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ITU-T

TELECOMMUNICATION
STANDARDIZATION SECTOR
OF ITU

G.707/Y.1322

Corrigendum 2
(11/2001)

SERIES G: TRANSMISSION SYSTEMS AND MEDIA,
DIGITAL SYSTEMS AND NETWORKS

Digital terminal equipments – General

SERIES Y: GLOBAL INFORMATION INFRASTRUCTURE
AND INTERNET PROTOCOL ASPECTS

Internet protocol aspects – Transport

Network node interface for the synchronous digital
hierarchy (SDH)

Corrigendum 2

ITU-T Recommendation G.707/Y.1322 (2000) –
Corrigendum 2

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ITU-T Recommendation G.707/Y.1322

Network node interface for the synchronous digital hierarchy (SDH)

CORRIGENDUM 2

Summary

This document contains Corrigendum 2 to ITU-T Rec. G.707/Y.1322 (10/2000).

Source

Corrigendum 2 to ITU-T Recommendation G.707/Y.1322 (2000) was prepared by ITU-T Study Group 15 (2001-2004) and approved under the WTSA Resolution 1 procedure on 29 November 2001.

FOREWORD

The International Telecommunication Union (ITU) is the United Nations specialized agency in the field of telecommunications. The ITU Telecommunication Standardization Sector (ITU-T) is a permanent organ of ITU. 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 Assembly (WTSA), which meets every four years, establishes the topics for study by the ITU-T study groups which, in turn, produce Recommendations on these topics.

The approval of ITU-T Recommendations is covered by the procedure laid down in WTSA Resolution 1.

In some areas of information technology which fall within ITU-T's purview, the necessary standards are prepared on a collaborative basis with ISO and IEC.

NOTE

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

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Network node interface for the synchronous digital hierarchy (SDH)

CORRIGENDUM 2

This corrigendum contains editorial and technical corrections to the 2000 version of ITU-T Rec. G.707/Y.1322.

1) Clause 7.3, AU-n/TU-n numbering scheme

Replace clause 7.3 with the following:

7.3 AU-n/TU-n numbering scheme

An STM-N frame comprises $N \times 270$ columns (numbered 1 to $N \times 270$). The first $N \times 9$ columns contain the SOH and AU-4/AU-4-Xc pointer(s) with the remaining $N \times 261$ columns containing the higher order data payload (higher order tributaries).

The higher order payload columns may be addressed by means of a two (B,A), three (C,B,A), four (D,C,B,A) or five (E,D,C,B,A) figure address, where A represents the AU-3 number, B the AUG-1 number, C the AUG-4 number, D the AUG-16 number and E the AUG-64 number. Refer to Figures 7-12 to 7-25.

In the case of an AU-4 structured frame, the payload columns may be addressed by means of a three figure address (K, L, M) where K represents the TUG-3 number, L the TUG-2 number, and M the TU-1 number. Refer to Figures 7-27 and 7-28 and Table 7-1. In the case of an AU-3 structured frame, only L and M coordinates are used. Refer to Figures 7-29 and Table 7-2.

In order to provide a simple and convenient means of determining the total tributary capacity, i.e. the number of lower order tributaries provided, the payload columns are allocated a Time Slot number. The number of Time Slots per tributary in each frame is determined by the payload configuration.

AU Time Slots (TS) are numbered from left to right in the STM-N as shown in Figures 7-12 to 7-26. TU Time Slots (TS) are numbered from left to right in the VC-4/VC-3 as shown in Figures 7-27 to 7-29.

AUs and TUs can either be numbered in a sequential hierarchy, indicated in Figures 7-12 to 7-29 by "*Time Slot number*", or by using the multiplex hierarchy, indicated in Figures 7-12 to 7-29 by "*Address*".

For example an STM-256 can comprise 64 AU-4-4c numbered 1 to 64, where AU-4-4c with Time Slot number 17 has Address (2, 1, 1, 0, 0) and a VC4 can comprise 63 TU-12 numbered 1 to 63, where TU-12 with Time Slot number 17 has address (2, 6, 1).

2) Clause 7.3.3.1, Numbering of AU-4s (VC-4s) in an STM-16

Replace clause 7.3.3.1 with the following:

7.3.3.1 Numbering of AU-4s (VC-4s) in an STM-16

Any AU-4 can be allocated a number in the form #C, #B, #A, where C designates the AUG-4 number (1 to 4), B designates the AUG-1 number (1 to 4), and A is always 0, see Figure 7-21. The location of the columns in the STM-16 occupied by AU-4 (C, B, 0) is given by:

Xth column = $1 + 4*[C-1] + [B-1] + 16*[X-1]$ for X = 1 to 270.

Therefore, AU-4 (1, 1, 0) resides in columns 1, 17, 33, ..., 4305 of the STM-16, and AU-4 (4, 4, 0) resides in columns 16, 32, 48, ..., 4320 of the STM-16.

STM-N column number	1 2 3 4 5 6																																										4320											
																																											4319											
Time Slot number	1	2	3	4	5	6	7	8	9	1	1	1	1	1	1	1	2	3	4	5	6	7	8	9	1	1	1	1	1	1	2	3	4	5	6	7	8	9	1	1	1	1	1	2	-	1	1	1						
									0	1	2	3	4	5	6										0	1	2	3	4	5	6									0	1	2	3	4	5	6	-	4	5	6				
Address																																																						
C	1	1	1	1	2	2	2	2	3	3	3	3	3	4	4	4	4	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	1	1	-	4	4	4
B	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	-	2	3	4
A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	0	0	0	

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Figure 7-21/G.707/Y.1322 – AU-4 numbering scheme within an STM-16's AU pointer row and payload columns

3) Clause 7.3.3.2, Numbering of AU-3s (VC-3s) in an STM-16

Replace clause 7.3.3.2 with the following:

7.3.3.2 Numbering of AU-3s (VC-3s) in an STM-16

Any AU-3 can be allocated a number in the form #C, #B, #A, where C designates the AUG-4 number (1 to 4), B designates the AUG-1 number (1 to 4), and A designates the AU-3 number (1 to 3), see Figure 7-22. The location of the columns in the STM-16 occupied by AU-3 (C, B, A) is given by:

$$X\text{th column} = 1 + 12*[C-1] + 3*[B-1] + [A-1] + 48*[X-1] \quad \text{for } X = 1 \text{ to } 90.$$

Therefore, AU-3 (1, 1, 1) resides in columns 1, 49, 97, ..., 4273 of the STM-16, and AU-3 (4, 4, 3) resides in columns 48, 96, 144, ..., 4320 of the STM-16.

STM-N column number	1 2 3 4 5 6																																																																																								4360		
																																																																																									4359		
Time Slot number	1	2	3	4	5	6	7	8	9	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4	4	1	2	-	4	4	4																																									
									0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	-	6	7	8																																								
Address																																																																																											
C	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	1	1	-	4	4	4																																						
B	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	-	2	3	4																																					
A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	-	3	3	3																																						

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Figure 7-22/G.707/Y.1322 – AU-3 numbering scheme within an STM-16's AU pointer row and payload columns

4) Clause 7.3.3.3, Numbering of AU-4-4cs (VC-4-4cs) in an STM-16

Replace clause 7.3.3.3 with the following:

7.3.3.3 Numbering of AU-4-4cs (VC-4-4cs) in an STM-16

Any AU-4-4c can be allocated a three-figure address in the form #C, #B, #A, where C designates the AUG-4 number (1 to 4), B and A always 0, see Figure 7-23. The location of the columns in the STM-16 occupied by AU-4-4c (C, 0, 0) is given by:

$$4X-3\text{th column} = 1 + [C-1] + 16*[X-1] \quad \text{for } X = 1 \text{ to } 270.$$

$$4X-2\text{th column} = 2 + [C-1] + 16*[X-1] \quad \text{for } X = 1 \text{ to } 270.$$

$$4X-1\text{th column} = 3 + [C-1] + 16*[X-1] \quad \text{for } X = 1 \text{ to } 270.$$

4Xth column = 4 + [C-1] + 16*[X-1] for X = 1 to 270.

Therefore, AU-4-4c (1, 1, 0, 0) resides in columns 1..4, 17..20, ..., 4305..4308 of the STM-16, and AU-4-4c (4, 4, 0, 0) resides in columns 13..16, 29..32, ..., 4317..4320 of the STM-16.

STM-N																																											4320													
column number	1	2	3	4	5	6																																						4319												
Time Slot number	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	1	1	-	-	4	4	4	
Address	C	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	1	1	-	-	4	4	4
B	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0	
A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0	

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Figure 7-23/G.707/Y.1322 – AU-4-4c numbering scheme within an STM-16's AU pointer row and payload columns

5) Clause 7.3.4.2, Numbering of AU-3s (VC-3s) in an STM-4

Replace clause 7.3.4.2 with the following:

7.3.4.2 Numbering of AU-3s (VC-3s) in an STM-4

Any AU-3 can be allocated a number in the form #B, #A, where B designates the AUG-1 number (1 to 4), and A designates the AU-3 number (1 to 3), see Figure 7-25. The location of the columns in the STM-4 occupied by AU-3 (B,A) is given by:

$$\text{Xth column} = 1 + 3*[B-1] + [A-1] + 12*[X-1] \quad \text{for } X = 1 \text{ to } 90.$$

Therefore, AU-3 (1, 1) resides in columns 1, 13, 25, ..., 1069 of the STM-4, and AU-4 (4, 3) resides in columns 12, 24, 36, ..., 1080 of the STM-4.

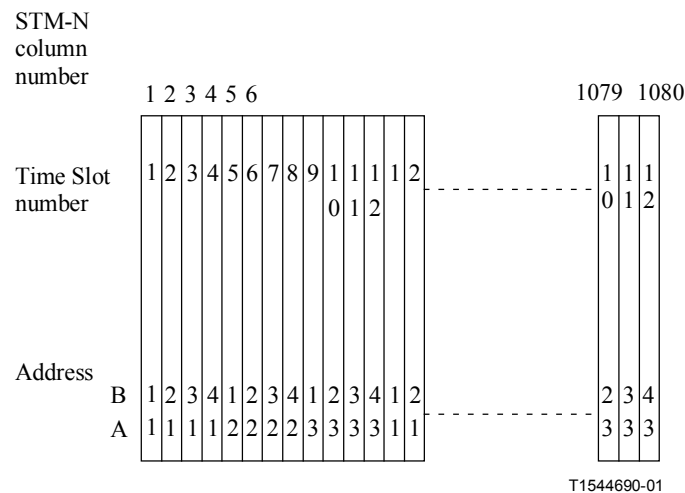


Figure 7-25/G.707/Y.1322 – AU-3 numbering scheme within an STM-4's AU pointer row and payload columns

6) Clause 7.3.4.3, Numbering of an AU-4-4c in an STM-4

Replace clause 7.3.4.3 with the following:

7.3.4.3 Numbering of an AU-4-4c in an STM-4

There is one AU-4-4c in an STM-4 signal. This signal does not need a number, but can be referred to as (0, 0).

7) Clause 7.3.5, Numbering of AU-4 (VC-4) in an STM-1 signal

Replace the heading of clause 7.3.5 with the following:

7.3.5 Numbering of AU-ns (VC-ns) in an STM-1 signal

8) Clause 7.3.5.2, Numbering of AU-3 (VC-3) in an STM-1 signal

Replace clause 7.3.5.2 with the following:

7.3.5.2 Numbering of AU-3 (VC-3) in an STM-1 signal

Any AU-3 can be allocated a number in the form #A, where A designates the AU-3 number (1 to 3), see Figure 7-26. The location of the columns in the STM-1 occupied by AU-3 (A) is given by:

$$\text{Xth column} = 1 + [A-1] + 3*[X-1] \quad \text{for } X = 1 \text{ to } 90.$$

Therefore, AU-3 (1) resides in columns 1, 4, 7, ..., 268 of the STM-1, and AU-3 (3) resides in columns 3, 6, 9, ..., 270 of the STM-1.

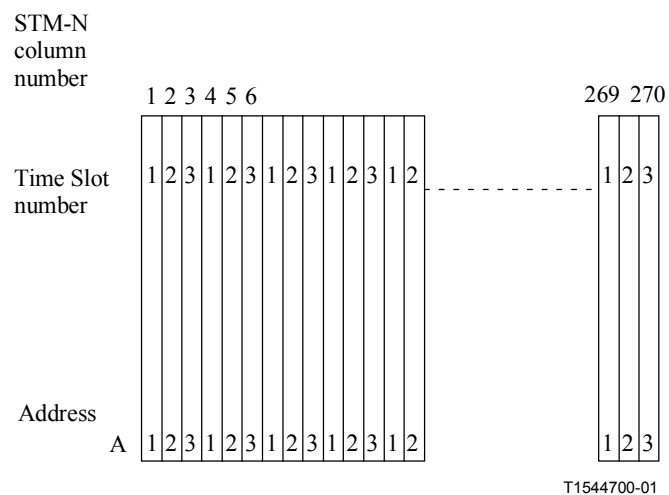


Figure 7-26/G.707/Y.1322 – AU-3 numbering scheme within an STM-1's AU pointer row and payload columns

9) Figure 7-27

Replace Figure 7-27 with the following:

[illegible]

TU-2 numbering scheme

TU-12 numbering scheme

10) **Figure 11-4**

Replace Figure 11-4 with the following:

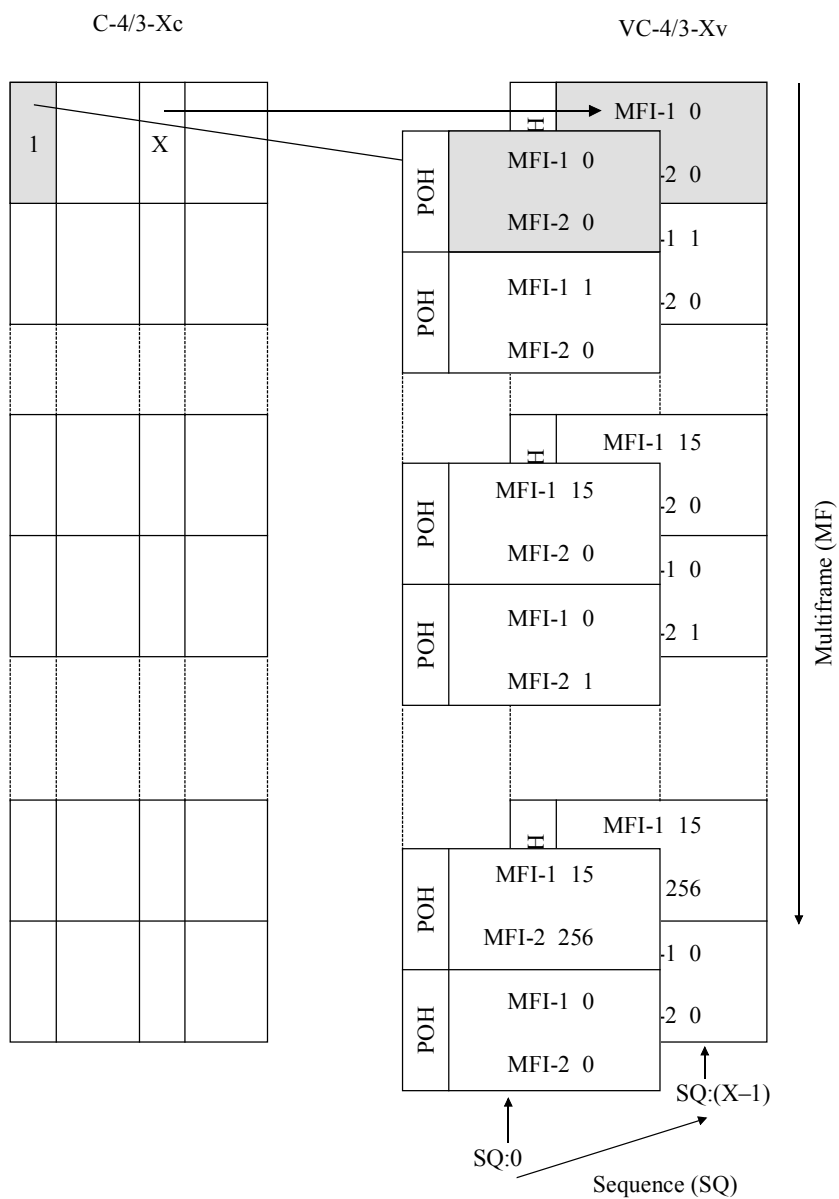


Figure 11-4/G.707/Y.1322 – VC-3/4-Xv multiframe and sequence indicator

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