

International Telecommunication Union

**ITU-T**

TELECOMMUNICATION  
STANDARDIZATION SECTOR  
OF ITU

**G.709/Y.1331**

**Corrigendum 1**  
(12/2006)

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

Digital terminal equipments – General

SERIES Y: GLOBAL INFORMATION  
INFRASTRUCTURE, INTERNET PROTOCOL ASPECTS  
AND NEXT-GENERATION NETWORKS

Internet protocol aspects – Transport

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Interfaces for the Optical Transport Network (OTN)  
**Corrigendum 1**

ITU-T Recommendation G.709/Y.1331 (2003) –  
Corrigendum 1



ITU-T G-SERIES RECOMMENDATIONS  
TRANSMISSION SYSTEMS AND MEDIA, DIGITAL SYSTEMS AND NETWORKS

INTERNATIONAL TELEPHONE CONNECTIONS AND CIRCUITS	G.100–G.199
GENERAL CHARACTERISTICS COMMON TO ALL ANALOGUE CARRIER-TRANSMISSION SYSTEMS	G.200–G.299
INDIVIDUAL CHARACTERISTICS OF INTERNATIONAL CARRIER TELEPHONE SYSTEMS ON METALLIC LINES	G.300–G.399
GENERAL CHARACTERISTICS OF INTERNATIONAL CARRIER TELEPHONE SYSTEMS ON RADIO-RELAY OR SATELLITE LINKS AND INTERCONNECTION WITH METALLIC LINES	G.400–G.449
COORDINATION OF RADIOTELEPHONY AND LINE TELEPHONY	G.450–G.499
TRANSMISSION MEDIA AND OPTICAL SYSTEMS CHARACTERISTICS	G.600–G.699
DIGITAL TERMINAL EQUIPMENTS	G.700–G.799
<b>General</b>	<b>G.700–G.709</b>
Coding of analogue signals by pulse code modulation	G.710–G.719
Coding of analogue signals by methods other than PCM	G.720–G.729
Principal characteristics of primary multiplex equipment	G.730–G.739
Principal characteristics of second order multiplex equipment	G.740–G.749
Principal characteristics of higher order multiplex equipment	G.750–G.759
Principal characteristics of transcoder and digital multiplication equipment	G.760–G.769
Operations, administration and maintenance features of transmission equipment	G.770–G.779
Principal characteristics of multiplexing equipment for the synchronous digital hierarchy	G.780–G.789
Other terminal equipment	G.790–G.799
DIGITAL NETWORKS	G.800–G.899
DIGITAL SECTIONS AND DIGITAL LINE SYSTEM	G.900–G.999
QUALITY OF SERVICE AND PERFORMANCE – GENERIC AND USER-RELATED ASPECTS	G.1000–G.1999
TRANSMISSION MEDIA CHARACTERISTICS	G.6000–G.6999
DATA OVER TRANSPORT – GENERIC ASPECTS	G.7000–G.7999
PACKET OVER TRANSPORT ASPECTS	G.8000–G.8999
ACCESS NETWORKS	G.9000–G.9999

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# **ITU-T Recommendation G.709/Y.1331**

## **Interfaces for the Optical Transport Network (OTN)**

### **Corrigendum 1**

#### **Summary**

This Corrigendum 1 to ITU-T Recommendation G.709/Y.1331 (2003) clarifies the:

- operational conditions under which overlapping tandem connection monitoring should be used;
- location of the PJO1 and PJO2 fields in the OPU3 for the case of ODU2 mapping into four tributary slots of the OPU3.

#### **Source**

Corrigendum 1 to ITU-T Recommendation G.709/Y.1331 (2003) was approved on 14 December 2006 by ITU-T Study Group 15 (2005-2008) under the ITU-T Recommendation A.8 procedure.

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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.

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## CONTENTS

	<b>Page</b>
1) Clause 15.8.2.2: ODUk tandem connection monitoring (TCM) overhead.....	1
2) Clause 19.4: OPUk Multiplex Overhead.....	1



Interfaces for the Optical Transport Network (OTN)

Corrigendum 1

1) **Clause 15.8.2.2: ODUk tandem connection monitoring (TCM) overhead**

*Modify the following paragraphs:*

A TCM field is assigned to a monitored connection as described in 15.8.2.2.6. The number of monitored connections along an ODUk trail may vary between 0 and 6. These monitored connections can may be nested, overlapping and/or cascaded or both. Nesting and cascading are the default operational configurations. Overlapping is an additional configuration for testing purposes only. Overlapped monitored connections must be operated in a non-intrusive mode in which the maintenance signals ODUk-AIS and ODUk-LCK are not generated. For the case where one of the endpoints in an overlapping monitored connection is located inside a SNC protected domain while the other endpoint is located outside the protected domain, the SNC protection should be forced to working when the endpoint of the overlapping monitored connection is located on the working connection, and forced to protection when the endpoint is located on the protection connection.

Nesting and cascading configurations are shown in Figure 15-16. Monitored connections A1-A2/B1-B2/C1-C2 and A1-A2/B3-B4 are nested, while B1-B2/B3-B4 are cascaded. Overlapping is shown in Figure 15-17 (B1-B2 and C1-C2).

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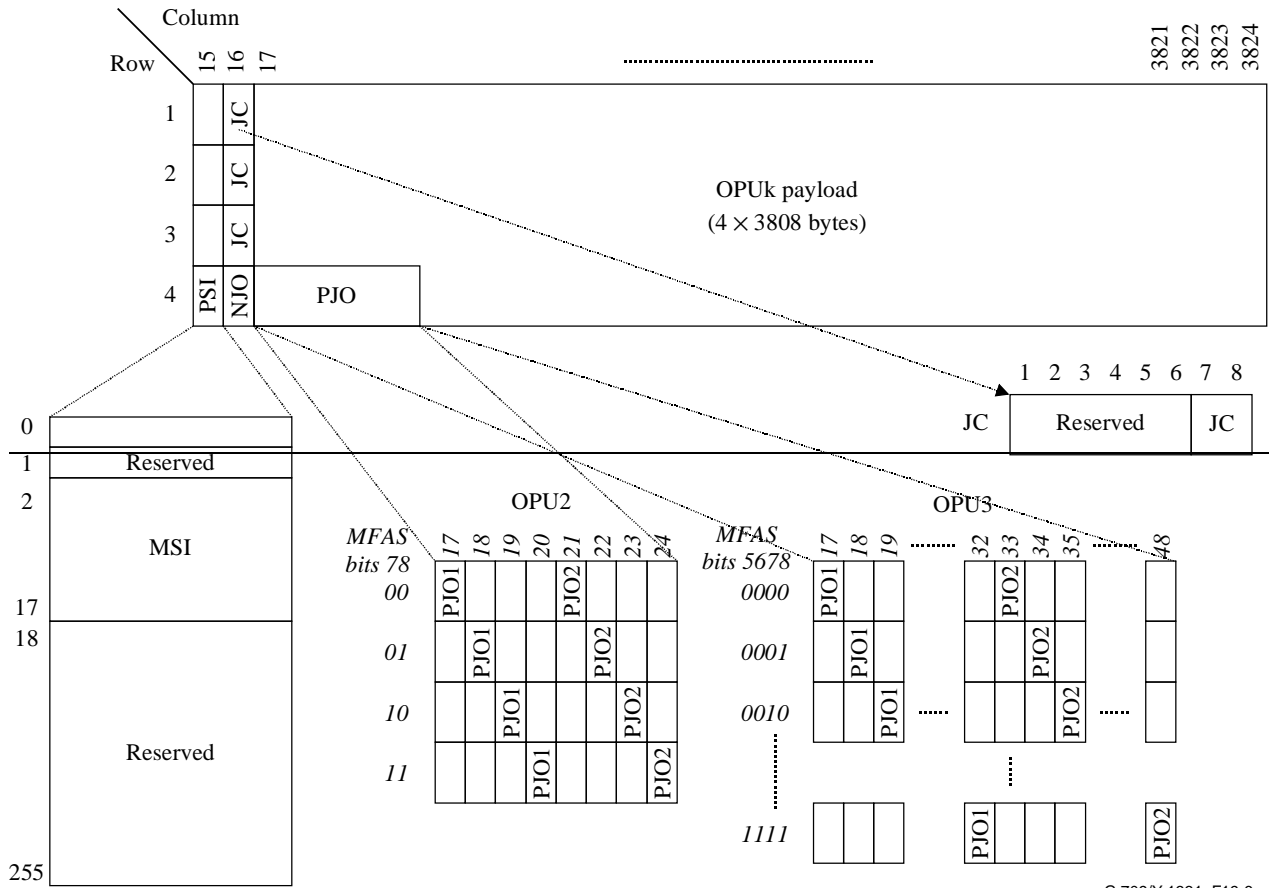
~~Overlapping monitored connections as shown in Figure 15-17 (B1-B2 and C1-C2) are also supported.~~

2) **Clause 19.4: OPUk Multiplex Overhead**

*Modify the following paragraph and replace Figure 19-6:*

The OPUk multiplex overhead consists of Multiplex Structure Identifier (MSI), Justification Control (JC) and Negative Justification Opportunity (NJO) overhead. The OPUk MSI, JC and NJO overhead locations are shown in Figure 19-6. In addition, two Positive Justification Overhead bytes (PJO1, PJO2) are located in the OPUk payload. Note that the PJO1 and PJO2 locations are multiframe, ODUj and OPUk tributary slot dependent.

The PJO1 for an ODU1 in OPU2 or OPU3 tributary slot #i (i: 1..4 or 1..16 respectively) is located in the first column of OPUk tributary slot #i (OPUk column 16+i) and the PJO2 is located in the second column of OPUk tributary slot #i (OPU2 column 20+i, OPU3 column 32+i) in frame #i of the four or sixteen frame multiframe. The four PJO1s for an ODU2 in OPU3 tributary slots #a, #b, #c and #d are located in the first column of OPU3 tributary slot #a (OPU3 column 16+a) in frames #a, #b, #c and #d of the sixteen frame multiframe. The four PJO2s for an ODU2 in OPU3 tributary slots #a, #b, #c and #d are located in the first column of OPU3 tributary slot #b (OPU3 column 16+b) in frames #a, #b, #c and #d of the sixteen frame multiframe. Figure 19-6 presents an example with four ODU2s in the OPU3 mapped into tributary slots (1,5,9,10), (2,3,11,12), (4,14,15,16) and (6,7,8,13).



G.709/Y.1331\_F19-6



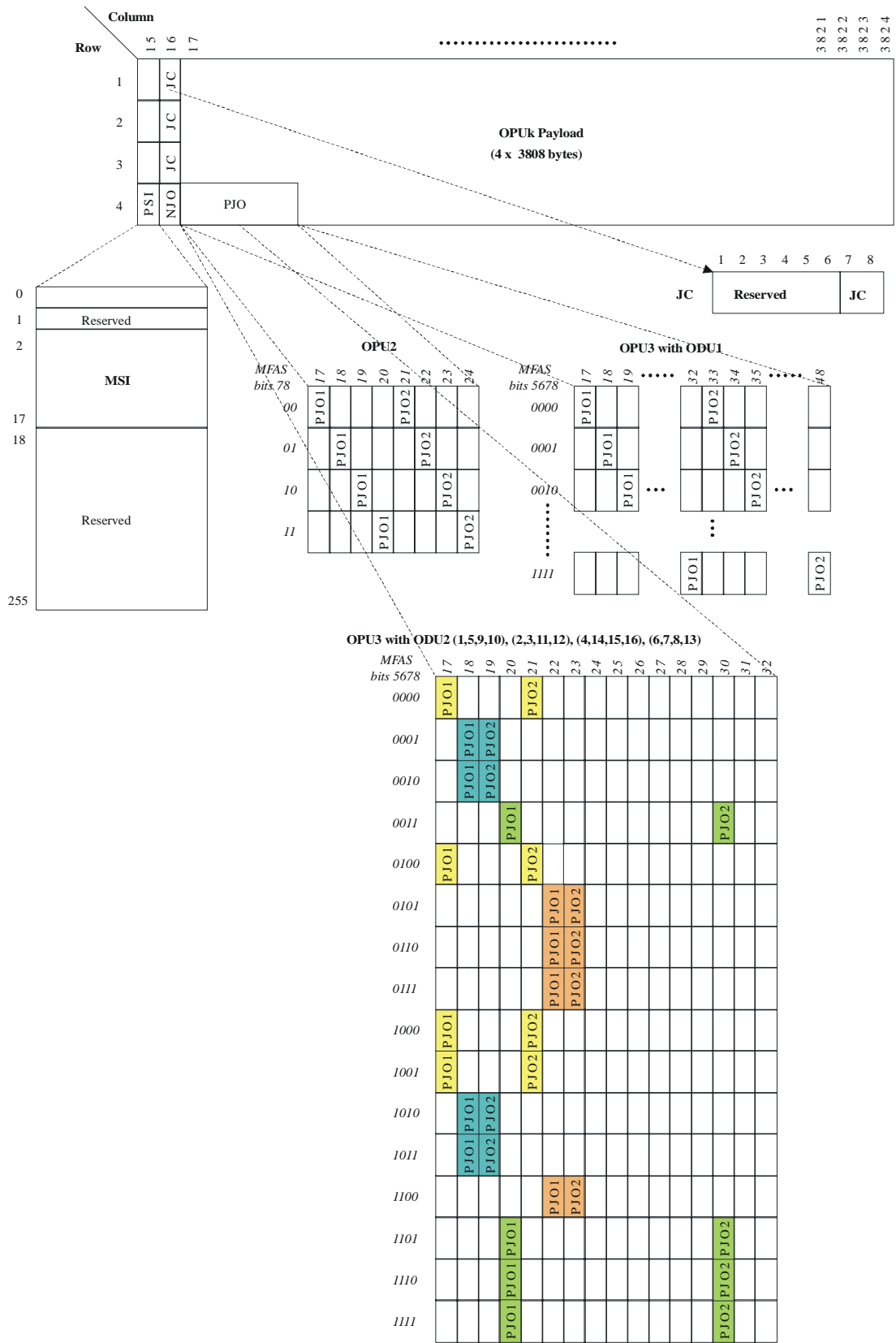


Figure 19-6 – OPUk multiplex overhead



ITU-T Y-SERIES RECOMMENDATIONS

GLOBAL INFORMATION INFRASTRUCTURE, INTERNET PROTOCOL ASPECTS AND NEXT-GENERATION NETWORKS

GLOBAL INFORMATION INFRASTRUCTURE	
General	Y.100–Y.199
Services, applications and middleware	Y.200–Y.299
Network aspects	Y.300–Y.399
Interfaces and protocols	Y.400–Y.499
Numbering, addressing and naming	Y.500–Y.599
Operation, administration and maintenance	Y.600–Y.699
Security	Y.700–Y.799
Performances	Y.800–Y.899
INTERNET PROTOCOL ASPECTS	
General	Y.1000–Y.1099
Services and applications	Y.1100–Y.1199
Architecture, access, network capabilities and resource management	Y.1200–Y.1299
<b>Transport</b>	<b>Y.1300–Y.1399</b>
Interworking	Y.1400–Y.1499
Quality of service and network performance	Y.1500–Y.1599
Signalling	Y.1600–Y.1699
Operation, administration and maintenance	Y.1700–Y.1799
Charging	Y.1800–Y.1899
NEXT GENERATION NETWORKS	
Frameworks and functional architecture models	Y.2000–Y.2099
Quality of Service and performance	Y.2100–Y.2199
Service aspects: Service capabilities and service architecture	Y.2200–Y.2249
Service aspects: Interoperability of services and networks in NGN	Y.2250–Y.2299
Numbering, naming and addressing	Y.2300–Y.2399
Network management	Y.2400–Y.2499
Network control architectures and protocols	Y.2500–Y.2599
Security	Y.2700–Y.2799
Generalized mobility	Y.2800–Y.2899

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Series D	General tariff principles
Series E	Overall network operation, telephone service, service operation and human factors
Series F	Non-telephone telecommunication services
<b>Series G</b>	<b>Transmission systems and media, digital systems and networks</b>
Series H	Audiovisual and multimedia systems
Series I	Integrated services digital network
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Series S	Telegraph services terminal equipment
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Series Z	Languages and general software aspects for telecommunication systems