JT-G704 Frame Structures on Primary and Secondary Hierarchical Digital Interfaces

1 Relations with international standards

This Standard conforms to a revision in G.704 (1998).

2 Summary of Departures from ITU-T Recommendations

(1) In this Standard, the following items are deleted from the above Recommendation.

(a) Interfaces at 2048 kbit/s, 8448 kbit/s, and 44736 kbit/s

(b) A 12-frame multiframe for allocating F-bits for interface at a 1544 kbit/s bit rate.

(c) Interfaces at 1544 kbit/s carrying other channels than 64kbit/s and interfaces at 6312 kbit/s carrying other channels than 64 kbit/s

Part (a) is deleted because, although there may be a need in Japan for future international connections, the digital hierarchy is now based on a 1544 kbit/s primary rate and a 6312 kbit/s secondary rate.

Part (b) is deleted because the 12-frame multiframe method cannot accommodate CRC bits. Therefore, the 24-frame multiframe method, that can accommodate CRC bits, is considered to be more useful for ISDNs.

Part (c) is deleted because other channels than 64 kbit/s for interfaces at 1544 kbit/s and 6312 kbit/s are currently not used in networks.

(2) In this Standard, the following item is amended to the above Recommendation.

(a) Section 2.1.3.3, "4 kbit/s data link"

The above schemes are amended because only the LFA sequences of 4 kbit/s data link are currently used in networks.

(3) In this Standard, the following items are added to the above Recommendation.

(a) Annex B, Examples of CRC implementations using shift registers (JT-G704 Version 2)

(b) Annex C, 4kbit/s data link for interfaces at 1544kbit/s (JT-G704 Version 2)

Part (a) and Part (b) are added because 2kbit/s CRC and 4 kbit/s data link for interfaces at 1544 kbit/s, which are described in JT-G704 Version 2, are currently used in networks.

3 Summary of Departures from the previous TTC Standards

(1) In this Standard, the following item is deleted from the previous TTC Standards.

(a) Interfaces at 1544 kbit/s carrying other channels than 64 kbit/s and interfaces at 6312 kbit/s carrying other channels than 64 kbit/s

(2) In this Standard, the following items are amended to the previous TTC Standards.

(a) 2.1.3.2 2 kbit/s CRC

(b) 2.1.3.3 4 kbit/s data link

(c) Annex A, Examples of CRC implementations using shift registers (ITU-T G.704[1998])

Part (a), Part (b), and Part (c) are amended because interfaces at 1544 kbit/s in this Standard should conform to a revision in ITU-T G.704 [1998]

(3) In this Standard, the following items are added to the previous TTC Standards.

(a) Annex B, Examples of CRC implementations using shift registers (JT-G704 Version 2)

(b) Annex C, 4kbit/s data link for interfaces at 1544kbit/s (JT-G704 Version 2)

(c) Annex D, Alphabetical list of abbreviations used in this Standard

Part (a), Part (b), and Part (c) are added because interfaces at 1544 kbit/s described in the previous Standard (Version 2) and this revised Standard (version 3) are both currently used in networks.

4. References

- JT-G702   Digital Hierachy Bit Rates

- JT-G703   Physical/Electrical Chracteristics of Hierarchical Digital Interfaces

- JT-G712   Transmission Performance Characteristics of PCM Channels

- ITU-T X.50   Fundamental parameters of multiplexing scheme for the international interface between synchronous data networks

5. Contents of this Standard

TTC Standard	ITU-T Recommendation	Notes
Chapter 1. Scope	Chapter 1.	---------
Chapter 2. Basic Frame Structures	Chapter 2.	---------
Chapter 3. Characteristics of frame structure carrying channels at various bit rates in 1544 kbit/s	Chapter 3.	Interfaces at 1544 kbit/s carrying other channels than 64 kbit/s were deleted in the TTC Standard.
Chapter 4. Characteristics of frame structure carrying channels at various bit rates in 6312 kbit/s	Chapter 4.	Interfaces at 6312 kbit/s carrying other channels than 64 kbit/s were deleted in the TTC Standard.
---------	Chapter 5.	Chapter 5. in the Recommendation was completely deleted in the TTC Standard.
---------	Chapter 6.	Chapter 6. in the Recommendation was completely deleted in the TTC Standard.
Annex A Examples of CRC implementations using shift registers (ITU-T G.709 1998)	Annex A	CRC-4 procedures for interfaces at 2048 kbit/s were deleted in the TTC Standards.
Annex B Examples of CRC implementations using shift registers (JT-G704 Version 2)	---------	2 kbit/s CRC of interfaces at 1544 kbit/s (JT-G704 Version 2) was added to the TTC Standard.
Annex C 4kbit/s data link for interfaces at 1544kbit/s (JT-G704 Version 2)	---------	4 kbit/s data link for interfaces at 1544 kbit/s (JT-G704 Version 2) was added to the TTC Standard.
Annex D Alphabetical list of abbreviations used in this Standard	Annex B	Interfaces at 1544 kbit/s carrying other channels than 64 kbit/s and interfaces at 6312 kbit/s carrying other channels than 64 kbit/s were deleted in the TTC Standard.

6. The history of revised versions

Versions	Date	Outline
1	April 28, 1987	Established.
1.1	July 15, 1987	Revised according to proceeding of ITU-T.
2	April 28, 1989	Revised according to proceeding of ITU-T.
3	May 30, 2002	Revised according to proceeding of ITU-T.