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CHARGING AND ACCOUNTING IN INTERNATIONAL
TELECOMMUNICATIONS SERVICES
TRANSMISSION OF MONTHLY INTERNATIONAL
ACCOUNTING INFORMATION

**TRANSMISSION IN ENCODED FORM OF
MONTHLY INTERNATIONAL ACCOUNTING
INFORMATION**

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NOTES

- 1 CCITT Recommendation D.190 was published in Fascicle II.1 of the *Blue Book*. This file is an extract from the *Blue Book*. While the presentation and layout of the text might be slightly different from the *Blue Book* version, the contents of the file are identical to the *Blue Book* version and copyright conditions remain unchanged (see below).
- 2 In this Recommendation, the expression “Administration” is used for conciseness to indicate both a telecommunication administration and a recognized operating agency.

Recommendation D.190

TRANSMISSION IN ENCODED FORM OF MONTHLY INTERNATIONAL ACCOUNTING INFORMATION¹⁾

(Geneva, 1976)

1 Introduction

1.1 Under the provisions of Recommendations D.42, D.67 and D.170, Administrations engage in international accounting for telephone, telegram and telex traffic handled each month.

1.2 A growing number of Administrations are processing this monthly international accounting data using computer based accounting systems. Information is drawn from traffic history tapes or manually encoded from data such as inward international accounts and statistical summaries prepared by manual abstraction from copies of telegrams and telephone and telex tickets.

1.3 It is usual at present to complete computer processing by producing conventional printed accounts following the specifications described in the various accounting Recommendations (D.42 for telegram; D.67 for telex; D.170 for telephone). Where the receiving Administration also uses computer facilities, however, this information has to be re-encoded for processing through its system.

1.4 Transmission of data in encoded form avoids the decoding/re-encoding step. It also offers a faster transfer of information than by printed forms through the mail. The latter remains true even if the forwarding Administration has prepared the data by manual/mechanical means.

2 Aim

2.1 The aim of this Recommendation is:

2.1.1 to enable Administrations using computer based accounting systems to transfer information to each other in encoded form, without the need for decoding into conventional printed form and subsequent encoding into machine-readable form;

2.1.2 to enable other Administrations, if they so desire, to benefit from the greater efficiency of speedier transfer of information to them and to prepare themselves for the introduction of computer working by introducing transmission of data in encoded form in advance of installation of a computer.

2.1.3 to facilitate provision of printed output from computer based systems in a format suitable for manual/mechanical processing where it is to be forwarded to Administrations not using computer facilities;

2.1.4 to facilitate provision of printed output from manual/mechanical accounting systems in a format suitable for data encoding where it is to be forwarded to Administrations employing computer processing.

3 Method

Data record

3.1.1 The aim of this Recommendation can be met by use of a standard data record format for the various elements of information to be transferred. The information elements and their sequence must be compatible with the provisions of the various accounting Recommendations so that decoding to and encoding from printed output for exchange of information with Administrations using manual/mechanical systems will be as simple as possible.

3.1.2 Between Administrations operating computer based accounting systems, adherence to the standard data record format for data transmission purposes will ensure that only one interface programme will be needed to enable any one computer installation to generate suitable input for, and accept output from, other computer installations.

¹⁾ For the transmission in encoded form of maritime telecommunications accounting information, see Recommendation D.91.

3.2 *Data transfer*

3.2.1 Procedures already exist for transfer of data in conventional (printed) form through the mails. Data in encoded form could be transferred by mailing of magnetic or paper tapes, paper tape transmission by telex or data transmission over circuits utilized for this purpose.

3.2.2 While mailing of tapes avoids the encoding task for the receiving Administration there can be delays and loss in transit. In addition, there can be difficulties caused by the fragility of paper tape and incompatibility of various forms of magnetic tape recording.

3.2.3 Transfer of data via the telex service using paper tape transmission and reception can be advantageous for Administrations whether they have computer based accounting systems or manual/mechanical systems. As both page copy and punched paper tape can be generated at the receiving point users of either type of accounting system can benefit. Page copy can be used for checking paper tape, with the latter becoming input to a computer. Page copy can also be used as the incoming international account avoiding the need for use of the postal service.

3.2.4 Where large volumes of data are to be exchanged, transmission over higher speed circuits offers significant benefits. Where suitable data links are in use for service transmissions these could be utilized. Data terminals and modems capable of transmission speeds in the range 600 to 2400 bits per second should be sufficient but higher speeds could be used. For manual/mechanical systems data received on data terminals can be reproduced as page copy representing an incoming international account. For computer based accounting systems data transmission offers the possibility of complete automation of the process by computer-to-computer transfer.

4 **Specific recommendations**

4.1 It is recommended that:

4.1.1 where possible data transferred in printed form should be placed in the order shown in § A.2;

4.1.2 for transfer of data in encoded form, the standard data record format detailed in Annex A should be followed;

4.1.3 transmission of data in encoded form should be by the following means:

a) use of the telex system;

b) use of data transmission over telephone circuits, dedicated telegraph circuits or special data links;

4.1.4 transmission speeds, operating practices and technical standards should be agreed between the Administrations concerned and should conform with the appropriate CCITT Recommendations.

5 **Code maintenance**

The CCITT Secretariat is responsible for maintenance of the record of codes used for Item 3 of the Batch header and Items 5, 6, 7, 8 (except tariff indicators, see Recommendation F.31 [1]), 11 and 12 of the Detail Record shown in Annex A.

New codes can be allocated by the authority of the Director of the CCITT. Applications should be made through the CCITT Secretariat which will arrange for notification of the new codes in the *Operational Bulletin*.

ANNEX A
(to Recommendation D.190)

**Monthly international accounting information
Fixed record formats**

A.1 *Batch header*

Item number	Contents	Field size	Justification	Fill	Comments
1	Record type identifier	3	–	–	Always <i>HDR</i>
2	Batch sequence number	3	Right	Zero	For a specific combination of two Administrations. Reset to 1 after 999
3	Service type	2	Right	Zero	02 – Telephone 03 – Telex 04 – Telegram 05 – Facsimile 06 – Switched Data
4	Accounting month	4	–	–	Year and month of account – YYMM (January 01)
5	Administration sending data	6	Left	Space	Code as agreed bilaterally between the sending and receiving Administrations
6	Creation data	6	–	–	Year, month and day on which data tape created – YYMMDD
7	Administration receiving data	6	Left	Space	As for item 5
8	Filler	50	–	–	Space fill to give fixed size records

Note – The header and trailer length should be equal to the detail record length in order to simplify the data processing.

A.2 Detail record

Item number	Contents	Field size	Justification	Fill	Comments
1	Origin	4	Left	Space	F.96 [2] telegram country codes (and city codes if required). Use for telegram, telex and telephone services
2	Destination	4	Left	Space	F.96 [2] telegram country codes (and city codes if required). Use for telegram, telex and telephone services
3	Route in	2	Left	Space	F.96 [2] telegram country codes. Use for telegram, telex and telephone services. Route in: applicable only for transit traffic
4	Route out	2	Left	Space	F.96 [2] telegram country codes. Use for telegram, telex and telephone services. Route in: applicable only for transit traffic
5	Year and month of service	4	—	—	Calendar year and month (January 01) – YYMM
6	Payment indicator	1	—	—	1. Sent paid 2. Reversed charge (telephone)
7	Service sub-type	1	—	—	<i>For telephone</i> 1. Telephone 2. Sound programme 3. Television – video 4. Television – sound 5. Transit rentals <i>For telex</i> 1. Telex <i>For the telegraph service</i> 1. Telegraph <i>For Facsimile</i> 1. Phototelegraph 2. Bureaufax service <i>For switched data</i> 1. Packet switching 2. Circuit switching
8	Rate level 1	1	—	—	<i>Telephone</i> 1. Personal rate 2. Station rate 3. International subscriber dialling rate <i>Sound programme</i> 1. Medium passband 2. Wide passband <i>Telegraph</i> Tariff class indicator (see Rec. F.31 [1]) <i>Phototelegraph</i> 1. Public station to public station 2. Public station to private station 3. Private station to public station 4. Private station to private station <i>Bureaufax</i> 1. A4 size page 2. Other size page <i>Switched data</i> 1. Segment

A.2 *Detail record*

Item number	Contents	Field size	Justification	Fill	Comments
9	Rate level 2	1	—	—	<i>For telephone or telex</i> 1. Full rate 2. Reduced rate A ^{a)} 3. Reduced rate B ^{a)}
10	Number of telegrams or sessions	8	Right	Zero	If required can also be used in conjunction with item 14 to record number of surcharges, etc.
11	Number of minutes, words or pages	8	Right	Zero	
12	Number of segments	8	Right	Zero	To be used for packet switching data only
13	Monetary unit	1	—	—	1. SDR 2. Gold franc 3. Pound sterling 4. US dollar
14	Surcharges and other additional charges	1	—	—	Use this item in conjunction with a separate detail record and with total value recorded in item 16 1. Personal call telephone surcharges or fixed component of binary telegram charges 2. Conference call telephone charges 3. Messenger telephone charges 4. Reply paid telegram charges
15	Accounting rate	7	Right	Zero	Accounting rate share or other per unit charge due receiving Administration — 2 integer and 5 decimal places
16	Line value	11	Right	Zero	Accounting rate (item 15) × number of units (items 10, 11 and 12) — or lump sum associated with additional charge code in item 14. Nine integer and 2 decimal places
17	Gross accounting revenue	11	Right	Zero	Nine integer and 2 decimal places

^{a)} For telephone only.

A.3 *Batch trailer*

Item number	Contents	Field size	Justification	Fill	Comments
1	Record type identifier	3	–	–	Always <i>TRL</i>
2-6	(As for Batch header)	27	–	–	
7	Number of detail records in batch	6	Right	Zero	
8	Control total	12	Right	Zero	Hash total of all items 16 in detail records – 10 integer and 2 decimal places
9	Filler	36	–	–	Space fill to give fixed size records

Note 1 – New codes can be obtained from the Director of the CCITT. (Refer to § 5 of the Recommendation.)

Note 2 – Items not used should be “space” or “zero” filled as appropriate.

Note 3 – In telex transmissions, records may be followed by “new line” function characters. Records may also be terminated at the end of significant data by “new line” function characters and the remainder of the record will then be interpreted by the Administration receiving the data as “space” or “zero” fills as appropriate.

References

- [1] CCITT Recommendation *Telegram transmission system*, Vol. II, Rec. F.31.
- [2] CCITT Recommendation *List of destination indicators*, Vol. II, Rec. F.96.

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