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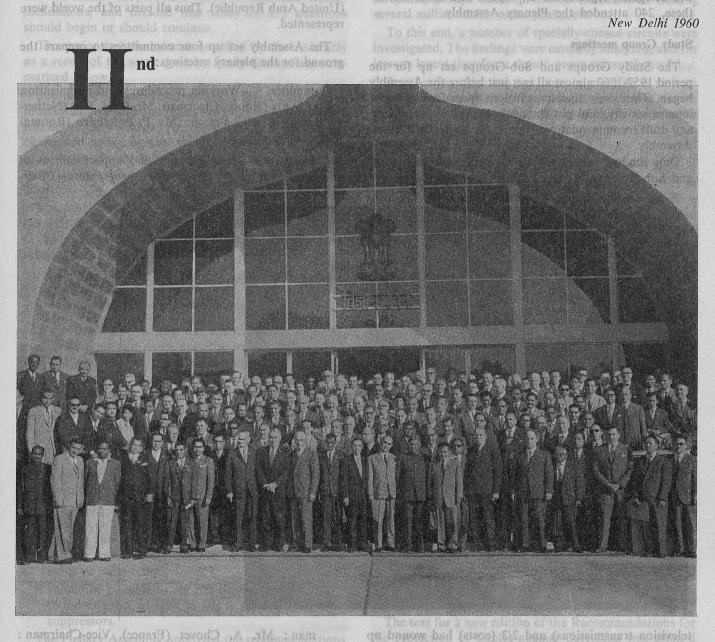
(ITU) للاتصالات الدولي الاتحاد في والمحفوظات المكتبة قسم أجراه الضوئي بالمسح تصوير نتاج (PDF) الإلكترونية النسخة هذه والمحفوظات المكتبة قسم في المتوفرة الوثائق ضمن أصلية ورقية وثيقة من نقلاً

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# man: Mr. A. Chovet (France) Avice-Chairman: Park J. P. P. S. R. Mr. A. S. R. Mr. A. Mr

THE SECOND PLENARY ASSEMBLY OF THE CCITT met in New Delhi from 8 to 16 December, 1960. It had been preceded by meetings of Study Groups and Sub-Groups from 21 November to 7 December. All meetings were held in the Vigyan Bhavan, a building specially erected some few years ago to house major conferences.

H. Langenberger/ (Switzerland) - Wice-Chairman:

The invitation so graciously extended by the Republic of India had afforded the first opportunity for convening a telegraph or telephone plenary assembly outside Europe. The event was one which coincided in very happy fashion with the truly world-wide terms of reference this Consultative Committee has acquired, it having until that time been chiefly concerned with European problems.

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### JEAN ROUVIÈRE BELLENIE THE STOW TO average (and sometimes ifixe) eAll ath

Director of the CCITT

The requeste standar smootovo villuterooms erow veilt-of frequency modulation in relegraph transmission was Fifty-four Administrations of ITU Members and Associate Members, seventeen recognized private operating agencies, and eight international organizations were represented in the Assembly. Also twelve industrial organizations were represented in the Study Group meetings.

Committee metro finish off whalfir had begun in Tokyo th

A point worthy of especial attention is that twelve countries, some of them freshly independent, were taking part in the Consultative Committee's activities for the first time.

All in all, the New Delhi meetings were attended by 342 delegates, representatives, experts and observers. Of these, 240 attended the Plenary Assembly.

#### Study Group meetings

The Study Groups and Sub-Groups set up for the period 1957-1960 almost all met just before the Assembly began. They drew their conclusions from four years of intense activity, and put the final touches to the reports and draft recommendations for submission to the Plenary Assembly.

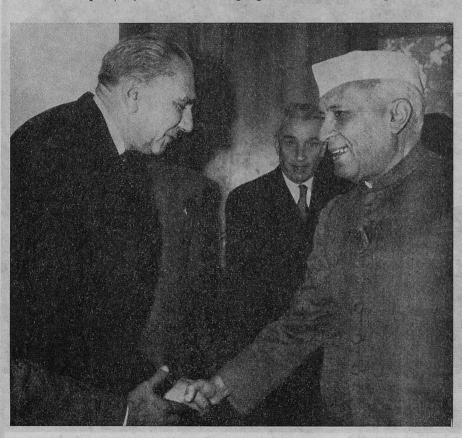
Only Study Group 12 (Telephone transmission rating) and Sub-Groups 1/4 (Use of lines for programme and

Mr. R. C. Vaish, head of the Indian Delegation, was elected Chairman. Four Vice-Chairmen were elected: Messrs. H. Sterky (Sweden), C. Núñez Arellano (Mexico), H. Baczko (People's Republic of Poland) and S. H. Raheb (United Arab Republic). Thus all parts of the world were represented.

The Assembly set up four committees to prepare the ground for the plenary meetings:

Committee A—Working procedures and organization of Study Groups. Chairman: Mr. G. H. Bast (Netherlands). Vice-Chairman: Mr. P. Postelnicu (Roumanian People's Republic).

Committee B—Consideration and apportionment of questions; Study Group work programmes. Chair-



Mr. Jawaharlal Nehru, Prime Minister of India, being greeted on his arrival at the opening meeting of the Plenary Assembly by Mr. Jean Rouvière, Director of the CCITT. The Secretary-General, Mr. Gerald C. Gross, looks on.

television transmissions) and 2/3 (costs) had wound up their work beforehand, and did not meet in New Delhi.

Furthermore, the Asia Sub-Committee of the Plan Committee met to finish off what it had begun in Tokyo in May 1959.

All in all, in thirteen working days, there were 52 days of work, i.e. four simultaneous meetings a day on the average (and sometimes five). All these simultaneous meetings gave rise to grave secretarial problems. Happily, they were successfully overcome.

# Plenary Assembly meetings

The Assembly was preceded on 7 December by a meeting of heads of delegations. It was officially opened on 8 December by Mr. Nehru, Prime Minister of India, who was accompanied by Mr. Surrabayan, Minister of Transport and Communications.

man: Mr. A. Chovet (France). Vice-Chairman: Mr. S. A. Zarin (USSR).

Committee C—Budget supervision. Chairman: Mr. A. H. Langenberger (Switzerland). Vice-Chairman: Mr. I. Lipkovic (Federal People's Republic of Yugoslavia).

Committee D—Questions of concern to the "new or developing" countries. Chairman: Mr. Gabriel Tedros (Ethiopia). Vice-Chairman: Mr. S. A. Sathar (Pakistan).

The Plenary Assembly managed to get through a very heavy agenda in no more than eight working days—a remarkable achievement, the more so in that, as will be seen further on, a good deal of important work was done. For this, the Chairman and delegates deserve congratulation.

First of all, the Assembly considered the final proposals made by the Study Groups and Sub-Groups. Few com-

ments were made on them, and almost all were adopted without change, which goes to show what a remarkable job had been done by the rapporteurs in four years. Thus, the Assembly adopted 225 new or amended recommendations, and decided that study of 212 questions should begin or should continue.

The major technical decisions taken by the Assembly as a result of the work done by Study Groups are summarized below.

Substantial progress was thus made in the standardization of international telecommunication, and the texts adopted will appear in Volumes I b), III b), III, IV, V, VI and VII of the Red book, together with studies on the protection of telecommunication lines, corrosion, the list of definitions, the network development plan, codes and abbreviations.

The other decisions taken by the Assembly represent the fruit of the work done by the four Committees, A, B, C, and D, mentioned above. They are also analyzed below.

#### **Technical results**

#### Transmission and maintenance questions

A new transmission plan was studied. The existing recommendations laid down only the equivalent for international circuits, and general limiting figures for the reference equivalent on national systems. The new plan gives detailed rules for the equivalent of international circuits and of the national trunk circuits which may be connected to them by four-wire switching, thanks to which the following objectives should be simultaneously attained:

the quality of most medium-distance telephone calls should be improved;

in very-long-distance calls (up to 15 000 miles or thereabouts), which will be available very shortly, the quality should be comparable to that at present offered by medium-distance communications by cable or radio relay;

it should be possible to cut out singing in all calls and to reduce echo, without having to use too many echo suppressors.

The Plenary Assembly approved the recommendations leading to stability in communications and to a certain reduction in echo effect. Additional investigations will be carried on between 1961 and 1964.

Detailed specifications were worked out for the 12 Mc/s system, which offers 2700 telephone channels on a coaxial pair of a kind already standardized by the CCIF. The use of this system for the simultaneous transmission of telephony and television is still under consideration. Great progress has been made in the standardization of coaxial cables of smaller diameter and in the drawing-up of specifications for transistorized equipment offering three hundred telephone channels on a pair of this kind.

Recommendations were made about balanced-paid transistorized cable carrier systems.

The apportionment of work between the CCITT and the International Electrotechnical Commission in standardization of cables was more accurately defined. A thorough investigation of transmission performance on cable circuits (European system, trans-atlantic underwater cables) was carried out, with observations of incidents, abrupt interruptions in transmission (lasting several milliseconds), noise peaks, etc.

To this end, a number of specially-chosen circuits were investigated. The findings were carefully analyzed, and the lessons learnt therefrom should prove extremely useful.

Another investigation has been begun with a view to defining an automatic transmission measurement device, so that, henceforward, it should be possible to do away with circuit testers.

#### Telephone operational and switching questions

Major advances have been made in the new field of fully-automatic international telephony. Principles have been laid down for the apportionment of charges between the Administrations concerned, and the requisite metering devices have been defined.

There has been a standardization of the national ringing and busy-flash tones, so that a subscriber in country A, hearing a tone from country B, may know beyond all manner of doubt what that sound signifies. In view of the very varied tones used by different countries and the fact that changes imply alterations in all national centres, the choice of the frequency ranges and admissible rhythms for the tones was a matter of no little difficulty.

Statistical investigations of traffic were undertaken, with a view to determining the busy period and to evolving an unambiguous definition for it. They will continue in the period from 1961 to 1964.

Lastly, the Plenary Assembly had some misgivings about the standardization of rates for the lease of circuits, be they telegraph or telephone. Study of this matter will have to be continued.

### Protection

The Plenary Assembly approved most of the texts to be included in the new edition of the Directives for the protection of telecommunication lines against the unwelcome action of power lines.

The text for a new edition of the Recommendations for the Protection of Cables against Corrosion was given a final polish. This volume will have coloured photographs showing characteristic instances of corrosion. It will be fully up-to-date, especially as regards the use of cathode protection and of cables with sheaths made of substances other than lead (aluminium, plastic materials, etc.).

# Telegraphy and data transmission

The requisite standardization for a steadily broader use of frequency modulation in telegraph transmission was defined, and the conditions governing line-of-sight radio relay in telegraphy were defined. Because of the tendency to use telegraph channels in which speeds greater than the ordinary can sometimes be used, recommendations were adopted in this matter.

Because telegraphy is making ever greater use of switching, both in telex (for subscribers) and gentex (for

the public network of Administrations), a world-wide telegraphic distortion apportionment plan had become essential. Agreement was reached on this important point.

Difficult problems arise in international signalling for switched telegraphy (automatic inter-connection of existing networks). Great progress was made here.

The use of switching on long circuits may render switching with accumulation of messages and retransmission preferable to full switching. A study of the problems thus arising internationally has begun.

As far as telegraph apparatus is concerned, the tendency now is towards the use of faster-working equipment in certain instances. To this end, agreement was reached on preliminary standardization at 75 bauds.

The question of a new international telegraph alphabet, offering a wider scope than the existing one, has given rise to numerous studies, but the technical and financial problems involved are considerable and no final solution is yet in sight.

while the tolerable rates of error in this service are much lower than in telegraphy. Nevertheless, an agreement was reached on the limit power for such signals, and the correspondence between binary numbering and twocondition codes. The state believe believe believe the state believe b

## Definitions and symbols and all the desired and an arrangement the

Detailed proposals for a thorough overhaul of the List of essential telecommunication terms were adopted by the Plenary Assembly, and the review in question will be undertaken. This will be a matter of several years. The revised List will contain terms and definitions in Spanish and Russian as well as in English and French. The terms will also be included in German, Italian, Dutch, Polish, and Swedish. sebes make temporary believes thousand a seed a seed

As an intermediate stage, a supplement will be issued to the existing (1957) edition, comprising additional definitions, or modified definitions, approved by the Assembly. As an world levode benoring at his O

Mr. Jean Rouvière, Director of the CCITT, addressing the opening meeting of the Plenary Assembly, with, on his left, Prime Minister Nehru; Mr. R. C. Vaish, Chairman of the Assembly; Mr. Surrabayan, Minister of Transport and Communications; Mr. Gerald C. Gross, Secretary-General; and Mr. D. C. Das, Joint Secretary, Ministry of Transport and Communications.



In facsimile telegraphy and phototelegraphy, once again the tendency is towards higher speeds and the introduction of switched services. Much progress has been made, thanks to the introduction of an international standard tuning pattern for tests.

International telegraphy has had to cope with the revolutionary changes introduced by switched operation. The operating procedures for the telex service and gentex network were reviewed and brought up-to-date. A closer definition was evolved for the use of page-printing receivers. Telegraphy and data transmission

With regard to rates and charges, on the other hand, there is little to say, since most of the problems were settled by the Special Assembly in 1958. A study was made of the cost of automatic telex calls. Rules for the lease of circuits are still under consideration.

For data transmission, telecommunication operating authorities are faced with new and difficult problems. Telegraph-type pulses have to be sent at very high speeds over circuits not designed for that purpose. Hence such pulses are exceedingly fragile, if the word is permissible,

The Assembly decided, too, that the Committee, in cooperation with the International Electrotechnical Commission, would draw up a list, applicable internationally, of telecommunication symbols.

# Working procedures and organization of Study Groups

In the light of the experience acquired during the Consultative Committee's four years of life, the Assembly reorganized the Study Groups and reviewed their working methods, with an eye to making them more efficient while lightening the burden shouldered by the Administrations and private operating agencies taking part in Study Group activities: no standardization and see an activities and see and see a s

The studies and investigations undertaken by my Consultative Committee concern a steadily increasing number of countries and are becoming more and more complicated, in the sense that several major branches of telecommunication (transmission, switching, operations) are simultaneously involved. It is getting ever harder to deal with these matters by correspondence. Nor can the Administrations concerned any longer be asked to arrange

for representation at all the meetings held by the Study Groups, Sub-Groups, or Working Parties dealing with the matters in question.

Hence the way in which questions are dealt with had to be subjected to a general overhaul. The Assembly decided that Sub-Groups should be done away with, leaving only Study Groups and Working Parties, for experience had shown that there was overlapping between the work done by the Study Groups and the Sub-Groups, and hence time was lost. Further more, coordination of the work of Sub-Groups by their parent Study Groups had frequently proved a matter of no little difficulty. However, the Assembly decided that there should still be regional subcommittees in the Plan Committee. This matter will be dealt with further on.

Special Study Groups were set up to handle important problems involving several different branches of telecommunication activity. These will consider such problems from every angle, but their proposals, before submission to the Plenary Assembly, will be considered by the Study Groups normally concerned, so that there may be no clash between the proposals made by the special and the ordinary Study Groups.

Besides overhauling existing bodies, the Assembly set up several new Study Groups or Working Parties to deal with the new tasks confronting the Consultative Committee. New bodies will be responsible for considering problems of world-wide interest, such as semi-automatic and automatic intercontinental operation.

Under the old set-up, there were 13 Study Groups and 10 Sub-Groups, not counting the Plan Committee. There are now 16 ordinary Study-Groups, running from I to XVI, and 3 special Committees, known as A, B, and C. There are, in addition, 3 regional Sub-Committees attached to the Plan Committee, and a temporary Committee was set up to consider problems peculiar to the Inter-American Telecommunication Network.

To mark the fact that the CCITT now has world-wide terms of reference, Chairmen and Vice-Chairmen were so chosen as to be more representative of the various parts of the world than heretofore. For the first time, citizens of the following countries were chosen as Chairmen or Vice-Chairmen of Study Groups, Sub-Committees, or Working Parties: Australia, Canada, Colombia, Ethiopia, India, Japan, Mexico, Roumanian People's Republic, Tunisia, United States, Ukrainian Soviet Socialist Republic and Venezuela.

### Work programmes for Study Groups on U and to Island

The Assembly considered the questions for study during the period 1961-1964, and apportioned them among the bodies newly set up.

Dr. Sarwate, who, before being elected Deputy Secretary-

invitation and had begun the proparations for the Plenary

It was unable to give the desirable degree of attention to the wording of certain new questions submitted at the very last minute. To avoid a recurrence of this, it decided on a procedure whereby new questions will henceforward undergo a preliminary examination, and expressed the hope that Administrations would be so good as to comply with it.

It proved impossible to draw up a detailed programme of meetings for the period 1961-1964, this task being entrusted to the Director of the CCITT, in agreement with the Chairmen concerned.

decisions taken by the Council or the Plenipotentiary

# Budget supervision and vision Plenary Assentisive own newton

The relevant Committee considered the CCITT expenditure between 1957 and 1960, the accounts for the Second Plenary Assembly, and financial requirements (1961 to 1964). Minor points only were commented on.

For the period 1957-1960, contributory units amounted, all in all, to 528. In addition, 12 Administrations, taking part for the first time in the Consultative Committee's activities, on the occasion of the Second Plenary Assembly profitted by Administrative Council Resolution No. 416 (i.e., they were required to share in defraying the Assembly's expenses at the rate of 500 Swiss francs per contributory unit).

For the full period 1957 to 1960, the expenses debited to the Consultative Committee's extraordinary budget amounted to 1 862 000 Swiss francs, i.e. some 3500 Swiss francs per contributory unit. The cost of the Plenary Assembly, together with that of the Study Group meetings immediately preceding it, amounted, in all, to some 614 000 Swiss francs.

As far as financial requirements for the period 1961-1964 are concerned, the Assembly acknowledged that the Consultative Committee's permanent Secretariat, as at present constituted, was completely submerged by work, and that the burden it carried would be further substantially increased as a result of the decisions taken in New Delhi. It decided to draw the attention of the Administrative Council to the need of reinforcing the CCITT Secretariat.

ing parties meeting in the particular parts of the world

Secretarial services for the Plenary Assembly

# Questions of concern to the "new or developing" bevlovni countries

In accordance with the instructions given by the Geneva Plenipotentiary Conference (see paragraphs 178 and 179 of the Geneva Convention and Recommendation No. 2 annexed thereto), the Assembly devoted a good deal of time to the part the CCITT might play in meeting the requirements of the "new or developing" countries.

Eventually, it came to the conclusion that the best way to handle questions affecting the under-developed countries would be to take advantage of the Plan Committee already existing, supplemented by regional Sub-Committees. It decided that a simpler and cheaper course (especially as regards travel expenses, if meetings were held outside Europe) would be to adapt existing structures, rather than to set up new bodies, as was suggested in Recommendation No. 2. Furthermore, an extension of the terms of reference of the Plan Committee (a joint body made up of the International Radio and International Telegraph and Telephone Consultative Committees) would, it felt, automatically ensure the requisite coordination between the studies undertaken by the two Consultative Committees.

Hence, the Assembly set up three regional Sub-Committees, one for Africa, one for Asia, and one for Latin America, or confirmed the existence of such of these bodies as had already come into being, as the result of decisions taken by the Council or the Plenipotentiary Conference. In theory each Sub-Committee will meet once between two successive Plenary Assemblies, and will always meet in the region with which it is concerned, so as to make it easier for local countries to participate.

Besides drawing up a plan for development of networks, these regional Sub-Committees will at their meetings draw up a list of the technical, operating, and tariff questions with which the under-developed countries in the various regions will have to face, directly or indirectly, when the plan is implemented.

The Assembly gave no final ruling about the way in which these matters should be handled, preferring to profit by the experience to be acquired, but it did consider the following courses of action:

Should the questions have been dealt with already by the International Radio or International Telegraph and Telephone Consultative Committees, the Sub-Committees could extract the provisions of interest to under-developed countries from the recommendations issued by these Consultative Committees, and submit them in a readily assimilable form (second part of Recommendation No. 2).

If, on the other hand, the questions are new questions of world-wide importance, they could be set for study in accordance with paragraph 180 of the Geneva Convention, and referred to the appropriate bodies within either of the two Consultative Committees.

Should the questions be of purely local interest, the regional Sub-Committees could deal with them directly or refer them, as described above, to the appropriate bodies within either of the two Consultative Committees. These latter would set up, if required, special working parties meeting in the particular parts of the world involved.

#### Secretarial services for the Plenary Assembly

All in all, a hundred and eight people were employed in the secretariat of the Assembly, fifty-four of them recruited in New Delhi and fifty-four coming from Geneva (fourteen from the CCITT Secretariat, ten from other Union organs, and thirty supernumeraries recruited in Geneva). This figure does not include the staff supplied by the Indian Administration for information and reception services, cleaners, telephone operators, etc., nor the staff supplied by the Soviet Delegation for interpretation into Russian.

The Secretariat had to cope with an enormous volume of work. No less than 610 documents were issued, running to 850 000 sheets of paper. Experience showed that the staff was adequate in size; documents were always turned out in time and in satisfactory form.

In passing, the competence and devotion of the staff as a whole throughout the New Delhi meetings should be emphasized. A special mention should be made of the staff supplied by the Indian Administration which, despite its lack of experience with big international gatherings, did valiant work. The task of the staff was very greatly facilitated by the high quality of the installations and equipment and the excellence of the organization involved, all due to the inviting government.

# be subjected to a general overhead The Assembly decided The Third Plenary Ayamada be doubt be

The Assembly received two invitations for the next Assembly, one from the Union of Soviet Socialist Republics, the other from Colombia. Eventually, it accepted the Soviet proposal, so that the Third Plenary Assembly will meet in Moscow in the spring of 1964.

Of course, since the Plan Committee and its regional Sub-Committees are joint bodies, any extension in their terms of reference will have to be confirmed by the next CCIR Plenary Assembly.

# Conclusions The rebines like scatt vilving notification

This article shows that the work accomplished by the Second Plenary Assembly was both valuable and extensive. The great contribution made by both delegates and staff has already been referred to; the assistance rendered by the inviting government should also be stressed.

This latter spared no effort in making detailed preparations for the meetings of the study groups and of the Assembly itself. These meetings, impeccably organized, were held in a magnificent building admirably suited for the holding of big international gatherings. The inviting government displayed a cordiality and a generosity in receiving the participants which they found profoundly moving, and did its best both to facilitate their work and to make their stay a pleasanter one by organizing numerous receptions and excursions, which those who took part in them will never forget.

Thanks and congratulations should be extended to all who contributed to this remarkable success, and in particular the Prime Minister, Mr. Nehru, who did us all a great honour by inaugurating our labours with a speech of rare sublimity. I would thank Mr. Surrabayan, Minister of Transport and Communications, who attended the inaugural meeting and took a close interest in the activities of the Assembly, Mr. Vaish, head of the Indian Delegation, who presided over the debates with exemplary skill and wisdom, and lastly, Mr. Gadadhar and his officials, who provided liaison with the Secretariat and ensured a pleasant as well as an efficient solution for all the difficult problems to which a big international assembly can give rise. Lastly, I cannot overlook Dr. Sarwate, who, before being elected Deputy Secretary-General of the Union, was behind the original Indian invitation and had begun the preparations for the Plenary Assembly. For anothern out berehingen videnses of The

Thanks to this happy combination of efforts by the delegates, the secretariat and the Administration of India, the CCITT, while remaining faithful to the traditions of its predecessors, the CCIF and the CCIT proved able to adapt itself to the rapid progress in technique and the world-wide extension of its activities. A new era of fruitful activity is opening up before it and the CCITT will spare no effort in accomplishing its tasks for the benefit of international telecommunications.—*Translation*.

		18 P 18 7 B 1	RHOSNAGALA
Study Group	Brief description	A Second	Chairman and Vice-Chairman
I	Telegraph operating and tariffs		Mr. Perry (Netherlands) Mr. Vargues (France)
ΙΪ	Telephone operating and tariffs		Mr. Terras (France) Mr. Balchandani (India)
III	General tariff principles and leased to munication circuits	elecom- e Dellinger	Mr. Langenberger (Switzerland) Mr. Garrido (Spain)
IV	Maintenance of the international netw	vork vlqn imos, bns	Mr. VALLOTON (Switzerland) Mr. POSTELNICU (Roumania)
V	Protection against electromagnetic disturbance	sed six Avium	Mr. RIEDEL (F. R. of Germany) Mr. MIKHAILOV (USSR)
VI	Protection and specification of cable and of poles	sheaths	Mr. Halström (Denmark) Mr. S. M. Muktadı (Pakistan)
VII	Definitions and Symbols	venisinde to	Mr. Gella (Spain) Mr. Bigi (Italy)
VIII	Alphabetic telegraph apparatus	od grousy tant though	Mr. Keer (Australia) Mr. Savitzky (Ukrainian SSR)
IX	Telegraph transmission quality and telegraphs	intersacht.	Mr. ROQUET (France) Mr. RENTON (United Kingdom)
X	Telegraph switching	he became	Mr. Jansen (Netherlands) Mr. Faugeras (France)
XI	Telephone switching and signalling	on) 280014hi	Mr. Tobin (United Kingdom) Mr. Vassilieff (USSR)
XII	Telephone transmission performance local networks	syear abna	Mr. Swedenborg (Sweden) Mr. Kroutl (Czechoslovakia)
XIII	Semi-automatic and automatic teleph networks		Mr. Lambiotte (Belgium) Mr. Chovet (France)
XIV	Facsimile apparatus and channels	oviastamental nere, and in	Mr. Fijalkowski (Poland) Mr. Bitter (F. R. of Germany)
XV	Transmission systems	ion—a post	Mr. Job (France) Mr. Gagliardi (Italy)
LIWKEK	Telephone circuits	throughout: erodeastation rmission, time	Mr. Franklin (United Kingdom) Mr. Claeys (Belgium)
SP.A.	Data transmission (Special Study Group)	Ospartment Department	Mr. RHODES (United Kingdom) Mr. VAUGHAN (USA)
o 19. <b>8.92</b> le was	World semi-automatic and automat	ic tele-	Mr. Bloecker (USA) Mr. Bjurel (Sweden)
He i.O. qadio has written no	Noise (Special Study Group)	ing Union Film and Te	Mr. WILLIAMS (United Kingdom) Mr
S.	less than 136 articles, books and treatise	ed gives no	(To be designated by the CCIR)
represented the		of the	Mr. Antinori (Italy)
retching back as	international network (Joint CCITT-CCIR Committee)	world lies	Mr. HAMID (Pakistan) (provisionally) <sup>1</sup>
J Conferences as	Plan Sub-Committee for Africa	dy research	Mr. Tedros (Ethiopia)
S-Com Africa	qoiq (Joint CCITT-CCIR)	ner himself.)	Mr. MILI (Tunisia)
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<sup>&</sup>lt;sup>1</sup> Provisional designations of Vice-Chairmen for the PLAN Committee and its Sub-Committees will have to be confirmed by the next CCIR Plenary Assembly.