JT-I430　ISDN Basic User-Network Interface Layer 1 - Specification

1.　Relations with international standards

JT-I430 is based on ITU-T Recommendation I.430 (1995 Version) approved in the ITU-T SG13.

2.　Summary of departures from ITU-T Recommendations

(1)　Figure 16/I.430

Deletion of Figure 16/I.430

<Reasoning>:

In the Blue Book, Figure 16/I.430 is referred to in section 8.5.6.2 (Output signal balance).

In the 1992 version, section 8.5.6.2 is deleted, and longitudinal output voltage is newly specified in section 8.10.

Since the section in which Figure 16/I.430 is referred to no longer exists, we think the inclusion of this figure is meaningless and it should be deleted.

(2)　Power sink 3

Deletion of power sink 3 within an NT

<Reasoning>:

Power source 3 within an NT is beyond the scope of this standard.

(3)　Electrical environment

<Reasoning>:

This issue is included in the standardization because specifications for lightning

surges to the various groundings are inevitable from the viewpoint of safety. The issue, however, is one for further study because it is still being discussed in the ITU-T SG 5 and relevant national committees.

(4)　D.C. resistance limit of interface line

<Reasoning>:

This limit is required for determining the interface line range due to power supply capabilities through the copper interface line extended from the T/S reference point.

(5)　Power feed specifications from interface reference points T and S.

<Reasoning>:

In ITU-T Recommendation I.430, three options are specified for power feeding from the user-network interface reference point:

(a)　normal power feeding from power source 1,

(b)　restricted power feeding from power source 1,

(c)　power feeding from power source 2.

In the standards, restricted power feeding from power source 1 is considered essential to maintain terminal portability within networks and to continue communications even under emergency conditions(e.g., power failure).

(6)　Parameters for artificial lines

<Reasoning>:

Annex D of Recommendation I.430 does not include parameter values for inductance (L) and conductance (G) of artificial lines to be used for interface transmission measurement. In the standards, these two parameter values are added to describe more accurate measurement configurations.

An impedance template relevant to seven terminals is also added to the standards.

(7)　Layer 1 maintenance

　This section is based on ITU-T Recommendation I.430 (Blue Book 1988 Version).

Loop-back 2 definitions and its characteristics description are included as follows.

A non-transparent, complete and echoing loop-back 2 is adopted in the standards.

<Reasoning>:

In the 1992 version, this section describes the optical use of S and Q channels for O & M functions between terminal and NT1.

We think the inclusion of these functions needs further study for consistency with the standard of digital transmission system.

It is advantageous to specify loop-back 2 with the above characteristics for layer 1 maintenance and testing activities involving troubleshooting. This is done by separating the network side and the user side although several test loops are recommended, desired or optional in the ITU-T Recommendation.

(8)　ANNEX B

Amendment in the SDL Diagram in ANNEX B of ITU-T Recommendation I.430.

<Reasoning >:

In this SDL representation, the ninth decision symbol on the left, <F=17> is clearly miss-typed. Therefore, the contents of this decision table should be amended to <F=1>.

(9)　Figure C-1/I.430 (sheet 4 of 5)

The change of a note inserted into Figure C-1/I.430 (Sheet 4 of 5)

<Reasoning>:

In the transition flow from STATE F6 to "Receiving INFO4" -based STATE F7, Note 2 ("This error indication reports the detection of an error.") is appended concerning MPH-EI issue. This MPH-EI is the transition flow to Activated STATE F7 and it means recovery from an error.

Therefore, Note 2 should be amended to Note 3 ("This error indication reports recovery from a previously reported error.")

3. History of revised versions

Version	Date	Outline
1	April 28, 1987	Established
2	May 31, 1988	Updated based on the result of the CCITT SGXVIII soul meeting in January and February,1988.
3	April 28, 1989	Revised based on the correction and the clerical error correction.
4	April 26, 1991	Updated based on CCITT recommendation of 1988 editions, and the agreement item of CCITT SGXVIII Geneva meeting in May, 1990.
5	April 27, 1993	Updated based on the standard corresponding to the recommendation approved by WTSC-93 in March, 1993.
6	November 27, 1996	Updated based on the result of the ITU-T SG13 meeting in July, 1995. And deleted the disturbance wave regulation from this standard, in order to specify independently.
6.1	February 4, 1997	Correction about the contents of description.
6.2	February 1, 2000	Clerical error correction of " Table JT-I430 ".

4. Others

(1) The following issues are for further study:

- test loop-backs other than loop 2

- electrical environment

(2) This standard is concerned with layer 1 characteristics at S and T reference points, and it is applicable to ISDN interface of PBX and so on.

(3) Recommendations and Standards to be referred to

（ⅰ) ITU-T Recommendations

I.430, X.211, G.117, O.121

（ⅱ) ISO Standards

IS8877