs.

Division when the emergency route is used: Netherlands, Belgium, Switzerland, France:
each $2.60/4 = 0.65$ gold franc.

Service *Belgium-Great Britain*: Emergency route: Bruxelles-Amsterdam-London.

Total charge for the primary route (between first zones): 3.00 gold francs.

Division when the emergency route is used: Belgium, Netherlands, Great Britain:
each $3.00/3 = 1.00$ gold franc.

- 4 When it is necessary to use a land or submarine emergency route, because of the interruption of the primary land (or submarine) route providing an extension of an intercontinental circuit the total charge relative to the land (or submarine) route between the terminal of the intercontinental station and the terminal exchange is divided in conformity with the rules outlined in § 3 above.

Recommendation D.392 R

UTILIZATION BY PUBLIC UTILITIES OF CONTINENTAL TELEPHONE CONNECTIONS WHICH ARE THEIR PROPERTY

(This Recommendation applies to continental telephone connections set up by public utilities for the generation and distribution of electric power and to continental telephone connections set up on railway property, provided that these telephone connections are constructed and operated by the public utilities concerned.)

- 1 It has been noted:

that private continental telephone connections can be indispensable to certain public services (the term "public service" includes not only State services but also organizations providing services of general interest, such as those generating and distributing electric power, etc.);

that, nevertheless, these continental telephone connections permit the exchange of conversations outside the general public telephone service, which constitutes a certain privilege;

that, in consequence, this justifies some control of the use made of these circuits and also requests for compensation for their use.

2 It is therefore recommended that Administrations which authorize the establishment and use of private continental telephone connections for a public service (connections set up and operated by the public service) should be guided by the following principles:

2.1 The use of private continental telephone connections should be made the subject of an agreement between the proprietors of the different sections of the connections on the one hand, and between the Administrations of the countries over whose territories the sections are constructed, on the other hand.

2.2 The public services authorized to use these private continental telephone connections should agree to exchange over them only messages relating exclusively to their business and never to permit their use by third parties.

2.3 Technical limitations (regulations relating to the installations, authorized types of apparatus) should be imposed in order to prevent such continental telephone connections obtaining access (directly or indirectly) to the lines and circuits of the general telephone network.

2.4 The Administrations concerned reserve the right to exercise, by any suitable means, all technical or other controls which they consider desirable.

2.5 The Administrations concerned always reserve the right to withdraw the authority to use such connections if abuses occur or if a superior interest justifies it.

2.6 In order to compensate Administrations to some extent for the loss of revenue resulting from the privilege granted to the users of such private continental telephone connections, the Administrations concerned will charge a minimum annuity of 12 gold francs per kilometre of circuit used on their own territory, the payment of this annuity falling upon the proprietors of the circuits used. Each Administration will itself determine the length of the circuits to be taken into consideration, taking account of the point where the circuit crosses the frontier and the point or points from which the circuit(s) can be used.

Note — In the event of a case occurring of a group of circuits constituting a real telephone network over an extensive territory, to meet the needs of a particular public service, it is desirable that this service should send to all the Administrations concerned a plan of the network showing the various centres of activity of this public service and the telephone switching exchanges.

SECTION 3

RECOMMENDATIONS APPLICABLE IN LATIN AMERICA

Recommendation D.400 R

ACCOUNTING RATES ¹⁾ APPLICABLE IN TELEPHONE RELATIONS BETWEEN COUNTRIES IN LATIN AMERICA

When, in full exercise of their sovereignty, the Administrations of the countries of Latin America negotiate agreements to determine the accounting rates to be applied in their telephone relations, it is recommended that they consider the provisions below:

1 Long-distance relations

It is desirable to achieve some coordination and, as far as possible, standardization of the accounting rates applicable in telephone relations over similar distances between countries of the Latin America region. To this end, it has been considered advisable to establish a scale of accounting rates based on distance, with steps corresponding to distance ranges. This scale was established on the basis of:

- a) accounting rates already in use;
- b) the principle that the increase in rate at each step in the tariff scale is proportionately less the greater the distance, since the costs which vary with distance do not do so in direct proportion to the distance;
- c) the fact that the distance ranges become broader with distance;
- d) the adoption of the tariff step corresponding to the greatest distance (more than 4000 km) as the reference step and the application to it of a maximum rate per minute of 12.2440 gold francs;
- e) the attribution of a coefficient to each distance range, the coefficient 1 being attributed to the reference step and a decreasing coefficient to the other steps.

For each step in the scale it is recommended that the maximum accounting rates below be applied:

Distance ranges	Coefficient	Maximum accounting rate per minute of conversation (in gold francs)
0 to 500 km	0.375	4.5915
501 to 1500 km	0.625	7.6525
1501 to 4000 km	0.83	10.1625
over 4000 km	1	12.2440

¹⁾ The accounting rate, as defined in CCITT Recommendation D.150 is the rate per traffic unit agreed between the Administrations for a given relation which is used for the establishment of international accounts.

Telephone relations between countries of Latin America through direct circuits via satellite are included — for international accounting purposes — in the highest rate above, regardless of the geodesic distance separating the international centres involved.

2 Frontier telephone relations

The determination of accounting rates and collection charges in frontier telephone relations between countries of Latin America should be governed by the following provisions:

a) *Local connections*

For telephone connections using no trunk exchange of any type, the local telephone rates of the *originating* exchange will be applied, with no remuneration of the *receiving end*.

b) *Trunk connections*

For regional telephone connections using some type of trunk exchange, accounting rates and collection charges will be established by agreement between Administrations; collection charges should under no circumstances exceed the collection charges approved for telephone calls between the main exchanges of each of the two countries.

Whenever possible, frontier telephone relations should not entail the exchange of international accounts, and the collecting Administration should keep the entire amount collected. It should undertake, however, to supply all traffic information required to the Administration of the country of destination.

Recommendation D.401 R

ACCOUNTING RATES¹⁾ APPLICABLE TO TELEX RELATIONS BETWEEN COUNTRIES IN LATIN AMERICA

When in full exercise of their sovereignty the Administrations of the countries of Latin America negotiate agreements to determine the accounting rates to be applied in their telex relations, it is recommended that they consider the provisions below:

It is desirable to achieve some coordination and, as far as possible, standardization of accounting rates applicable in telex relations over similar distances between countries of the Latin America region.

To this end it has been considered advisable to establish a scale of accounting rates based on distance, with steps corresponding to distance ranges. This scale was established on the basis of:

- a) accounting rates already in use;
- b) the principle that the increase in rate at each step in the tariff scale is proportionately less the greater the distance, since the costs which vary with distance do not do so in direct proportion to the distance;
- c) the fact that the distance intervals increase with distance;
- d) the adoption of the tariff step corresponding to the greatest distance (more than 2500 km) as the reference step and the application to it of a maximum rate per minute of 9.1830 gold francs;
- e) the attribution of a coefficient to each distance range, the coefficient 1 being attributed to the reference step and a decreasing coefficient to the other steps.

¹⁾ The accounting rate, as defined in CCITT Recommendation D.150, is the rate per traffic unit agreed between the Administration for a given relation which is used for the establishment of international accounts.

For each step in the scale, it is recommended that the maximum accounting rates below be applied:

Distance ranges	Coefficient	Maximum accounting rate per minute of conversation (in gold francs)
0 to 500 km	0.466	4.2854
501 to 2500 km	0.766	7.0403
over 2500 km	1	9.1630

Telex relations between countries of Latin America through direct circuits via satellite are included (for international accounting purposes) in the highest rate above, regardless of the geodesic distance separating the international centres involved.

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PART III

SUPPLEMENTS TO SERIES D RECOMMENDATIONS

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COST AND TARIFF STUDY METHOD

(At the present time this method is applicable only to the countries in Europe and the Mediterranean Basin)

1 Introduction

1.1 In the past, before 1970, the CCITT made a number of studies of international telephone and telex service costs. Those studies usually referred, however, only to parts of the services and the Recommendations prepared on the subject of tariffs applied only to the European region. Those Recommendations were based on the principle that, in a given relation, the accounting rate consisted of terminal and transit shares which were the same for all the routes used. When a detour was used, the hypothetical terminal and transit shares had therefore to be reduced proportionally. The collection charges corresponded more or less to the amounts of the accounting rates converted into national currencies.

1.2 Between 1964 and 1968, a new philosophy based on a commercial principle was worked out. Recommendation D.150, adopted by the IVth Plenary Assembly of the CCITT (1968), made a clear distinction between the accounting rate and the collection charge. The accounting rate was regarded as a matter to be settled between Administrations, each Administration being reimbursed according to the cost of the equipment it made available. The fixing of collection charges became, within certain limits, a national matter. Each terminal Administration was expected to fix a collection charge in such a way that it covered at least the average of the accounting rates applicable to the various routes used.

1.3 In order to put this new conception into practice, it was necessary to undertake detailed cost studies for the technical facilities and the work involved in setting up telephone and telex calls, in sending telegrams, and in establishing sound-programme and television transmissions in the international service. For that purpose the IVth Plenary Assembly of the CCITT decided to set up four regional tariff groups, namely:

- the TAF Group for the African Region,
- the TAL Group for the Latin American Region,
- the TAS Group for the Asia and Oceania Region,
- the TEUREM Group for the Region of Europe and the Mediterranean Basin.

2 Methods used for establishing tariffs

In carrying out their task, the Tariff Groups used either a simple and purely pragmatic method, called the *synthetic method*, or a complex method, based on cost studies, called the *analytic method*.

2.1 Synthetic method

2.1.1 When the Administrations in a region do not have the necessary data for calculating the costs of the technical facilities and the work involved in the provision of their services (for example, when they do not have an analytical cost accounting system), or when they decide for other reasons not to make a detailed study, a Tariff Group can confine itself to making a synthesis of the tariffs applied by the various Administrations in its region. On the basis of this synthesis, the group establishes, by charging zone, a scale of overall rates for international accounting and, where appropriate, for establishing collection charges in national currencies. The overall charge used for international accounting is called the *accounting income*. It is normally shared between the Administrations of the terminal countries on a 50-50 basis. If, however, the facilities made available by the two terminal countries are not more or less equivalent, a proportion other than 50-50 may be adopted. In principle, the Administration of each terminal country pays a suitable share (normally half) of the remuneration, if any, due to the Administrations of the transit countries.

2.1.2 It is obvious that this synthetic method does not solve the fundamental problems of rate-fixing. It is incapable of establishing a rate for a service a priori, on a theoretical basis, but only a posteriori, on the basis of experience.

2.2 *Analytic method*

2.2.1 When the Administrations of a region are in a position to analyze the costs involved in the provision of a given service (amortization, financial charges, labour costs, cost of consumable materials for maintenance, taxes, costs of the services provided by third persons), a Tariff Group normally uses the so-called *analytic* method. This consists of laying down – on a rational basis and, in particular, on the basis of cost studies – standards for the fair remuneration of the various facilities made available by an Administration in providing a given service (telephone or telex call, telegram, etc.). For calculating costs, Administrations usually possess data derived from an analytical cost accounting system, which they supplement, as required, with more detailed studies and data provided by statistics.

2.2.2 By means of a questionnaire, the Tariff Group collects the data obtained by the Administrations in its region, synthesizes them, calculates average costs taking account of the special conditions prevailing in the various countries, and determines the standards to be recommended for remunerating the facilities made available by Administrations in international telecommunications services. These standards can then be used by the Administrations in the region in fixing their accounting shares for purposes of international accounting, their accounting rates and, hence, their collection charges. They take account not only of actual costs, but also of criteria recommended by the CCITT for rate-fixing purposes (e.g., the concept of services rendered).

2.2.3 The standards recommended for determining accounting rates are used for remunerating the Administrations of the terminal and transit countries by the so called *flat-rate price* or *traffic unit price* methods, explained in the relevant CCITT Recommendations.

It is only by the analytic method, therefore, that all the requirements of rate fixing can be met. This is the method traditionally used by the CCITT.

3 **Cost studies**

3.1 *General*

3.1.1 To carry out a detailed tariff study in international telecommunications services, a Tariff Group must know the cost of the services supplied by the Administrations and the factors affecting the provision of these services. The Tariff Group must therefore collect the detailed data from the Administrations in its region, synthesize them, calculate the average costs of the various factors and determine the standards to be adopted in remunerating the facilities made available by Administrations in providing a service in the international telecommunications services. Administrations must, of course, be assured that the data collected are treated absolutely confidentially.

3.1.2 The numerical data provided by Administrations should be expressed in a universally recognized currency (e.g. in gold francs or in SDRs) and refer to the same reference year. The Tariff Group must bring them up to date for the period during which the tariffs will be applied. For this purpose the average annual variations of unit prices are taken into account, i.e. possible price increases due to inflation and reductions obtained through technical improvements or the more efficient use of facilities. In determining tariff standards, account will also be taken of a rate of interest sufficiently high to ensure the expected return on the invested capital and of the existing standby facilities made available by Administrations.

3.1.3 The values adopted by the Tariff Group are not “averages” in the strict mathematical sense, but represent values which are generally acceptable for all the countries concerned in the region. The determination of “acceptable” or “reasonable” values thus involves a considerable element of judgment and approximation.

3.2 *Working method*

In making cost studies and establishing tariff standards to be applied for paying for the facilities made available by Administrations in supplying services to users of the international telecommunication services, Tariff Groups usually use the method described below.

3.2.1 *Preparation of a questionnaire*

3.2.1.1 A detailed questionnaire is prepared for the service in question, namely for:

- the telephone service,
- the telex service,
- the public telegram service, or
- sound-programme and television transmissions, etc.

The questionnaire first refers to the *international* part of relations. If necessary, a special questionnaire may be drawn up to collect data referring to the *national extension*, i.e. that part of the connection linking the international centre with the national centres to which users' stations are connected.

3.2.1.2 Each questionnaire is divided, according to need, into several *parts* and *chapters*.

- i) *Division into parts* according to the functions performed or other criteria such as:
 - general information,
 - transmission,
 - switching and operation,
 - national extension (for the case where a separate study is not carried out).
- ii) *Division into chapters* according to accounting or statistical criteria, such as:
 - investment costs,
 - annual charges (capital charges, maintenance costs, building costs, operational costs),
 - statistical information.

3.2.1.3 *Comments*

The telephone service and the telex service are, in many respects, extremely similar, even if the service supplied is different. There are, therefore, many resemblances between cost studies of these two services. The same applies, though to a lesser extent, to studies of sound-programme and television transmissions.

On the other hand, the public telegram service is, by its very nature, very different from the two above-mentioned services, primarily because it involves the handing in and delivery of telegrams, operations which usually call for the employment of considerable numbers of staff. Cost studies of this service therefore involve a number of specific characteristics.

For the "transmission" part, the same questionnaire (usually that for the telephone service) can be used for the various services (telephone, telex, sound-programme transmissions) for determining the costs:

- of a supermastergroup,
- of a mastergroup,
- of a supergroup,
- of a group,
- of a carrier telephone circuit, or
- of a voice-frequency telegraphy channel.

An example of the type of questions included is given in Annex A.

3.2.2 *Circulation of questionnaires and collection of data*

The questionnaires are circulated by the CCITT Secretariat to all Administrations in the region. The Administrations are invited to complete them as accurately as possible and return them to the CCITT Secretariat by a given date. It is unquestionably a delicate and difficult task for Administrations to prepare replies to these questionnaires, because the data are not always immediately available in the required form or presentation; research is, therefore, usually necessary to extract them from accounting and statistical documents and calculations are often required.

3.2.3 *Analysis of the replies and presentation of the results*

The CCITT Secretariat analyzes the replies provided by Administrations and presents the numerical data *anonymously* in the form of tables.

Tariff Group meetings make an itemized examination of the analysis results of each of the items in the questionnaires, and for each item a standard reply is formed. These standard replies constitute the basic data for the cost study.

A whole series of detailed calculations are made on the basis of the data thus arrived at. The model tables given in Annex B, used for recording the results of calculations, give an idea of the procedure followed, the order in which the data are considered and the sequence of calculations carried out.

The result of this procedure is the establishment of costs, standards of remuneration to be applied between Administrations and accounting rates for the various facilities made available and the services provided to users in the international telecommunication services, e.g.:

- per supermastergroup, mastergroup, supergroup or group of circuits;
- per telephone, telegraph, sound-programme, etc. circuit;
- per minute of telephone, telex, etc. call; or
- per word of a telegram.

The standards thus determined are included in the CCITT Recommendations applicable at the regional level.

3.3 *Analysis of certain problems relating to cost studies*

3.3.1 *Methods for calculating average costs*

According to the nature of the services provided by the Administrations, it is recommended that one of the methods described below be used to calculate the average costs for a region.

3.3.1.1 *Comparison by analytical costs*

In determining the average cost of the *international part* of a service provided (charges relating to technical equipment used exclusively for the international service and operating costs), it is customary to compare the *detailed numerical data* provided by the Administrations.

These numerical data refer to:

- investment costs,
- maintenance costs,
- building costs,
- operating costs.

The aim of the study being to calculate, for a given year, the average annual charges of the equipment made available and the average costs per traffic unit (for example per minute of telephone call), the procedure described below should be followed.

3.3.1.1.1 *Investment costs*

First, the average investment costs are calculated per given unit or element on the basis of the numerical data supplied by Administrations for the reference year (for example, per 100 km of actual length of an installed supergroup). Next, the investment cost is calculated for equipment *in service* in the form established and for the year in which the tariff rates are to be applied. To obtain these results, coefficients are applied bearing in mind:

- standbys (installed apparatus/apparatus in service),
- price increases (annual variation rates),
- composition of the standard network (relative importance of coaxial cables, radio-relay links, etc.),
- the ratio: actual length/crowflight distance of the transmission facilities.

3.3.1.1.2 *Financial charges*

The average investment costs are used to calculate the annual *financial charges* per piece of equipment in service, on the basis of the weighted average life assumed for this equipment and the interest rate assumed for remunerating invested capital. For this purpose the "Table giving amortization coefficients as a function of amortization period and interest rate", contained in Annex C, is used. These annual charges are generally called "capital charges" or "financial charges".

3.3.1.1.3 *Maintenance costs*

The average annual maintenance costs are calculated per given unit or element (installed circuit or group of circuits) on the basis of numerical data supplied by the Administrations for the reference year. If Administrations cannot specify actual amounts, agreement is reached on a percentage to be applied to the investment cost to calculate the annual maintenance costs.

The annual maintenance costs are then calculated per equipment *in service* in the form established and for the year in which the tariff rates are to be applied, following the procedure described in "Investment costs".

In evaluating maintenance costs, particular account should be taken of the following types of cost: staffing and labour, consumable materials, electricity and transport.

3.3.1.1.4 *Building costs*

Since some premises either belong to or are rented by the Administrations and equipment is generally installed in premises together with other equipment or services, building costs are usually calculated in the form of an *annual rental*. Exceptions to this rule are buildings which essentially have one purpose only, for example, radio-relay stations. In cases such as these, buildings are included in investment costs.

Annual building costs per piece of equipment *in service*, in the form established and for the year in which the tariff rates are to be applied, are calculated in the same way as annual maintenance costs.

3.3.1.1.5 *Operation costs*

For the purpose of cost studies, the only expenses considered as operation costs are the costs of the staff responsible for the setting up of calls, the international information service, the processing of telegrams, etc. Operation costs also include supervisory and senior staff. Overheads are included in these expenses.

With regard to the telephone and telex services, operation costs are calculated per circuit in service per year.

Average operation costs are determined on the basis of numerical data supplied by the Administrations for the reference year. They are brought up to date to correspond to the period in which the tariff rates are to be introduced by applying an increase coefficient to take account of the increase in salaries during the period in question, i.e. the annual variation rate in the total wage bill.

3.3.1.1.6 *Total annual charges*

The total annual charges per telecommunication circuit or circuit group are calculated by adding the amounts obtained for the "Transmission" part and the "Switching and operation" part under the headings:

- financial charges,
- maintenance costs,
- building costs,
- operation costs.

3.3.1.1.7 *Traffic unit cost*

To calculate the traffic unit cost (minute of telephone or telex call, etc.) the total annual charges for an international circuit are divided by the average number of traffic units routed by the circuit per year.

3.3.1.2 *Direct comparison of national costs*

In determining the average cost of the *national extension* of a service provided (telephone or telex communication), i.e. the part of the connection extending from the international centre to the national centres of the subscribers, it would be difficult to employ the method described under "Comparison by analytical costs". There are considerable differences between countries with regard to:

- the structure, as well as technical and operating conditions, of national networks;
- telephone and telex subscriber density;
- the distribution of international traffic within each country;
- the organization of the Administration;
- the methods and means of financing;
- the cost of living.

3.3.1.2.1 *Method employed*

In this case a simplified method is normally used i.e. the *costs calculated by Administrations for their respective countries are compared directly* per traffic unit (minute) for one of the elements or services listed below:

- a national local or trunk exchange;
- a terminal transmission equipment;
- 100 km (crowflight) of a national circuit;
- billing of subscribers, international accounting, management of international services (administrative costs).

To calculate the average total cost of the *national extension* of a region per traffic unit, the Administration should also provide statistical and financial data, namely:

- the number of national exchanges, trunk and local (weighted average) used to route an incoming and outgoing telephone or telex call;
- the number of terminal transmission equipments (weighted average) used to route an incoming and outgoing international telephone or telex call between the international centre and the national terminal centre;
- the crowflight distance (weighted average) of the national circuit used between the international centre and the national terminal centre in setting up an incoming and outgoing international telephone or telex call;
- the rate of interest on invested capital;
- the estimated average annual cost variation rate until the year in which the tariff rates are to be applied.

The procedure described below is then followed.

3.3.1.2.2 *Calculation of average costs per element*

A preliminary adjustment should be made of the numerical data supplied by each Administration for the reference year, taking into account the uniform interest rate allowed by the Tariff Group for remuneration of invested capital (this is necessary as there is usually a difference between the rate adopted by an Administration for its analytical accounting and the rate allowed by the Tariff Group). To calculate the proportion of the financial charges in the total costs, data can be extracted from the study of the costs (analytical cost comparison) of the international part of the service in question.

In the second stage of the calculation, the average costs adopted for the reference year are multiplied by a coefficient to take account of the variation in costs between the reference year and the period in which the tariff rates are to be applied, in order to obtain the average amounts to be applied during this period.

3.3.1.2.3 *Calculation of total average prices for the national extension*

From the statistical data supplied, it is possible to establish the weighted average number of elements (exchanges, terminal transmission equipments, length of national circuits) utilized in the given region for the *national extension* involved in international calls. These values are used to calculate the total average costs of the

national extension per minute of incoming and outgoing international calls. The cost for each element is multiplied by the average number of elements utilized; the sum of these results is then calculated and the administrative costs added.

3.3.2 *Considerations relating to the calculation of investment costs and financial charges*

3.3.2.1 *General considerations*

Expenditure associated with acquiring and owning property sometimes referred to as “initial investment costs”, constitutes what is usually termed investment costs. Initial investment costs generally refer to the one-time expenditure needed to acquire at a substantial cost property and plant which normally has a long life expectancy.

Investment costs are a major component in cost studies. They are entered into the accounts over the period during which the material will be used and determine one of the most important items making up the annual charges, i.e. the financial charges, or “amortization costs”.

Economically, the concept of amortization lays stress on the renewal of the assets which is necessary if the initial value of the capital is to be preserved and the enterprise is not to suffer a loss of substance. Thus, the basis is generally the “replacement value of the fixed assets to the condition they were in on being put into service”.

3.3.2.2 *Considerations relating to the study in question*

In a telecommunications service cost study, it is customary to:

- evaluate investments relating to equipment and installations according to the replacement value or purchasing price of this material at the time of the study;
- include the *overheads* of the Administrations (costs for administrative, research, information and training services, etc.) in the investment costs.

3.3.2.2.1 *Residual value of equipment*

Generally, at the end of its normal service period, telecommunication equipment is no longer usable and its residual value is consequently negligible.

3.3.2.2.2 *Weighting of certain basic numerical data*

International land networks frequently make use of transmission media of different kinds, i.e. symmetric pair cables, coaxial cables, radio-relay systems, for each of which separate data are required for the cost study. However, as the cost has to be determined for a combined network, weighting is necessary at some stage. To arrive at a single cost price, weighting is carried out at the investment level as a function of the relative importance of the different types of cable used (expressed as a percentage in an item of the questionnaire).

3.3.2.2.3 *Basis for calculating the investment cost of telephone circuits on carrier systems*

Since there are differences in the maximum capacity of carrier systems (6 MHz, 12 MHz, 60 MHz), the usual basis used for calculating the investment cost of carrier system circuits is the supergroup (60 channels) actually installed rather than the maximum capacity of the route. To do this, the average cost per 100 km of the route is divided by the average number of supergroups installed. The investment cost per group (12 channels) and per telephone circuit installed is then calculated by dividing this amount by 5 and 60 respectively.

**Examples of questions asked in the questionnaire to collect
basic data for a cost study of telecommunication services**

I Investments relating to transmission systems

I.1 Telephone circuits on carrier systems

I.1.1 Supergroups (60 channels) – (Take into account only the supergroups actually installed and not the maximum capacity).

What average construction and installation costs (in gold francs) does your Administration allow for components A and B (see Note 1 below) in the case of a supergroup installed in a:

	A	B
a) coaxial or symmetric pair land cable,	_ _ _ gold fr.	_ _ _ gold fr.
b) radio-relay link,	_ _ _ gold fr.	_ _ _ gold fr.
c) coaxial submarine cable (other types of submarine cable are excluded) (component A is included in component B)		_ _ _ gold fr.

I.1.2 Groups (12 channels)

What average construction and installation costs (in gold francs) does your Administration allow for component A in the case of a group installed in a:

	A
a) coaxial or symmetric pair land cable,	_ _ _ gold fr.
b) radio-relay link.	_ _ _ gold fr.

(With regard to component B, see Note 2 below.)

I.1.3 Carrier telephone circuits

What average construction and installation costs (in gold francs) does your Administration allow for component A of a carrier circuit: _ _ _ gold fr.

(With regard to component B, see Note 2 below.)

Note 1 – The cost of international telecommunication circuits should be expressed in the form $A + B \frac{l}{100}$; A represents all costs relating to terminal transmission equipment for one end of the international circuit; B represents the costs per 100 km of real length, *l* of the circuit.

Note 2 – Component B should include the cost of intermediate repeaters, the cost of terminal repeaters to an amount not exceeding that of the intermediate repeaters and the cost of translation equipments used for the transfer from one telecommunication route to another. The cost of construction and installation per supergroup, group and circuit is a straightforward division from one step to the next.

II Investments relating to switching centres

II.1 What is the average construction and installation cost, for your Administration, of an international switching centre, including the operator's position, expressed as cost per circuit (in use or spare) for circuits operated:

- a) manually
- b) semiautomatic outgoing
- c) semiautomatic or automatic incoming
- d) automatic outgoing
- e) automatic transit

Gold francs
.....
.....
.....
.....
.....

III Annual costs relating to switching centres

III.1 *Amortization costs*

What weighted average useful life do you take to calculate one year's amortization instalment for:

- a) manual switching equipment (including the operator's position)
- b) semiautomatic switching equipment (including the operator's position)
- c) automatic switching equipment

Useful life (years)
.....
.....
.....

ANNEX B

TABLE B-1

Calculation of the weighted mean value of investments for the “transmission” part

Units and components considered	Investments for year.....	Coefficient of increase for spares	Total for year	Cost increases		Estimated Investments for year.....	Typical network weighting coefficient	Weighted total for year	Real to crowflight length ratio	Overall results for year	
				Annual rate	Coefficient					Component A	Component B
Super group A B { coax/SP R.R. S.M.											
Group A B { coax/SP R.R. S.M.											
Tele- phone circuit A B { coax/SP R.R. S.M.											
Tele- graph circuit 50 bauds { A B 100 bauds { A B 200 bauds { A B											

Component A Cost of transmission system independent of length (cost of terminal equipment)

Component B Cost of transmission system in proportion to its length (cost of cable and intermediate repeaters)

coax. Coaxial cable

R.R. Radio-relay

S.P. Symmetric pair cable

S.M. Submarine cable

TABLE B-2

Calculation of annual costs for maintenance and buildings (transmission part)

Unit considered	Component A								Component B							
	Maintenance costs for year..... (1)	Building costs for year..... (2)	Total (1) + (2)	Increase coefficient for spares	Total costs for year.....	Cost increases		Total costs for year.....	Weighted maintenance cost for year.....	Coefficient of increase for spares	Total costs for year.....	Cost increase		Total costs for year.....	Real to crowflight length ratio	Total costs for year..... (100 km crowflight distance)
						Annual rate	Coef-ficient					Annual rate	Coef-ficient			
Super-group																
Group.....																
Telephone circuit.....																
Tele-graph circuit { 50 bauds 100 bauds 200 bauds																

TABLE B-3
Total annual costs for the “transmission part”

Units and components considered	Overall Investments for year	Useful life (years)	Amortization coefficient ($i = \dots\dots\dots$)	Amortization		Maintenance + buildings		Total annual costs for year	
				A	B	A	B	A	B
Super-group { A B									
Group { A B									
Telephone circuit { A B									
Tele-graph circuit {	50	bauds	{ A						
	100	bauds	{ A						
	200	bauds	{ A						
			{ B						

i = interest on the remuneration of capital.

TABLE B-4
Telephone switching – Annual capital costs

Mode of operation	Investments					Useful life (years)	Amortization coefficient (i =)	Annual capital costs (year)	
	Circuit installed (year)	Coefficient of increase for spares	Circuit in service (year)	Costs increases					Circuit in service (year)
				Annual rate	Coef- ficient				
<i>Manual operation</i> Outgoing or incoming circuit } Transit circuit									
<i>Semiautomatic operation</i> Outgoing circuit. Incoming circuit									
<i>Automatic operation</i> Outgoing circuit. Incoming circuit									

TABLE B-5

[illegible]

ANNEX C

Table giving amortization coefficients as function of amortization period and estimated interest rate

(Annual charge to be paid at the end of each year in order to amortize a capital of 1 monetary unit during t years)

t	$\frac{r}{1 - (1 + r)^{-t}} = \frac{r(1 + r)^t}{(1 + r)^t - 1}$											
	Interest											
	5%	6%	7%	8%	9%	10%	11%	12%	13%	14%	15%	20%
1	1.0500	1.0600	1.0700	1.0800	1.0900	1.1000	1.1100	1.1200	1.1300	1.1400	1.1500	1.2000
2	0.5378	0.5454	0.5531	0.5608	0.5685	0.5762	0.5839	0.5917	0.5995	0.6073	0.6151	0.6545
3	0.3672	0.3741	0.3811	0.3880	0.3951	0.4021	0.4092	0.4163	0.4235	0.4307	0.4380	0.4747
4	0.2820	0.2886	0.2952	0.3019	0.3087	0.3155	0.3223	0.3292	0.3362	0.3432	0.3503	0.3863
5	0.2310	0.2374	0.2439	0.2505	0.2571	0.2638	0.2706	0.2774	0.2843	0.2913	0.2983	0.3344
6	0.1970	0.2034	0.2098	0.2163	0.2229	0.2296	0.2364	0.2432	0.2502	0.2572	0.2642	0.3007
7	0.1728	0.1791	0.1856	0.1921	0.1987	0.2054	0.2122	0.2191	0.2261	0.2332	0.2404	0.2774
8	0.1547	0.1610	0.1675	0.1740	0.1807	0.1874	0.1943	0.2013	0.2084	0.2156	0.2229	0.2606
9	0.1407	0.1470	0.1535	0.1601	0.1668	0.1736	0.1806	0.1877	0.1949	0.2022	0.2096	0.2481
10	0.1295	0.1359	0.1424	0.1490	0.1558	0.1627	0.1698	0.1770	0.1843	0.1917	0.1993	0.2385
11	0.1204	0.1268	0.1334	0.1401	0.1469	0.1540	0.1611	0.1684	0.1758	0.1834	0.1911	0.2311
12	0.1128	0.1193	0.1259	0.1327	0.1397	0.1468	0.1540	0.1614	0.1690	0.1767	0.1845	0.2253
13	0.1065	0.1130	0.1197	0.1265	0.1336	0.1408	0.1482	0.1557	0.1634	0.1712	0.1791	0.2206
14	0.1010	0.1076	0.1143	0.1213	0.1284	0.1357	0.1432	0.1509	0.1587	0.1666	0.1747	0.2169
15	0.0963	0.1030	0.1098	0.1168	0.1241	0.1315	0.1391	0.1468	0.1547	0.1628	0.1710	0.2139
16	0.0923	0.0990	0.1059	0.1130	0.1203	0.1278	0.1355	0.1434	0.1514	0.1596	0.1679	0.2114
17	0.0887	0.0954	0.1024	0.1096	0.1170	0.1247	0.1325	0.1405	0.1486	0.1569	0.1654	0.2094
18	0.0855	0.0924	0.0994	0.1067	0.1142	0.1219	0.1298	0.1379	0.1462	0.1546	0.1632	0.2078
19	0.0827	0.0896	0.0968	0.1041	0.1117	0.1195	0.1276	0.1358	0.1441	0.1527	0.1613	0.2065
20	0.0802	0.0872	0.0944	0.1019	0.1095	0.1175	0.1256	0.1339	0.1424	0.1510	0.1598	0.2053
21	0.0780	0.0850	0.0923	0.0998	0.1076	0.1156	0.1238	0.1322	0.1408	0.1495	0.1584	0.2044
22	0.0760	0.0830	0.0904	0.0980	0.1060	0.1140	0.1223	0.1308	0.1395	0.1483	0.1573	0.2037
23	0.0741	0.0813	0.0887	0.0964	0.1044	0.1126	0.1210	0.1296	0.1383	0.1472	0.1563	0.2031
24	0.0725	0.0797	0.0872	0.0950	0.1030	0.1113	0.1198	0.1285	0.1373	0.1463	0.1554	0.2025
25	0.0710	0.0782	0.0858	0.0937	0.1018	0.1102	0.1187	0.1275	0.1364	0.1455	0.1547	0.2021
30	0.0651	0.0726	0.0806	0.0888	0.0973	0.1061	0.1150	0.1241	0.1334	0.1428	0.1523	0.2008
35	0.0611	0.0690	0.0772	0.0858	0.0946	0.1037	0.1129	0.1223	0.1318	0.1414	0.1511	0.2003
40	0.0583	0.0665	0.0750	0.0839	0.0930	0.1023	0.1117	0.1213	0.1310	0.1407	0.1506	0.2001
45	0.0563	0.0647	0.0735	0.0826	0.0919	0.1014	0.1110	0.1207	0.1305	0.1404	0.1503	0.2001
50	0.0548	0.0634	0.0725	0.0817	0.0912	0.1009	0.1106	0.1204	0.1303	0.1402	0.1501	0.2000

