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THE INTERNATIONAL TELEGRAPH AND TELEPHONE CONSULTATIVE COMMITTEE

CCITT

SIXTH PLENARY ASSEMBLY

GENEVA, 27 SEPTEMBER - 8 OCTOBER 1976

ORANGE BOOK

VOLUME II.1

GENERAL TARIFF PRINCIPLES
LEASE OF CIRCUITS FOR PRIVATE SERVICE

Published by the
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**CONTENTS OF THE CCITT BOOK
APPLICABLE AFTER THE SIXTH PLENARY ASSEMBLY (1976)**

ORANGE BOOK

- Volume I** — Minutes and reports of the VIth Plenary Assembly of the CCITT.
— Resolutions and Opinions issued by the CCITT.
— General table of Study Groups and Working Parties for the period 1977-1980.
— Summary table of abridged titles of Questions under study in the period 1977-1980.
— Recommendations (Series A) on the organization of the work of the CCITT.
— Recommendations (Series B) relating to means of expression.
— Recommendations (Series C) relating to general telecommunication statistics.
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- Volume II.2** — Telephone operation, quality of service and tariffs: Series E Recommendations and Questions (Study Group II).
- Volume II.3** — Telegraph operations and tariffs: Series F Recommendations and Questions (Study Group I).
- Volume III** — Line transmission: Series G, H and J Recommendations and Questions (Study Groups XV, XVI, XVIII, CMBD).
- Volume IV.1** — Line maintenance and measurement: Series M and N Recommendations and Questions (Study Group IV).
- Volume IV.2** — Specifications of measuring equipment: Series O Recommendations and Questions (Study Group IV).
- Volume V** — Telephone transmission quality and telephone sets: Series P Recommendations and Questions (Study Group XII).
- Volume VI.1** — General Recommendations relating to telephone switching and signalling: Series Q Recommendations and Questions (Study Group XI).
- Volume VI.2** — Signalling System No. 6: Recommendations.
- Volume VI.3** — Signalling Systems R1 and R2: Recommendations.
- Volume VI.4** — Programming languages for stored-programme control exchanges: Series Z Recommendations.
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- Volume IX** — Protection: Series K and L Recommendations and Questions (Study Groups V, VI).

Each volume also contains, for its field and where appropriate:

- definitions of specific terms used;
- supplements for information and documentary purposes.

CONTENTS OF VOLUME II.1 OF THE ORANGE BOOK

Part I – Series D Recommendations (D.1 to D.10) Recommendations for general application

Recommendation No.		Page
D.1	General principles for the lease of international (continental and intercontinental) telecommunication circuits for private service	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 and television) circuits for private service	15
D.5	Costs and value of services rendered as factors in the fixing of rates	16
D.10	General tariff principles for data transmission on public networks dedicated to this type of transmission	16

Part II – Series D Recommendations (D.200 R to D.401 R) Regional Recommendations

SECTION 1 – *Recommendations applying in the African region*

D.200 R	Determination of accounting rate quotas and collection charges in telephone relations between countries in Africa	21
D.201 R	Determination of accounting rate quotas and collection charges in telex relations between countries in Africa	33

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

D.300 R	Determination of accounting rate quotas and collection charges in telephone relations between countries in Europe and the Mediterranean Basin	43
D.301 R	Determination of accounting rate quotas and collection charges in telex relations between countries in Europe and the Mediterranean Basin	52
D.302 R	Determination of the accounting rate quotas and collection charges for the international public telegram service applicable to telegrams exchanged between countries in Europe and the Mediterranean Basin	62
D.303 R	Determination of the accounting rate quotas and collection charges applicable to occasional sound- and television- programme transmission between countries in Europe and the Mediterranean Basin	66
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	76

Recommendation No.		Page
SECTION 3 – <i>Recommendations applying in Latin America</i>		
D.400	Accounting rates applicable in telephone relations between countries in Latin America	77
D.401 R	Accounting rates applicable in telex relations between countries in Latin America . .	78
 Part III – Questions entrusted to Study Group III and to the regional tariff Groups depending on them		
List of Questions		82
Questions		83

PRELIMINARY NOTE

In this Volume, the expression “Administration” is used for shortness to indicate both a telecommunication Administration and a recognized private operating agency.

PART I

Series D Recommendations (D1 to D.10)

RECOMMENDATIONS FOR GENERAL APPLICATION

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RECOMMENDATIONS FOR GENERAL APPLICATION

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 an Annex to this Recommendation, extracted from Recommendation M.1010 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.

1.3 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⁾ 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.

1.4 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 x 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 example, 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 or facsimile combined usage;
 - duplex of semi-duplex operation; any sub-division 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.

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).

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,
- b) and/or 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 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.

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.

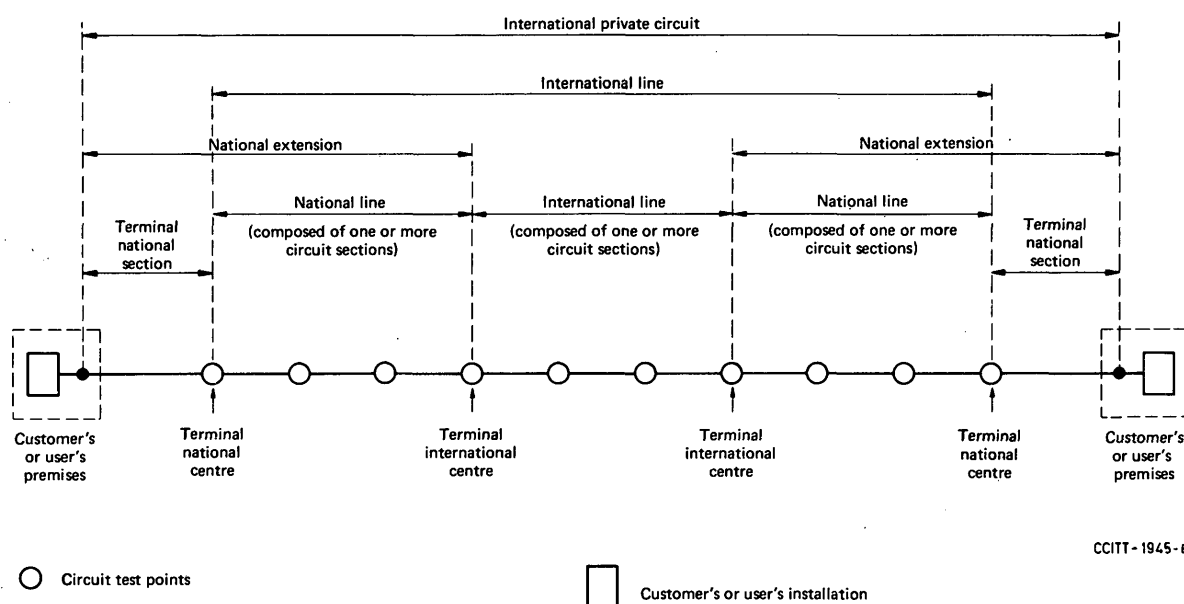
7.2 The function of a computer used for data processing may depend upon the receipt of information partly from one user and partly from another. Moreover, the computer at a data processing centre might be used to transmit to one user intelligence which had been derived from the processing of basic data 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 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 of the public network.

ANNEX (to Recommendation D.1)



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

FIGURE 1 – Constitution of international private telecommunication circuits

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 uses⁴⁾, 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.

⁴⁾ 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.

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 rates ⁵⁾ in the automatic incoming ⁶⁾ 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 (CCITT Recommendation M.580)*

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 <i>point-to-point</i> ⁷⁾	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

⁵⁾ Definition of the accounting rate (from Recommendation E.250): 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.

⁶⁾ 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.

⁷⁾ 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.

	Multiplication coefficient	Equivalent number of minutes
2.5 <i>Lease of a telephone-type circuit all uses:</i>		
2.5.1 <i>point-to-point</i>	0.833	7500
or		
2.5.2 forming part of an international private leased network, leased to a single customer and used exclusively by him .	0.833	7500
or		
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 establishment of a number of telecommunication chan- nels exclusively for the customer, the necessary sub-divi- sion 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 telephone-type circuit		
3. <i>Charging for leased telephone-type circuits — special quality (Recommendation M.1020)</i>		

For the leasing of a special quality telephone-type circuit, in accordance with 3. of Recommendation M.1020, 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.

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 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. of this Recommendation 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) 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.

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.303 R and E.330.

1.2 The provisions of Recommendation E.330 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.10

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

Preamble

This Recommendation sets out the general principles and conditions applicable by Administrations to data transmission service over 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 directions that may be taken, and flexibility is 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 transmission⁸⁾ service is a data transmission service established and operated by a telecommunication Administration by means of a public data network.

1.2 Tariffs developed for 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 rate 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 configurations of countries;
- not impart undue advantage or disadvantage to any category of users;
- be such as to encourage the usage 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.

1.3 For the new public data transmission services, each Administration shall, 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 normally consists of two components, one independent of the volume of information transmitted and the other a volume-based-utilization component.

2.2 The first component is dependant on user class of service and facilities, and other factors identified by individual Administrations. Services can be grouped by user classes of service and facilities according to Recommendations X.1 and X.2.

2.3 The utilization component relates to network use and depends on the actual transmission over the network. It is recommended that the unit of measurement for the utilization charge be a unit of volume of information.

Generally, the unit for measuring the volume of information transmitted should be either the bit, or one of its multiples, such as the octet, the character, the packet or the message.

In the case of circuit switching, it is recommended that the measurement be based on the call duration, the unit being the second⁹⁾ or fraction of a second.

In the case of interworking between services or networks of different types, charges incurred on each portion should be taken into account. In addition, in such cases an appropriate charge for interworking may be included to arrive at the total utilization charge.

⁸⁾ For the purposes of this Recommendation, *transmission* includes the line transmission, switching and all control functions which do not change the information content of the message.

⁹⁾ The relationship between the second and the bit could be the maximum number of bits capable of being transmitted in one second by a user in a given category of specified characteristics.

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

- user class of service (Recommendation X.1),
- user facilities (Recommendation X.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.

2.5 Normally only the utilization component is considered for international accounts.

PART II

Series D Recommendations (D.200 R to D.401 R)

REGIONAL APPLICATION

NOTE

The geographical scope of the Recommendations of this Section 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.

SECTION 1

RECOMMENDATIONS APPLICABLE TO THE AFRICAN REGION

Recommendation D.200 R

DETERMINATION OF ACCOUNTING RATE QUOTAS 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 quotas 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 quotas and accounting rates, the provisions of Division II (Determination of accounting rate) of this Recommendation;
- for fixing the collection charges, the provisions contained in Division III 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 Division IV of this Recommendation;
- for fixing tariffs for frontier relations, the provisions contained in Division V of the Recommendation.

An explanation of some of the terms used in the Recommendation is given in Division I below.

DIVISION I

Explanation of some of the terms used in this Recommendation

1. (telephone) relation

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

2. country (or Administration) of origin

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

3. country (or Administration) of destination

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

4. **terminal country (or Administration)**

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

5. **transit countries (or Administrations)**

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

5.2 **direct transit country**

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.

5.3 **switched transit country**

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

6. **international circuit**

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

7. **national extension**

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

8. **accounting rate (in gold francs)**

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.

9. **accounting rate quota (in gold francs)**

The accounting rate quota 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 quota is fixed by agreement among the Administrations.

10. **collection charge**

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.

DIVISION II

Determination of accounting rate in telephone relations between countries in Africa

1. *General*

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 quota 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.

1.2 In special cases where the *line* (transmission) part of an international connection is:

- a tropospheric scatter link,
- an HF radio link, or
- a satellite link,

the provisions of this Recommendation with regard to the determination of an accounting rate quota in relation to the length of the international circuit are not applicable, and accounting rate quotas should be agreed upon between the Administrations concerned.

2. *Charging zones*

For calculating accounting rate quotas, 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.

3. *Calculation of distance (line part)*

3.1 *Distances to be taken into consideration*

3.1.1 *General case*

3.1.1.1 In determining the quota 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.*

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.

3.1.2 *Special cases*

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.

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 follow:

- 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.

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.

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 quota 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 and supergroups.

3.3 *Rounding off distances*

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.

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.

3.3.3 When distances are weighted in accordance with the provisions of 3.2 above, the rounding shall be applied only after the weighted distance has been calculated.

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 quota 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 borne solely by the Administration of the country of origin and no deduction shall be made from the remuneration due to the transit countries.

4. *Standard rates to be applied for international accounting*¹⁾

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.

4.1 *Remuneration on the basis of traffic units*

To determine the accounting rate quotas due to each country, the following rates, *per minute of conversation time*, are recommended:

4.1.1 *International network*

4.1.1.1 *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

4.1.1.2 *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) 8.6 gold centimes
- for the semi-automatic 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 quota includes the cost of the transmission equipment for one extremity in terminal operation and for two extremities in transit operation.

4.1.2 *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 E.250 and the present Recommendation.

4.2 Remuneration on the basis of a flat-rate price for the facilities made available

4.2.1 Remuneration of a direct transit country

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.

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 4.2.1.1 above.

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:

4.2.2.1 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

4.2.2.2 For the international exchange (including the terminal transmission equipment)

- per year and per international circuit connected

<i>Manual operation</i>	<i>Automatic operation</i>
$0.47^a \times 30\,000^b$ = 14 100 gold francs	$0.15^a \times 35\,000^c$ = 5 250 gold francs

4.2.2.3 For the national extension

- per year and per international circuit connected

<i>Manual operation</i>	<i>Automatic operation</i>
$PN^d \times 30\,000^b$	$PN^d \times 35\,000^c$

^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 semi-automatic or automatic international telephone circuit.

^d PN represents the amount, per minute of conversation time, of the quota to be fixed by each Administration for the extension of the connection on national territory.

4.2.2.4 The remuneration for terminal transmission equipment has been included in the above rates (4.2.2.2) based on annual costs per extremity of:

— supergroup	7400 gold francs
— group	3500 gold francs
— circuits	1100 gold francs

4.3 All the amounts given in Division II above are reproduced in the three tables in Annexes 1, 2 and 3.

DIVISION III

Determination of collection charges in telephone relations between countries in Africa**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.

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 quotas which can be weighted appropriately to make allowances for a zonal structure. Similarly, the fixing of zones for accounting rate quotas (Division II, 2. above) does not imply any requirement for fixing zones for collection charges.

3. Determination of collection charges

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 1. and 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.

3.2 In considering the collection charges for a relation in which automatic and semi-automatic 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. *Examples of how to apply the standard rates mentioned in Division II 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.

4.1 *International manual telephone operation*

Distance steps ^a	Accounting rates			Collection charges			Factor K
	Quota independent of distance (in gold francs)	Quota based on distance ^a (in gold francs)	Total (in gold francs)	Quota independent of distance (in gold francs)	Quota 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 quota based on distance, the maximum distance in each step was taken.

^b This quota 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	

4.2 *International semi-automatic telephone operation*

Distance steps ^a	Accounting rates			Collection charges			Factor K
	Quota independent of distance (in gold francs)	Quota based on distance ^a (in gold francs)	Total (in gold francs)	Quota independent of distance (in gold francs)	Quota 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 quota based on distance, the maximum distance in each step was taken.

^b This quota 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	

DIVISION IV

**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 4 to this Recommendation.

DIVISION V

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 1
(to Recommendation D.200 R)

**Standard rates to be applied in Africa
in determining accounting rate quotas in the telephone service
(traffic unit basis)**

A – Accounting rate quotas applicable in *terminal countries* per *minute* of conversation time

Direction of operation	Manual operation		Semi-automatic 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 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 quotas 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 semi-automatic exchange.

ANNEX 2
(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	90000 ^a
Group	30000 ^a
Telephone circuit	3000 ^a

^a Including, wherever applicable, use of modulation and demodulation equipments or throughband filters in the direct transit country.

ANNEX 3
(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 semi-automatic number or automatic international telephone circuit.

^d PN represents the amount, per minute of conversation time, of the quota to be fixed by each Administration for the extension of the connection on national territory.

ANNEX 4
(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**

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 HF 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.

2. *Remuneration for facilities*

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 E.250, on either of the following:

- the accounting revenue division procedure, or
- the traffic unit price procedure.

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.

2.1.2 *Traffic unit price procedure*

When the traffic unit price procedure is used, the accounting rate quotas might initially be fixed as follows:

2.1.2.1 *Satellite circuits*

Quota per minute: 2.30 gold francs.

This quota covers only the path between the satellite and the international exchange (excluding that exchange). The quotas for the international exchange and for the national extension, as laid down in Division II above, should therefore be added.

The quota 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.

2.1.2.2 *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.

2.2 *Transit circuits*

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.

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 quotas to be considered are those shown in the present Annex and in the Recommendation itself.

Recommendation D.201 R**DETERMINATION OF ACCOUNTING RATE QUOTAS 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 quotas 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 quotas and accounting rates the provisions of Division II (Determination of accounting rates) of this Recommendation;
- for fixing the collection charges, the provisions contained in Division III 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 Division IV of this Recommendation.

An explanation of some of the terms used in this Recommendation is given in Division I of Recommendation D.200 R.

DIVISION I**Explanation of some of the terms used in this Recommendation**

(see Division I of Recommendation D.200 R)

DIVISION II**Determination of accounting rates in telex relations between countries in Africa****1. General**

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 quota 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.

1.2 In special cases where the *line* (transmission) part of an international connection is:

- a tropospheric scatter link,
- an HF radio link, or
- a satellite link

the provisions of this Recommendation with regard to the determination of an accounting rate quota in relation to the length of the international circuit are not applicable and accounting rate quotas should be agreed upon between the Administrations concerned.

2. *Calculation of distances (line part)*

2.1 *Distances to be taken into consideration*

2.1.1 *General case*

In determining the quota 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.

2.1.2 *Special cases*

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.

2.1.2.2 *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 distances will be divided appropriately (normally 50/50) between the countries at the extremities of the cable.

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 *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 quotas relating to the international section and it would remain in force as long as the structure of the network was not significantly changed.

2.3 *Rounding off distances*

2.3.1 In determining the accounting rate quotas, the distances measured as indicated above shall be rounded up to 50 km or to the *next highest* multiple of 50 km.

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.

2.3.3 When distances are weighted in accordance with the provisions of 2.2 above, the rounding shall be applied only after the weighted distance has been calculated.

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 quota 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.

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.

3.1 *Remuneration on the basis of traffic units*

To determine the accounting rate quotas for each country, the following standard rates, *per minute of telex call*, are recommended:

3.1.1 *International network*

3.1.1.1 *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 quota includes the cost of the transmission equipment for one extremity in terminal operation and for two extremities in transit operation.

3.1.1.2 *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)	1.5	gold centimes ^a
— for the semi-automatic 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 quota includes the cost of the transmission equipment for one extremity in terminal operation and for two extremities in transit operation.

3.1.2 *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.

3.2 *Remuneration on a basis of flat-rate price for the facilities made available*

3.2.1 *Remuneration of a direct transit country*

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.

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 3.2.1.1 above.

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:

3.2.2.1 *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

3.2.2.2 *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.

3.2.2.3 *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 quota to be fixed by each Administration for the extension of the connection on national territory.

3.3 All the amounts contained in Division II above are reproduced in the three tables in Annexes 1, 2 and 3.

DIVISION III

Determination of collection charges in telex relations between countries in Africa

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.

2. *Determination of collection charges*

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 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 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 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.

2.2 In considering the collection charges for a relation in which automatic and semi-automatic 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. *Examples for the application of the standard rates mentioned in Division II above for fixing the collection charges in gold francs*

The purpose of the following tables is to give examples to show how the standard rates are applied in calculating accounting rates and to show how these accounting rates can be used to establish collection charge scales (in gold francs) for the African region.

These scales are based on the principle of establishing a progressive tariff system based on distance and they therefore have grades of charges corresponding to distance stages of 1000 km.

To avoid too great a difference between collection charges and accounting rates for short distances (for example in relations between neighbouring countries), a factor K a little above 1 has been applied, whereas for relatively longer distances a higher factor K would seem appropriate.

3.1 *International telex operating (manual)*

Distance stages ^a	Accounting rates			Collection charges			Coefficient K
	Quota independent of distance (in gold francs)	Quota as a function of distance ^a (in gold francs)	Total (in gold francs)	Quota independent of distance (in gold francs)	Quota 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 quota as a function of the distance, the maximum distance of each stage has been assumed.

^b This quota 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	

3.2 *International telex operation (semi-automatic)*

Distance stages ^a	Accounting rates			Collection charges			Coefficient K
	Quota independent of distance (in gold francs)	Quota as a function of distance ^a (in gold francs)	Total (in gold francs)	Quota independent of distance (in gold francs)	Quota 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 quota as a function of the distance, the maximum distance of each stage has been assumed.

^b This quota 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	

DIVISION IV

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 4 to this Recommendation.

ANNEX 1
(to Recommendation D.201 R)

**Standard rates to be applied in Africa
in determining accounting rate quotas in the telex service
(traffic unit basis)**

A – Accounting rate quotas applicable in *terminal countries* per minute of telex call

Direction of operation	Manual operation		Semi-automatic 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 quotas 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 semi-automatic 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 the translating equipment used to connect them.

ANNEX 2
(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	3000 ^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, 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 3
(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	$0.75 \times 20000^a = 15000$ gold francs ^b	$0.15 \times 20000^a = 3000$ gold francs ^b	$PN^c \times 20000^a$	$PN^c \times 20000^a$
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 quota to be fixed by each Administration for the extension of the connection on national territory.

ANNEX 4
(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**

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.

2. *Remuneration for the facilities*

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 E.250:

- accounting revenue division procedure,
- traffic unit price procedure.

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.

2.1.2 *Traffic unit price procedure*

When the traffic unit price procedure is used, the accounting rate quotas may be fixed as follows in the initial stage:

2.1.2.1 *Satellite link*

Quota per minute: 40 gold centimes.

This quota covers only the path between the satellite and the international exchange (excluding that exchange). To this quota should be added the quotas relating to the international exchange and to the national extension as determined in Division II of this Recommendation.

The quota 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.

2.1.2.2 *Radiotelegraph channel*

Quota per minute: 1 gold franc.

This quota covers only the terminal station (including the terminal equipment of a protected circuit). The quotas for the international exchange and the national extension which are specified in Division II of this Recommendation should therefore be added to this quota.

The quota 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.

2.2 *Transit links*

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 Division II, 3.2.1.1 are applied.

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 quotas 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 QUOTAS 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 quotas 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 quotas and accounting rates, the provisions of Division II (Determination of accounting rates) of this Recommendation;
- for fixing the collection charges, the provisions contained in Division III of this Recommendation;
- for fixing tariffs for frontier relations, the provisions contained in Division IV of this Recommendation;

An explanation of some of the terms used in the Recommendation is given in Division I of Recommendation D.200 R.

DIVISION I

Explanation of some of the terms used in this Recommendation

(See Division I of Recommendation D.200 R)

DIVISION II

Determination of accounting rate in telephone relations between countries in Europe and the Mediterranean Basin

1. *General*

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 quota 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;

¹⁾ i.e. the countries not belonging to Europe but bordering the Mediterranean Sea.

- 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.

1.2 In special cases where the *line* (transmission) part of an international connection is:

- a tropospheric scatter link,
- an HF radio link, or
- a satellite link,

the provisions of this Recommendation with regard to the determination of an accounting rate quota in relation to the length of the international circuit are not applicable and accounting rate quotas should be agreed upon between the Administrations concerned.

2. *Charging zones*

For calculating accounting rate quotas, 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.

3. *Calculation of distances (line part)*

3.1 *Distances to be taken into consideration*

3.1.1 *General case*

3.1.1.1 In determining the quota 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.

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.

3.1.2 *Special cases*

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.

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.

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 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.

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 quota 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.

3.3 *Rounding off distances*

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.

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.

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.

3.3.4 When distances are weighted in accordance with the provisions of 3.2 above, the rounding shall be applied only after the weighted distance has been calculated.

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 quota 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.

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.

4.1 *Remuneration on the basis of traffic units*

To determine the accounting rate quotas due to each country, the following standard rates, *per minute of conversation time*, are recommended:

4.1.1 *International network*

4.1.1.1 *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

4.1.1.2 *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) 3 gold centimes ^a
- for the semi-automatic 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 or destination 20 gold centimes ^b
- for the semi-automatic or automatic 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 quota includes the cost of the transmission equipments for one extremity in terminal operation and for two extremities in transit operation.

4.1.2 *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 20 gold centimes per minute ³⁾. This amount is considered

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, 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 E.250 and the present Recommendation.

³⁾ The Administrations of the Federal Republic of Germany and Austria reserve the right to apply a quota in excess of 20 gold centimes per minute, for the national extension.

as covering the costs of switching and accounting operations and normally the costs of transmission on the national extension (these transmission costs being, for most European countries, relatively small).

However, for countries in which, taking into account the distribution of traffic, the average length of the national extension is significant, the above amount may be increased. In determining the amount of the increase, the Administration concerned should apply the agreed rates (3 gold centimes per minute) for the transmission element (100 km), bearing in mind that the amount of 20 gold centimes already covers some transmission costs.

4.2 *Remuneration on the basis of a flat-rate price for the facilities made available*

4.2.1 *Remuneration of a direct transit country*

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.

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 rate in 4.2.1.1 above.

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:

4.2.2.1 *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.

4.2.2.2 *For the international exchange (including the terminal transmission equipment)*

— per year and per international circuit connected:

Manual operation

$$1.00^a \times 35\,000^b \\ = 35\,000 \text{ gold francs}$$

Automatic operation

$$0.12^a \times 55\,000^c \\ = 6\,600 \text{ gold francs}$$

4.2.2.3 *For the national extension*

- per year and per international circuit connected:

Manual operation

$$PN^d \times 35\,000^b$$

Automatic operation

$$PN^d \times 55\,000^c$$

^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 semi-automatic or automatic international telephone circuit.

^d PN represents the amount, per minute of conversation time, of the quota to be fixed by each Administration for the extension of the connection on national territory.

4.2.2.4 The remuneration for terminal transmission equipment has been included in the above rates (4.2.2.2 above) 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.

4.3 All the amounts given in Division II above are reproduced in the three tables in Annexes 1, 2 and 3.

5. *Remuneration for facilities made available for the extension of intercontinental circuits*

In principle the rates mentioned in Division II above apply also to the remuneration of facilities made available for the extension of intercontinental cable or satellite circuits.

DIVISION III

**Determination of collection charges in telephone relations
between countries in Europe and the Mediterranean Basin**

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.

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 quotas which can be weighted appropriately to make allowances for a zonal structure. Similarly, the fixing of zones for accounting rate quotas (2. of Division II above) does not imply any requirement for fixing zones for collection charges.

3. *Determination of collection charges*

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 1. and 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.

3.2 In considering the collection charges for a relation in which automatic and semi-automatic 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.

DIVISION IV

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 1
(to Recommendation D.300 R)

**Standard rates to be applied in Europe and the Mediterranean Basin
in determining accounting rate quotas in the telephone service
(traffic unit basis)**

A — Accounting rate quotas applicable in *terminal countries* per *minute* of conversation time

Direction of operation	Manual operation		Semi-automatic 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 quotas 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 semi-automatic exchange.

ANNEX 2
(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 3
(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 semi-automatic or automatic international telephone circuit.

^e PN represents the amount, per minute of conversation time, of the quota 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 QUOTAS AND COLLECTION CHARGES
IN TELEX RELATIONS BETWEEN COUNTRIES
IN EUROPE AND THE MEDITERRANEAN BASIN ⁴⁾**

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 quotas 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 quotas and accounting rates the provisions of Division II (Determination of accounting rates) of this Recommendation;
- for fixing the collection charges, the provisions contained in Division III of this Recommendation.

An explanation of some of the terms used in this Recommendation is given in Division I of Recommendation D.200 R.

⁴⁾ Countries in the Mediterranean Basin are countries not belonging to Europe but bordering the Mediterranean Sea.

DIVISION I

Explanation of some of the terms used in this Recommendation

(see Division I of Recommendation D.200 R)

DIVISION II

Determination of accounting rates in telex relations between countries in Europe and the Mediterranean Basin

1. *General*

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 quota 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.

1.2 In special cases where the *line* (transmission) part of an international connection is:

- a tropospheric scatter link,
- an HF radio link, or
- a satellite link

the provisions of this Recommendation with regard to the determination of an accounting rate quota in relation to the length of the international circuit are not applicable and accounting rate quotas should be agreed upon between the Administrations concerned.

2. *Calculation of distances (line part)*2.1 *Distances to be taken into consideration*2.1.1 *General case*

In determining the quota 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.

2.1.2 *Special cases*

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.

2.1.2.2 *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 distances will be divided appropriately (normally 50/50) between the countries at the extremities of the cable.

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 *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 quotas 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 quotas for international telex circuits.

2.3 *Rounding off distances*

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.

2.3.2 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 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.

2.3.4 When distances are weighted in accordance with the provisions of 2.2 above, the rounding shall be applied only after the weighted distance has been calculated.

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 quota 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.

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.

3.1 *Remuneration on the basis of traffic units*

To determine the accounting rate quotas for each country, the following standard rates, *per minute of telex call*, are recommended:

3.1.1 *International network*

3.1.1.1 *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 centime ^{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

3.1.1.2 *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 centime ^{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 or destination 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 12 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 quota includes the cost of the transmission equipment for one extremity in terminal operation and for two extremities in transit operation.

3.1.2 *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 20 gold centimes per minute⁵⁾. 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.

3.2 *Remuneration on a basis of flat-rate price for the facilities made available*

3.2.1 *Remuneration of a direct transit country*

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.

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 3.2.1.1 above.

⁵⁾ The Administrations of the Federal Republic of Germany and Austria reserve the right to apply a quota in excess of 20 gold centimes per minute, for the national extension.

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:

3.2.2.1 *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

3.2.2.2 *For the international exchange (including terminal transmission equipment)*

- per year and per 50 bauds international circuit connected:

<i>Manual operation</i>	<i>Automatic operation</i>
$1.50^b \times 25\,000^c$	$0.09^b \times 40\,000^d$
= 37 500 gold francs	= 3 600 gold francs

3.2.2.3 *For the national extension*

- per year and per 50 bauds international circuit connected:

<i>Manual operation</i>	<i>Automatic operation</i>
$PN^e \times 25\,000^c$	$PN^e \times 40\,000^d$

^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 quota to be fixed by each Administration for the extension of calls on national territory.

3.2.2.4 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 3.2.2.2 above takes into account an amount of 1000 gold francs relating to 50-baud terminal equipment.

3.3 All the amounts contained in Division II above are reproduced in the three tables in Annexes 1, 2 and 3.

4. *Remuneration for facilities made available for the extension of intercontinental circuits*

In principle the rates mentioned in Division II above apply also to the remuneration of facilities made available for the extension of intercontinental cable or satellite circuits.

DIVISION III

Determination of collection charges in telex relations between countries in Europe and the Mediterranean Basin**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.

2. Determination of collection charges

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 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 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.

2.2 In considering the collection charges for a relation in which automatic and semi-automatic 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 1
(to Recommendation D.301 R)

**Standard rates to be applied in Europe and the Mediterranean Basin in determining
accounting-rate quotas in the telex service
(traffic unit basis)**

A — Accounting rate quotas applicable in *terminal countries* per *minute* of telex call

Direction of operation	Manual operation		Semi-automatic 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
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 quotas 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 semi-automatic 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 2
(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 3
(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 semi-automatic or automatic international telex circuit.

^d PN represents the amount, per minute of telex call, of the quota to be fixed by each Administration for the extension of the connection on national territory.

Recommendation D.302 R

**DETERMINATION OF THE ACCOUNTING-RATE QUOTAS AND COLLECTION
CHARGES FOR THE INTERNATIONAL PUBLIC TELEGRAM SERVICE APPLICABLE
TO TELEGRAMS EXCHANGED BETWEEN COUNTRIES IN EUROPE
AND THE MEDITERRANEAN BASIN ⁶⁾**

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 quotas 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 quotas and accounting rates, the provisions of Division II of this Recommendation;
- for fixing the collection charges, the provisions contained in Division III of this Recommendation.

Division IV 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 Division I below.

DIVISION I

Explanation of some of the terms used in this Recommendation1. **relation (international public telegram service)**

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

2. **country (or Administration) of origin**

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

3. **country (or Administration) of destination**

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

4. **terminal country (or Administration)**

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

5. **binary tariff system**

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 telegrams and the cost of using the telegraph network (charge per word).

⁶⁾ i.e. the countries not belonging to Europe but bordering the Mediterranean Sea.

6. **accounting rate (in gold francs)**

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, both rates being agreed between Administrations in a given relation and being used for the establishment of international accounts.

7. **accounting-rate quota (in gold francs)**

The accounting-rate quota is that part of the accounting rate corresponding to the facilities made available in each country; this quota is fixed by agreement among the Administrations.

8. **terminal quota**

The terminal quota is that part of the accounting rate which is due to a terminal country.

9. **transit quota**

The transit quota is that part of the accounting rate which is due to a country through which traffic is routed between two terminal countries.

10. **collection charge**

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.

DIVISION II

Determination of accounting rate quotas 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.

1. ***Standard rates to be applied for international accounting***

The accounting-rate quotas 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.

1.1 *Accounting-rate quotas determined by the per word tariff system*

1.1.1 *Terminal quotas*

For ordinary private telegrams without any special service, the terminal quota per word per terminal country is fixed as follows:

- 0.36 gold franc from 1 January 1977 ⁷⁾
- 0.48 gold franc from 1 January 1981 ⁷⁾

1.1.2 *Transit quotas*

For ordinary private telegrams without any special service, the recommended transit quota per word, per country, is:

- | | |
|---|------------------|
| — direct transit | 0.003 gold franc |
| — transit via a gentex transit centre | 0.018 gold franc |
| — manual transit | 0.30 gold franc |
| — transit via a telegram retransmission centre (automatic retransmission of messages) ⁸⁾ | |

These quotas are not cumulative; they are based on an average length of 1000 km for the international transit circuits.

1.2 *Accounting-rate quotas determined by the binary tariff system* ⁹⁾

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:

1.2.2 *Terminal quotas*

The quotas due to each terminal country for ordinary private telegrams without any special service.

- | | As from 1.1.77 | As from 1.1.81 |
|--|------------------|------------------|
| — fixed rate per telegram | 4.50 gold francs | 6.00 gold francs |
| — rate per word
(see footnote ⁷⁾ to 1.1.1 above) | 0.18 gold franc | 0.24 gold franc |

These quotas were established on the assumption of an average number of 25 words per telegram.

⁷⁾ The Administration of the U.S.S.R. has decided to apply a terminal quota per word of 0.48 gold franc from 1 January 1977. The quota to be applied from 1 January 1981 will be determined later.

⁸⁾ Not fixed for lack of data.

⁹⁾ It is pointed out that application of a binary tariff system normally should entail in the relation concerned, if necessary by bilateral arrangements:

- discontinuance of a minimum charge per telegram;
- discontinuance of letter telegrams and press telegrams;
- discontinuance of reduced charges for all telegrams except those concerning persons protected in time of war by the Geneva Convention of 12 August 1949 (RCT).

1.2.3 *Transit quotas*

Transit quotas are determined in accordance with the provisions of 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 1. above.

2. *Special provisions concerning transit quotas*

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 quotas referred to in 1.1.2 above are not applied.

2.2 An additional transit quota may be charged by countries owning submarine cable circuits used for routing telegrams.

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 quota to each of the countries renting the circuits¹⁰⁾.

3. *Accounting rate*

Because transit quotas 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 quotas of the two terminal countries should be applied to telegrams exchanged between those countries. The quotas payable to the transit countries, if any, are deducted from the quota of the country of origin.

DIVISION III

Determination of collection charges applicable to telegrams exchanged between countries in Europe and the Mediterranean Basin

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.

2. *Determination of collection charges*

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 1.1.1 and 1.2.2 of

¹⁰⁾ The French Telecommunications Administration and the United Kingdom Post Office indicated that they were unable to apply this provision.

Division II 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.

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 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.

DIVISION IV

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 and the CCITT Recommendations, the following rules shall be taken into consideration when fixing accounting rate quotas 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.

Recommendation D.303 R

DETERMINATION OF ACCOUNTING RATE QUOTAS AND COLLECTION CHARGES APPLICABLE TO OCCASIONAL SOUND- AND TELEVISION-PROGRAMME TRANSMISSIONS BETWEEN COUNTRIES IN EUROPE AND THE MEDITERRANEAN BASIN ¹¹⁾

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 quotas and 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 E.330;
- for the determination of accounting rate quotas, the provisions of Division I of the present Recommendation;
- for fixing the collection charges, the provisions contained in Division II of the present Recommendation.

An explanation of some of the terms used in this Recommendation is given in Recommendation E.330.

¹¹⁾ i.e., the countries not belonging to Europe but bordering the Mediterranean Sea.

DIVISION I

**Determination of accounting rate quotas to be applied to
sound- and television-programme transmissions between countries
in Europe and the Mediterranean Basin**

1. General

1.1 The accounting rate 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.

1.2 In special cases where the *line* (transmission) part of an international connection is:

- a tropospheric scatter link,
- an HF radio link, or
- a satellite link

the provisions of this Recommendation with regard to the determination of an accounting rate quota in relation to the length of the international circuit are not applicable and accounting rate quotas should be agreed upon between the Administrations concerned.

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.

2. Calculation of distances (line part)**2.1 Sound-programme transmissions**

In determining the accounting rate quota 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) ¹²⁾

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.

¹²⁾ In some countries the distance is measured to the studio and not to the ISPC.

2.2 *Television-programme transmissions*

In determining the accounting rate quota 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)¹³⁾ 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.

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.

3.1 *Sound-programme transmissions*

To determine the accounting rate quotas due to each country, the following standard rates are recommended:

3.1.1 *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

3.1.2 *Rate for terminal equipment in a terminal country, per minute:*

— transmission over 10 kHz circuits	1 gold franc
— transmission over narrow-band (telephone-type) circuits	telephone rate ¹⁴⁾
— stereophonic transmission	2 gold francs

3.1.3 *Rate for interconnection equipment in a transit country, per minute¹⁵⁾*

— transmission over 10 kHz or 15 kHz circuits	1.60 gold francs
— transmission over narrow-band (telephone-type) circuits	telephone rate ¹⁴⁾
— stereophonic transmission	3.20 gold francs

3.1.4 *Rate per 100 km of international circuit per minute of transmission*

— for 10 kHz or 15 kHz circuits	0.30 gold franc
— for narrow-band (telephone-type) circuits	telephone rate ¹⁴⁾
— for a stereophonic pair	0.70 gold franc

¹³⁾ In some countries the distance is measured to the studio and not to the ITPC.

¹⁴⁾ The charges given in 3.1.2, 3.1.3 and 3.1.4 are combined to form a single rate equivalent to the telephone rate of the relation considered.

¹⁵⁾ Usually only one interconnecting point is remunerated per transit country.

3.1.5 *Fixed rate per transmission to be added to the telephone rate 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 rate is levied in addition to the fixed rate mentioned in 3.1.1 above.

3.1.6 *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.

Notes

- a) The minimum chargeable duration for sound-programme transmissions is three minutes.
- b) When a narrow-band (telephone-type) circuit is provided with a 4-wire terminal and is used for any purpose, the fixed rate per transmission given in 3.1.5 above is 40 gold francs.
- c) 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.
- d) 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 2.

3.2 *Television-programme transmissions*

To determine the accounting rate quotas due to each country, the following standard rates are recommended:

3.2.1 *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 |

3.2.2 *Rate for terminal equipment in a terminal country, per minute* 7 gold francs

3.2.3 *Rate for interconnection equipment and operation in a transit country, per minute¹⁵⁾* 12 gold francs

3.2.4 *Rate per 100 km of international circuit per minute of transmission* 12 gold francs

3.2.5 *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 3.1.5 above.

Notes

- a) The minimum chargeable duration for television-programme transmissions is three minutes.
- b) 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 ¹⁶⁾
 - for a standards converter 50 gold francs ¹⁶⁾
- c) When a television-programme circuit is used with a *sound-in-sync* (SIS) facility, the conditions of 3.1, Note d) above apply.
- d) 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 2.

All values mentioned in Division I above are shown in the table in Annex 1.

DIVISION II

**Determination of collection charges for sound- and
television-programme transmissions between countries
in Europe and the Mediterranean Basin**

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.

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 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. 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.

¹⁶⁾ Application of this rate is left to the discretion of each Administration.

ANNEX 1
(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 approx- imately 10 kHz	Estab- lished on a television channel sub- carrier	Very wide- band at approx- imately 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 rate 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 given in 2), 3) and 4) refer to the automatic or semi-automatic telephone service.

^b Usually only one interconnecting point is remunerated per transit country.

^c This fixed rate 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

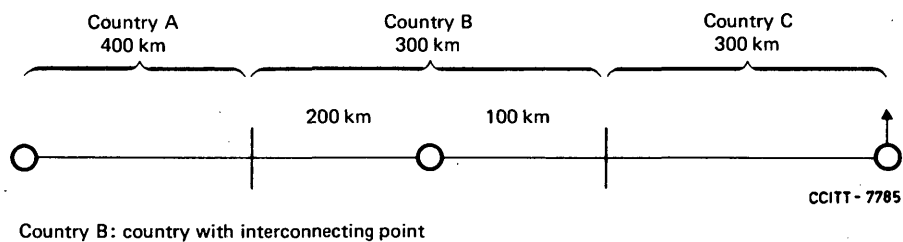
^a Application of this rate is left to the discretion of each Administration.

ANNEX 2
(to Recommendation D.303 R)

**Examples of charges for occasional sound- and
television-programme transmissions**

A. Sound-programme transmissions

Example 1 – Sound-programme transmission: 20 minutes

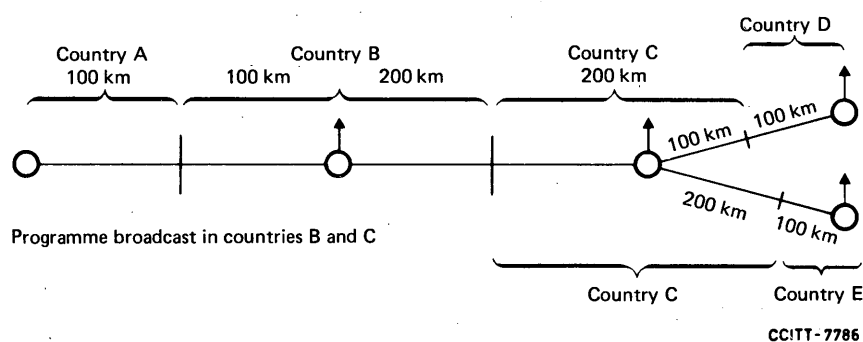


Accounting-rate quotas

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

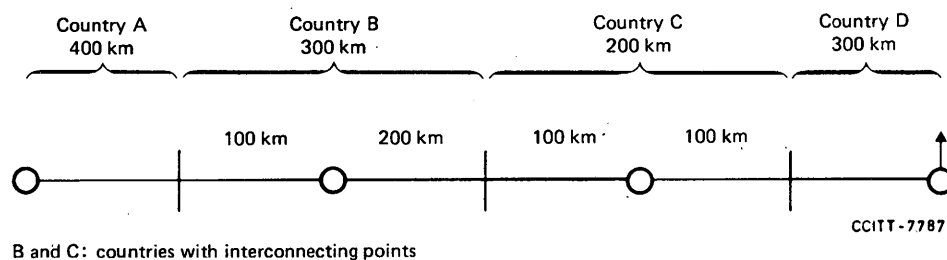
312 gold francs

Example 2 — Sound-programme transmission: 20 minutes*Accounting-rate quotas*

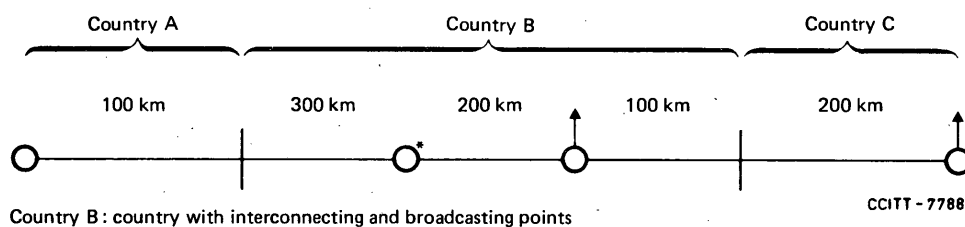
Country A	$\left\{ \begin{array}{l} 60 \\ 1.00 \times 20 \\ 0.30 \times 1 \times 20 \end{array} \right.$	86 gold francs
Country B	$\left\{ \begin{array}{l} 60 \\ 1.00 \times 20 \\ 0.30 \times 1 \times 20 \\ 60 \\ 1.00 \times 20 \\ 0.30 \times 2 \times 20 \end{array} \right.$	178 gold francs
Country C	$\left\{ \begin{array}{l} 60 \\ 1.00 \times 20 \\ 0.30 \times 2 \times 20 \\ 60 \\ 1.00 \times 20 \\ 0.30 \times 2 \times 20 \\ 60 \\ 1.00 \times 20 \\ 0.30 \times 2 \times 20 \end{array} \right.$	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. *Television-programme transmissions**Example 1* – Television-programme transmission: 30 minutes*Accounting-rate quotas*

Country A	$\left\{ \begin{array}{l} 100 \\ 7 \times 30 \\ 12 \times 4 \times 30 \end{array} \right.$	1750 gold francs
Country B	$\left\{ \begin{array}{l} 100 \\ 12 \times 30 \\ 12 \times 2 \times 30 \end{array} \right.$	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 quotas**

Country A	$\begin{cases} 100 \\ 7 \times 50 \\ 12 \times 1 \times 50 \end{cases}$	1050 gold francs
Country B	$\begin{cases} 100 \\ 7 \times 50 \\ 12 \times 5 \times 50 \\ 100 \\ 7 \times 50 \\ 12 \times 1 \times 50 \end{cases}$	4500 gold francs
Country C	$\begin{cases} 100 \\ 7 \times 50 \\ 12 \times 2 \times 50 \end{cases}$	1650 gold francs
Accounting rate		7200 gold francs

* 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.

Recommendation 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 ¹⁷⁾**

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*¹⁸⁾, as provided in Recommendation D.2, 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) sound-programme circuits at approximately 10 kHz:
 - rental equal to the monthly rental for the lease of a telephone-type circuit for *all uses*;
- b) 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*;
- c) 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.

¹⁷⁾ i.e., the countries not belonging to Europe but bordering the Mediterranean Sea.

¹⁸⁾ A definition of a telephone-type circuit for *all uses* is given in Recommendation D.2.

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 E.250 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 RATES ²⁾ 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.

²⁾ The accounting rate, as defined in CCITT Recommendation E.250, is the rate per traffic unit agreed between the Administrations 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

QUESTIONS ENTRUSTED TO STUDY GROUP III AND TO THE REGIONAL TARIFF GROUPS DEPENDING ON THEM FOR THE PERIOD 1977-1980

(For the annexes to these Questions, reference should be made
to Contribution No. 1 of the period 1977-1980 of Study Group III)

**LIST OF QUESTIONS ENTRUSTED TO STUDY GROUP III
AND TO THE REGIONAL TARIFF GROUPS DEPENDING
ON THEM FOR THE PERIOD 1977-1980**

Question No.	Short title
1/III	Amendments and additions to Recommendation D.1
2/III	Amendments and additions to Recommendation D.2
3/III	Amendments and additions to Recommendation D.3
4/III	Leased sound- and television-programme circuits
5/III	Tariff principles for leased circuit data transmission services
6/III	Tariff principles for data transmission on public networks
7/III	Tariffs in the public telegram service
8/III	Review and amendment as necessary of the accounting and associated procedures set forth in Recommendations for international telephone traffic accounting, their mode of application and processing
9/III	Revision of the Series F Recommendations relating to the telex service — provisions on charging and accounting
10/III	Revision of the Series F Recommendations relating to the telegram service — provisions on charging and accounting
11/III	Revision of the Series F Recommendations relating to the phototelegraph services — provisions on charging and accounting
12/III	Introduction of facsimile services
13/III	New services and facilities for telex and other 50-baud telegraph services
14/III	Interconnection of maritime satellite communication services with the international telex network
15/III	Review of operational and charging provisions for sound- and television-programme transmissions set forth in Recommendation E.330
16/III	Future developments in the maritime services (<i>Question to be studied by Joint Working Party SMM</i>)
17/III	Revision of draft Recommendations E.190/F.110 and E.260/F.111 (relating to the maritime mobile service) (<i>Question to be studied by Joint Working Party SMM</i>)
18/III	Fixing of basic components of tariffs for the telephone, telex and telegraph services (study to be conducted on a regional basis by the Regional Tariff Groups)
19/III	Cost study for determining the basic tariff components for: <ul style="list-style-type: none"> — sound- and television-programme transmissions — leased sound- and television-programme circuits (study to be conducted on a regional basis by the Regional Tariff Groups)

Question 1/III — Amendments and additions to Recommendation D.1 ¹⁾*(Permanent Question — continuation of Question 1/III studied in 1973-1976)**Reasons for the study*

Recommendation D.1 on international private leased telecommunication circuits will require continuing study, in the light of experience acquired by Administrations.

Study of this Question has led to the realization that there are a number of problems which require further consideration. These include:

- a) policy and the administrative and charging conditions for the provision of end-to-end or partial reserve circuits to replace faulty leased circuits;
- b) conditions for access to the public network of a private leased circuit. Study of the possibility of clarifying the conditions included in 6. of Recommendation D.1 so as to remove any ambiguity with regard to the limits within which this supplementary facility may be offered;
- c) direct connection to a foreign exchange (point studied in the period 1973-1976 as Question 6/III). When examining this point, the preliminary draft text mentioned in the Annex below should be taken into consideration. This text was drafted with a view to possible incorporation in 6. of existing Recommendation D.1;
- d) activity of data service centres (point studied in the study period 1973-1976 as Question 8/III).

ANNEX*(to Question 1/III)***Direct connection to a foreign exchange [see point c) above]****Question 2/III — Amendments and additions to Recommendation D.2 ¹⁾***(Permanent Question — continuation of Question 2/III studied in 1973-1976)**Reasons for the study*

Recommendation D.2 sets out special conditions for the lease of continental private telecommunication circuits. The revision of this Recommendation constitutes a permanent Question which is constantly evolving as a result of technical and economic developments. In particular, consideration will no doubt be given to:

- a) the degree of difference between the coefficients for telephone-type and telegraph-type circuits, taking into account:
 - 1) the relative costs of provision of the circuits;
 - 2) the dangers that might arise if certain users were to take on a common carrier role;
 - 3) marketing considerations;
- b) the difference between the coefficients for various types of use of telephone-type circuits, taking into account:
 - 1) policy and cost factors; and
 - 2) the experience of Administrations and users;

¹⁾ There is in the USA a continuing discussion of issues related to the dedicated use of customer private leased circuits, and the US delegation is pleased that this will be the subject of further study in Study Group III during this study period.

- c) the tariff implications of the progressive introduction of digital transmission techniques;
- d) the relationships that should be established between the rate structures applicable to public data transmission services and those which might be applied to international private leased telecommunication circuits. In studying this subject, care should be taken to avoid any overlapping with the study of Question 6/III.
- e) the level of the present discounts for leases of bundles of telegraph-type circuits, taking into account:
 - 1) cost factors;
 - 2) marketing factors.

Question 3/III – Amendments and additions to Recommendation D.3 ²⁾

(Permanent Question – continuation of Question 3/III studied in 1973-1976)

Reasons for the study

A continuous review of the provisions of Recommendation D.3, in the light of experience and new developments in telecommunications, is required.

Study of this Question requires that special emphasis be devoted to examination of:

- a) the proper relationship between the rates for leased telephone-type and telegraph-type circuits;
- b) the reduced rates for telegraph-type circuits operating with a transmission speed of less than the 50-baud full character rate;
- c) the discounts for leases of bundles of telegraph-type circuits;
- d) special tariff and charging principles which might be developed for:
 - 1) special quality circuits; for example, those meeting the technical specifications set out in Recommendation M.1020, and
 - 2) circuits for data transmission with a frequency bandwidth less than that of a standard telephone-type circuit;
- e) the tariff implications of the gradual introduction of digital transmission techniques;
- f) the relationships that should be established between the rate structures applicable to public data transmission services and those which might be applied to international private leased telecommunication circuits.

Note. – The artificial reduction in transmission rate when applying speed-reducing or storage devices on a telegraph-type circuit has a two-fold effect: a part of the circuit's capacity being unused and additional costs to Administrations which provide such facilities. In view of the present trend in telecommunications of transmitting the maximum quantity of data in the minimum length of time it seems timely to review the reduced speed systems. In examining this Question, however, consideration should be given to the effect any change in practice might have on customers and Administrations.

²⁾ There is in the USA a continuing discussion of issues related to the dedicated use of customer private leased circuits, and the US delegation is pleased that this will be the subject of further study in Study Group III during this study period.

Question 4/III – Leased sound- and television-programme circuits

What amendments and additions to Recommendation D.4 are necessary for the purpose of defining tariff principles governing the conditions of and the charges for the lease for private service of:

- a) international sound-programme circuits;
- b) international television-programme circuits?

Note. – The leasing of control or other circuits used by broadcasting organizations in association with leased sound- or television-programme circuits is subject to the provisions of Recommendations D.1, D.2 and D.3. If the study of this Question reveals a requirement for any specific provisions with regard to such circuits, appropriate amendments to the above-mentioned Recommendations should be made.

Question 5/III – Tariff principles for leased circuit data transmission services

What tariff principles should be established for the provision of leased circuit data transmission services?

This study will take into account the tariff principles applied to the public data transmission service (Question 6/III and Questions 2/III and 3/III).

Reasons for the study

During the study period 1973-1976, provisions concerning tariff principles for the leasing of transmission facilities for high-speed data systems using *analogue* techniques were prepared and duly incorporated in Recommendations D.2 and D.3. In respect of the data transmission facilities using *digital* techniques, however, only the guidelines for a future Recommendation were prepared. The study should therefore be continued with a view to drafting a new Recommendation covering the leasing of data systems using *digital* techniques, on the basis of the said guidelines which are given in the Annex below.

ANNEX

(to Question 5/III)

**Preliminary draft guidelines to be taken into consideration
in preparing a draft Recommendation on general tariff
principles for leasing of transmission facilities for
high-speed data systems using digital techniques**

Question 6/III – Tariff principles for data transmission on public networks

What tariff principles should be applied to public data transmission services provided on public data networks?

Should different tariff principles apply depending on the type of data transmission service utilized and the user class of service involved?

Documents to be considered for the study of Question 6/III

The study should take into account particularly the following material and works:

- a) Preliminary draft guidelines setting out the general tariff principles for leasing of transmission facilities for high-speed data systems using digital techniques;

- b) Recommendation D.10 entitled, *General tariff principles for data transmission on public networks dedicated to this type of transmission*;
- c) revised Recommendation X.1 entitled *International user classes of service in public data networks*;
- d) revised Recommendation X.2 entitled *International user facilities in public data networks*;
- e) the continuing work of Study Group XVIII, which is coordinating integrated digital network studies.

The study should also take into account the tariff principles developed for leased circuit data transmission services (Question 5/III).

In addition, during the 1973-1976 study period, the question was raised of whether a charge should be payable when a call cannot be set up because the DTE of the called party is in a *controlled not-ready condition* (for example, local mode interworking). The problem is developed in detail in the Annex below.

Note. — This Question is to be studied by Study Group III in association with Study Group VII which will be responsible, in particular, for supplying the necessary information on the technical characteristics of the networks being envisaged. To that end, it would be appropriate if both Study Group III and Study Group VII hold a joint meeting at a mutually convenient time early during the next CCITT study period to exchange views.

ANNEX

(to Question 6/III)

Charging when the DTE of the called party is in a "controlled not-ready condition"

Question 7/III — Tariffs in the public telegram service

Study of tariff systems for telegrams, including:

- a) binary tariffs where there is:
 - 1) a fixed component for acceptance and delivery operations;
 - 2) a second component in proportion to the length of telegrams;
- b) charging and accounting according to the number of printed characters;
- c) the possibility of abolishing reduced rate telegrams;
- d) the introduction of a charging and accounting system by zones.

Note. — Study of point 1. should be undertaken for the intercontinental system. Study of points 2., 3. and 4. should be undertaken for both continental and intercontinental relations.

Question 8/III — Review and amendment as necessary of the accounting and associated procedures set forth in the Recommendations for international telephone traffic accounting, their mode of application and processing

(Permanent Question)

Question 9/III — Revision of the Series F Recommendations relating to the telex service — provisions on charging and accounting

Study of possible amendments to the provisions relating to charging and accounting contained in the Series F Recommendations pertaining to the telex service.

Question 10/III — Revisions of the Series F Recommendations relating to the telegram service — provisions on charging and accounting

Study of possible amendments to the provisions relating to charging and accounting contained in the Series F Recommendations pertaining to the telegram service.

Question 11/III — Revision of the Series F Recommendations relating to phototelegraph services — provisions on charging and accounting

Study of possible amendments to the provisions relating to charging and accounting contained in the Series F Recommendations pertaining to the phototelegraph service.

Question 12/III — Introduction of facsimile services

(See also Question 11/I)

Facsimile techniques have developed to the extent that high speed/volume transmissions of graphics and alphanumerics are now practical. This has meant that the following services can be provided:

- a) document facsimile subscriber service;
- b) public document facsimile service.

Study needs to be undertaken of the following aspects of the above services:

- tariff structures,
- preparation of Recommendations as necessary.

Note. — The preliminary definitions of the services mentioned in a) and b) above are as follows:

Document facsimile subscriber service. — This service provides for the exchange of documents containing all forms of graphics (alphanumerics, cyrillics, ideographs) directly between subscribers.

Public document facsimile service. — This service provides for the exchange of documents containing all forms of graphics (alphanumerics, cyrillics, ideographs) between public offices or between a public office and a subscriber.

Question 13/III — New services and facilities for telex and other 50-baud telegraph services

[to be studied in conjunction with Study Group I (Question 12/I) and Study Group X (Question 5/X)]

What tariff provisions are necessary for proposed new services and facilities for telex and other 50-baud telegraph services?

Question 14/III — Interconnection of maritime satellite communication services and other mobile services with the international telex network

(to be studied in conjunction with Study Group X — see Question 4/X)

Considering

- a) Recommendation Mar2-19 of the World Maritime Administrative Radio Conference (Geneva, 1974);
- b) that several international organizations are considering maritime satellite communication systems for application on a worldwide basis and capable of carrying, *inter alia*, a telex service;
- c) that such a service would be required to inter-work with the international telex service and be co-related with, for example, the tariff and accounting system of the international telex service;

What new tariff and accounting Recommendations are required and what additions and/or modifications to existing Recommendations are needed to provide for inter-connection of the international maritime satellite telex service and other mobile services with the international telex service?

Question 15/III — Review of operational and charging provisions for sound- and television-programme transmissions set forth in Recommendation E.330

(Continuation of the study of Question 5/II carried out during the period 1973-1976.)

The continuing evolution and growth of sound- and television-programme transmissions between countries and continents make it necessary to keep the provisions of this Recommendation under review.

Question 16/III (16/I-9/II) — Future developments in the maritime service

(Question to be studied by Joint Working Party SMM)

Considering Resolution Mar2-22 and Resolution Mar2-23 of the WAMRC (Geneva, 1976), the effects of future developments on maritime telecommunications services should be studied, including the following specific points:

1. Single-operator working:
 - a) effects on operating procedures,
 - b) effects on accounting and charging methods.
2. Automatic operation:
 - a) effects on operating procedures,
 - b) effects on accounting and charging methods.
3. Development of specific operating, accounting and charging principles and procedures that are not yet covered by existing texts and that may be required by the maritime mobile satellite service.

In addition, the study of certain aspects of the problems raised by the operation and tariffs of the maritime mobile service, begun during the 1973-1976 period has not been completed. In this regard, extracts from the report of the final meeting of Joint Working Party SMM for this study period are given in the Annex below.

ANNEX

(to Question 16/III)

**Extracts from the Report of the Final Meeting
of Joint Working Party SMM (April 1976)**

Question 17/III (17/I-10/II) — Revision of draft Recommendations E.190/F.100 and E.260/F.111*(to be studied by Joint Working Party SMM)*

1. Improvements or adjustments to meet the special requirements of the maritime service.
2. Consideration of the studies of Study Groups I and II (and of any other Study Groups if appropriate) with a view to making allowance for new concepts examined by these Study Groups and avoiding inconsistencies in Recommendations relating to the same service.

Question 18/III — Fixing of basic components of tariffs for the telephone, telex and telegraph services (study to be conducted on a regional basis by the Regional Tariff Groups)*(Permanent Question — the permanent character of the Question does not imply, however, the obligation to begin a new study during each study period)*

Cost studies for fixing the basic components of tariffs (for international accounting purposes) in the telephone, telex and telegraph services.

The studies will be carried out on a regional basis by the regional groups set up by the IVth Plenary Assembly of the CCITT for international tariffs:

- Regional Tariff Group for Africa (TAF).
- Regional Tariff Group for Latin America (TAL).
- Regional Tariff Group for Asia and Oceania (TAS).
- Regional Tariff Group for Europe and the Mediterranean Basin (TEUREM).

For the study of this Question in the Asia/Oceania Region, account should be taken of the preliminary draft guidelines in Annexes 1 and 2 below, prepared by the TAS Group during the 1973-1976 study period with a view to fixing accounting rates applicable in telephone and telex relations between countries of Asia and Oceania.

ANNEXES 1 AND 2

(to Question 18/III)

**Preliminary draft guidelines for accounting rates applicable
in telephone and telex relations between countries of Asia and Oceania**

Question 19/III — Cost study for determining the basic tariff components for:

- a) sound-programme transmissions;
- b) television-programme transmissions;
- c) leased sound-programme circuits;
- d) leased television-programme circuits.

*(Permanent Question — the permanent character of this Question does not imply, however, the obligation to begin a new study during each study period)**(Studies to be carried out on a regional basis by the Regional Tariff Groups)*

Reasons for the Study

During the study period 1968-1972, Study Group II prepared a draft new Recommendation E.330, containing principles of operation and charging which can be applied to sound- and television-programme transmissions.

In the report of the Working Party which prepared this Recommendation, it is stated that "owing to the diversity of the charging systems in use in the various parts of the world, this general charging principle will have to be adapted to the particular tariff structures currently applied in each region". Since it was decided at the same time that the principles applied at present are outdated, certain Administrations are afraid that a gap will be created which Administrations will have to fill by means of bilateral agreements; that would give rise to additional operational difficulties.

To prevent this confusion, these Administrations consider it essential to draw up a new set of detailed principles which could be accepted by the Administrations of different regions, as in the case of the principles concerning the telephone and telex services prepared by the Regional Tariff Groups during the 1969-1972 and 1973-1976 study periods.

