INTERNATIONAL TELECOMMUNICATION UNION

ITU-T

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STANDARDIZATION SECTOR
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R.114

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TELEGRAPHY
TELEGRAPH TRANSMISSION

NUMBERING OF INTERNATIONAL TDM CHANNELS

ITU-T Recommendation R.114

(Previously “CCITT Recommendation”)

FOREWORD

The ITU Telecommunication Standardization Sector (ITU-T) is a permanent organ of the International Telecommunication Union. The ITU-T is responsible for studying technical, operating and tariff questions and issuing Recommendations on them with a view to standardizing telecommunications on a worldwide basis.

The World Telecommunication Standardization Conference (WTSC), which meets every four years, established the topics for study by the ITU-T Study Groups which, in their turn, produce Recommendations on these topics.

ITU-T Recommendation R.114 was revised by the ITU-T Study Group IX (1988-1993) and was approved by the WTSC (Helsinki, March 1-12, 1993).

NOTES

1 As a consequence of a reform process within the International Telecommunication Union (ITU), the CCITT ceased to exist as of 28 February 1993. In its place, the ITU Telecommunication Standardization Sector (ITU-T) was created as of 1 March 1993. Similarly, in this reform process, the CCIR and the IFRB have been replaced by the Radiocommunication Sector.

In order not to delay publication of this Recommendation, no change has been made in the text to references containing the acronyms "CCITT, CCIR or IFRB" or their associated entities such as Plenary Assembly, Secretariat, etc. Future editions of this Recommendation will contain the proper terminology related to the new ITU structure.

2 In this Recommendation, the expression "Administration" is used for conciseness to indicate both a telecommunication administration and a recognized operating agency.

Recommendation R.114

NUMBERING OF INTERNATIONAL TDM CHANNELS

(Malaga-Torremolinos, 1984; amended at Melbourne, 1988 and at Helsinki, 1993)

The CCITT,

considering

(a) that in view of the introduction in the international service of time division multiplex (TDM) channels with different characteristics, configured for various nominal modulation rates and for different character structures, it has become necessary to evolve a method of numbering TDM channels;

(b) that this numbering method must make it possible to recognize:

- the type of TDM (code-dependent or code-independent);
- the nominal modulation rate and (in the case of code-dependent TDM) the character length;
- the position of the channel in the frame,

unanimously declares the view

1 The channels in an international TDM system conforming to Recommendation R.101 should be numbered as shown in Table 1.

2 The number assigned to a channel should be selected from the series applicable to the type of channel and should correspond to its position in the multiplex tables in Recommendation R.101.

3 The channels in an international TDM system conforming to Table 1/R.111 should be numbered as shown in Table 2.

4 The channels in systems conforming to Table 1/R.111 should be numbered in the same way as their positions in the frame; i.e. in the sequence from 1 to 255 excluding the channel numbers that are multiples of 16. In establishing a channel having a rate of more than 50 bauds, the number assigned coincides with the number of the first 50 baud channel taking part in the integration.

5 International TDM channels to Recommendation R.112 should have the numbering scheme shown in Table 3.

6 The numbers assigned to the channels should be selected from the series applicable to the type of channel and should correspond to its position in the Figure 1/R.112.

7 International code independent and code dependent channels to Recommendation R.102 should have the numbering schemes shown in Tables 3 and 4, respectively.

8 The numbers assigned to the channels should be selected from the series applicable to the type of channel and should correspond to its position in Tables 2/R.102 to 4/R.102 to Recommendation R.102.

9 Channel numbering of 50 baud channels for branch-line muldexes conforming to Recommendation R.103 should be in accordance with the numbering scheme in Tables 1/R.114 and 4/R.114.

10 Telegraph channels in an international TDM system conforming to Recommendation R.113 should be numbered as shown in Tables 5 and 6.

11 The location of the channel in the aggregated signal frame is defined by the three last digits of the number (D2, D3, D4). D2 and D3 define the conventional sequence number of the first envelope forming the selected group of telegraph channels. D4 defines the number of the telegraph channel in the group selected (in the envelope).

The correspondence between conventional and real number n of the envolope within the frame is as follows:

For multiplexing scheme according to Recommendation X.51 (Recommendation X.56):

$$n + 44 = D2D3$$

where

n = 1, 2, ... 20 = the real number of the envelope.

$$D4 = 1, 2, \ldots 8$$

For multiplexing scheme according to Recommendation X.50 (see Recommendation X.55):

$$n + 74 = D2D3$$

where

n = 1, 2, 3 ... 20 = the real number of the envelope.

$$D4 = 1, 2, \ldots 6$$

TABLE 1/R.114

Numbering scheme for TDM systems conforming to Recommendation R.101

Nominal modulation rate (bauds)	Channel numbers
50	0501 – 0546
75	0701 – 0742 (for alternative A). See Table 3/R.101 for numbers not used 0701 – 0731 (for alternative B, 0716 not used)
100	1001 – 1023 (for 10 unit, 1008 not used) 1701 – 1723 (for 7½ unit, 1708 not used)
110	1101 – 1123 (1108 not used)
134.5	1301 – 1315
150	1501 – 1515
200	2001 – 2011 (for 10 unit, 2008 not used) 2101 – 2111 (for 11 unit, 2108 not used) 2701 – 2711 (for 7½ unit, 2708 not used)
300	3001 – 3007 (for 10 unit) 3101 – 3107 (for 11 unit)

TABLE 2/R.114

Numbering scheme for TDM systems conforming to Table 1/R.111

Nominal modulation rate (bauds)	Maximum distortion (%)	Channel numbers
50	5	5001 – 5255 (The numbers 16, 32, 48, 64, 80, 96, 112, 128, 144, 160, 176, 192, 208, 224 and 240 are not used)
100	5	6001 – 6127 (The numbers 16, 32, 48, 64, 80, 96 and 112 are not used)
200 (300)	5 (7.5)	7001 – 7063 (The numbers 16, 32 and 48 are not used)
600	7.5	8001 – 8031 (The number 16 is not used)
1200	7.5	8101 – 8115

TABLE 3/R.114

Numbering scheme of code independent channels for TDM systems conforming to Recommendations R.112 and R.102

Nominal modulation rate (bauds)	Maximum degree of isochronous distortion due to sampling (%)	Channel numbers	
		R.112 (2400 bit/s)	R.102 (4800 bit/s)
50	8.3	5801 – 5815	5801 – 5831 (5816 not used)
100	8.3	6801 – 6807	6801 – 6815
200	8.3	7801 – 7803	7801 – 7807

TABLE 4/R.114

Numbering scheme of code dependent channels for TDM systems conforming to Recommendation R.102

Nominal modulation rate (bauds)	Channel numbers
50	0501 – 0592
75	0701 – 0746
100	1001 – 1046 (for 10 unit) 1701 – 1746 (for 7.5 unit)
110	1101 – 1146
134.5	1301 – 1331 (1316 not used)
150	1501 – 1531 (1516 not used)
210	2001 – 2023 (for 10 unit, 2008 not used) 2101 – 2123 (for 11 unit, 2108 not used) 2701 – 2723 (for 7.5 unit, 2708 not used)
300	3001 – 3015 (for 10 unit) 3101 – 3115 (for 11 unit)

TABLE 5/R.114

Numbering scheme of telegraph channels for TDM systems conforming to Recommendation R.113 (multiplexing scheme X.51 and X.56)

Nominal modulation rate (bauds)	Maximum distortion (%)	Channel numbers
50	4.25	5451 – 5648 (The numbers ended in digits D4 = 0, 9 are not used)
100	4.25	6451 – 6644 (The numbers ended in digits D4 = 0, 9, 8, 7, 6 and 5 are not used)
200 (300)	4.25 (6.25)	7451 – 7642 (The numbers ended in digits D4 = 0, 9, 8, 7, 6, 5, 4 and 3 are not used)
600	6.25	9451 – 9441 (The numbers ended in digits D4 = 0, 9, 8, 7, 6, 5, 4, 3 and 2 are not used)

TABLE 6/R.114

Numbering scheme of telegraph channels for TDM systems conforming to Recommendation R.113 (multiplexing scheme X.51 and X.55)

Nominal modulation rate (bauds)	Maximum distortion (%)	Channel numbers
100 (50)	6.25 (3.1)	6751 – 6946 (The numbers ended in digits D4 = 0, 9,8 and 7 are not used)
200	6.25	7751 – 7943 (The numbers ended in digits D4 = 0, 9, 8, 7, 6, 5 and 4 are not used)
300	6.25	8751 – 8942 (The numbers ended in digits D4 = 0, 9, 8, 7, 6, 5, 4 and 3 are not used)
600	6.25	9751 – 9941 (The numbers ended in digits D4 = 0, 9, 8, 7, 6, 5, 4, 3 and 2 are not used)