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SERIES D: GENERAL TARIFF PRINCIPLES – CHARGING AND ACCOUNTING IN INTERNATIONAL TELECOMMUNICATIONS SERVICES

CHARGING AND ACCOUNTING IN THE MOBILE SERVICES

TRANSMISSION IN ENCODED FORM OF MARITIME TELECOMMUNICATIONS ACCOUNTING INFORMATION

Reedition of CCITT Recommendation D.91 published in the Blue Book, Fascicle II.1 (1988)

NOTES

1 CCITT Recommendation D.91 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.91

TRANSMISSION IN ENCODED FORM OF MARITIME TELECOMMUNICATIONS ACCOUNTING INFORMATION

(Melbourne, 1988)

1 Introduction

1.1 Under the provision of Recommendation D.90, Administrations engage in international accounting for radiocommunications 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 traffic 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.90). Where the receiving Administration also uses computer facilities, however, this information has to be re-encoded for processing through its system.

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

2 Aim

2.1 The aim of this Recommendation is:

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

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

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

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

3 Method

3.1 *Data record*

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

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

3.2 *Data transfer*

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

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

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

3.2.4 Where large volumes of data are to be exchanged, transmission over higher speed circuits offers significant benefits. Where suitable data links are in use for service transmissions, these could be utilized. Data terminals and modems capable of transmission speed 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 replaced by data transferred in encoded form;

4.1.2 for data transferred 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) physical transfer of magnetic tapes (the standard file structure is given in Annex A);

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

4.1.4 transmission methods (international packet switching service, electronic mailbox, etc.), operating practices and technical standards should be agreed between the Administrations concerned and should conform to the appropriate CCITT Recommendations.

ANNEX A

(to Recommendation D.91)

Monthly international accounting information

Fixed record formats

A.1 *File description*

A.1.1 The file has EBCDIC-format (Extended Binary Coded Decimal Interchange Code). The length of the formatted records is 130 characters, blocked by 10.

A.1.2 The tape, which will contain a header and a trailer record, may consist of several batches. For each accounting authority or country there may be a batch (or, if more than one currency is involved, one batch for each currency) for each of the following services:

- Satellite from-ship traffic,
- Terrestrial Radio from-ship traffic,
- Terrestrial Radio to-ship telephone and telegram traffic,
- Terrestrial Radio to-ship telex traffic,
- Credit card/reversed charge from-ship traffic for both services.

Each of the traffic batches will contain an accounting authority header record followed by the traffic items and ended by the summary record.

A.1.3 *Record description*

A.1.3.1 *Main header record*

Position	Length	Format	Name of field	Contents
1	2	Numeric	CODART	Determination of record code to 00
3	8	Alphanumeric	CDAAIC	AATC of the tape originator
11 to 130		Alphanumeric	– –	Unused field (blanks)

A.1.3.2 *Record accounting authority*

Position	Length	Format	Name of field	Contents
1	2	Numeric	CODART	Determination of record code to 01
3	8	Alphanumeric	CDAAIC	AAIC of accounting authority if direction 2, of origin Administration if direction 1
11	1	Numeric	CDDIRE	Direction of traffic 1 = shore-to-ship 2 = ship-to-shore
12	50	Alphanumeric	NAT ADM	Name of Administration if direction 1 Name of nation if direction 2
62	2	Numeric	CDCURR	Currency code 1 = Gfr 2 = SDR 3 = GBP 4 = USD 5 = DM
64	8	Numeric (6 decimal digits)	RATCON	Rate of conversion
72	4	Numeric	YEAMON	Month in which the bulk of the traffic was transmitted YYMM
76 to 130		Alphanumeric	– –	Unused field (blanks)

A.1.3.3 *Record communication (traffic)*

Position	Length	Format	Name of field	Contents
1	2	Numeric	CODART	Determination of record code to 02
3	5	Alphanumeric	CDAAIC	AAIC of accounting authority if direction 2, of origin Administration if direction 1
8	3	Alphanumeric	CDCS/CES	Code of coast station/CES
11	1	Numeric	CDDORE	Direction of traffic 1 = shore-to-ship 2 = ship-to-shore
12	6	Numeric	DATCOM	Date of traffic format YYMMDD
18	4	Numeric	TMETFC	Time of traffic
22	8	Alphanumeric	CALSIG	Call sign of vessel/ID Code
30	32	Alphanumeric	NAMORG	Origin identification
62	32	Alphanumeric	NAMDES	Destination identification
94	2	Numeric	CDKIND	Code kind of traffic (see Appendix I)
96	2	Alphanumeric	CDFACI	Facility code/Surcharge
98	6	Numeric	NUMWRD	Number of words or duration of call format HHMMSS
104	4	Alphanumeric	TXABRV	Abbreviation of surcharges if necessary otherwise blanks (see Appendix II)
108	8	Numeric (3 decimal digits)	TXAMOU	Amount of surcharge necessary, otherwise 0
116	10	Numeric (3 decimal digits)	TAXTOT	Total amount of charge (negative amounts possible)
117 to 130		Alphanumeric	– –	Unused field (blanks)

A.1.3.4 *Summary record*

Position	Length	Format	Name of field	Contents
1	2	Numeric	CODART	Determination of record code to 03
3	8	Alphanumeric	CDAAIC	AAIC of accounting authority
11	16	Numeric (3 decimal digits)	AMTTOT	Total amount (negative amounts possible)
27 to 130		Alphanumeric	– –	Unused field (blanks)

A.1.3.5 *Trailer record*

Position	Length	Format	Name of field	Contents
1	2	Numeric	CODART	Determination of record code to 03
3	2	Numeric	NOBATC	Number of batches
5	16	Numeric (3 decimal digits)	AMTTOT	Total amount of all charges
21 to 130		Alphanumeric	– –	Unused field (blanks)

A.2 *Characteristics and structure of the tape*

A.2.1 *Physical structure of recording*

For recording, the ISO-Norm 1863 is to be used.

Method of recording: EBCDIC

Record density: 1600 BPI

Number of tracks: 9

Width of tape: 1/2 inch

Interblock gap: 0.6 inch

Block prefix: 3 inch

A.2.2 *Structure of tape*

Mono-tape, mono-file.

A.2.3 *Tape- and file-label*

Character code for label and EBCDIC code.

Volume header label: Vol. 1 (see Appendix III)

First file header label and end of file label: HDR1 and EOF 1 (see Appendix IV)

Second file header label and end of file label: HDR2 and EOF 2 (see Appendix V)

APPENDIX I

(to Annex A to Recommendation D.91)

Table of codes (CDKIND/CDFACI)

Code	Description
02	Telephone satellite automatic
03	Telephone satellite manual
04	Telephone VHF automatic
05	Telephone VHF manual
06	Telephone medium-wave automatic
07	Telephone medium-wave manual
08	Telephone short-wave automatic
09	Telephone short-wave manual
12	Telex satellite automatic
13	Telex satellite manual
14	Telex VHF automatic
15	Telex VHF manual
16	Telex medium-wave automatic
17	Telex medium-wave manual
18	Telex short-wave automatic
19	Telex short-wave manual
22	Telegram satellite
23	Telegram VHF
24	Telegram medium-wave
25	Telegram short-wave
26	Telephone aeronautical
27	Telephone aeronautical
28	Data transmission Aeronautical
29	Data transmission Aeronautical
30	
31	
32	
33	
34	
35	
36	
37	Unused
38	
39	
40	
41	
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51	Telex letter
52	Multi-address (telex)
53	Voice bank (telex)
54	Data base access (telephone or telex)

APPENDIX II

(to Annex A to Recommendation D.91)

Table of surcharges (TXABRV)

Code	Description
PER	Personal call
ADC	Advice and duration call

APPENDIX III

(to Annex A to Recommendation D.91)

Volume header label

Position	Assignment of field	Contents
1 to 4	Lable identifier and number	VOL 1
5 to 10	Volume No.	6 characters alphanumeric
11	Access	1 character (blank)
12 to 31 + 32 to 37	Reserved	A (blank)
38 to 50	Identification of owner	13 characters alphanumeric
51	Record density	A (blank)
52 to 79	Reserved	A (blank)
80	Version of standard label	3.
81 to 130		Unused field (blanks)

APPENDIX IV

(to Annex A to Recommendation D.91)

First file header label and end of file label

Position	Assignment of field	Contents
		HDR1 EOF1
1 to 4	Label identification and number	HDR1 EOF1
5 to 21	File identification	All characters alphanumeric
22 to 27	Total file identification	Spaces Space
28 to 31	Number of file section	"0001" "0001"
32 to 35	Number of file sequence	"0001" "0001"
36 to 39	Number of generation	"0001" "0001"
40 to 41	Version number on generation	"00" "00"
42 to 47	Creation date	1 space followed by date
48 to 53	Expiry date	Spaces Spaces
54	Access	Spaces Spaces
55 to 60	Block counting	Zero Block count
61 to 73	System code	All characters alphanumeric
74 to 130	Reserved field	Spaces Spaces

APPENDIX V

(to Annex A to Recommendation D.91)

Second file header label and end of file label

Position	Assignment of field	Contents
		HDR2 EOF2
1 to 4	Label identifier and number	HDR2 EOF2
5	Record format	"F" "F"
6 to 10	Length of block	"00130" "00130"
11 to 15	Length to record	"00130" "00130"
16 to 50	Reserve system	All characters alphanumeric
51 to 52	Length of offset cell buffer "00"	"00" "00"
53 to 130	Reserved field	Spaces Spaces

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