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Information processing systems — Interface connector and contact assignments for ISDN basic access interface located at reference points S and T

*Systèmes de traitement de l'information — Connecteur d'interface et affectation des contacts
pour l'interface d'accès de base au RNIS située aux points de référence S et T*

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Foreword

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Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council. They are approved in accordance with ISO procedures requiring at least 75 % approval by the member bodies voting.

International Standard ISO 8877 was prepared by Technical Committee ISO/TC 97, *Information processing systems*.

Users should note that all International Standards undergo revision from time to time and that any reference made herein to any other International Standard implies its latest edition, unless otherwise stated.

Information processing systems — Interface connector and contact assignments for ISDN basic access interface located at reference points S and T

1 Scope and field of application

This International Standard specifies the 8-pole connector (plug and jack) and the assignments of poles/contacts for use in physical interfaces of Integrated Services Digital Network (ISDN) basic access arrangements. These physical interfaces, where they exist, will be located at reference points S and T between TEs and NTs and between NT1s and NT2s and shall conform to CCITT Recommendation I.430.

CCITT Recommendation I.430 requires plugs and jacks on equipment connecting cords and interface cables as shown in figure 2/I.430 of that Recommendation (see also annex A).

For the purpose of this International Standard, when viewed from an NT1, an NT2 may be considered to be a TE.

NOTE — This International Standard specifies connector dimensions but only those to ensure intermatability, complete detailed specifications of the plugs and jacks and all other dimensions will be the subject of a future IEC standard.

2 References

CCITT Recommendation I.411-1985, *ISDN user-network interface — Reference configurations*.

CCITT Recommendation I.420-1985, *Basic user-network interface*.

CCITT Recommendation I.430-1985, *Basic user-network interface — Layer 1 specification*.¹⁾

3 Definitions

For the purpose of this International Standard the following definitions apply.

3.1 pole: A position for a contact.

3.2 contact: The electrical contact element which, for many connectors, is referred to as a "pin".

3.3 plug and jack: The male and female connector parts, respectively.

NOTE — The term socket is used in CCITT Recommendation I.430, Section 4, in referring to the female connector part or jack.

Examples of interface cabling configurations are given in annex A.

4 Connector

Eight-pole plugs and jacks are specified for the interconnection of TEs and NTs. One plug and jack pair is used to connect the TE connecting cord to the interface cable (at interface point I_A in CCITT Recommendation I.430, figure 2/I.430) and a second plug and jack pair is used (optionally)²⁾ to connect the NT connecting cord to the interface cable (at interface point I_B in CCITT Recommendation I.430, figure 2/I.430). Interface cabling may have a passive bus of a point-to-point configuration. (Both configurations are illustrated in annex A.)

TE and NT connecting cords shall be terminated in plugs. Figure 1 illustrates the cord-terminating plug which provides for 4, 6 or 8 contacts. The number of physical contacts provided or required is dependent upon the use by the associated equipment, TE or NT, of the optional provisions for powering across the interface. The optional powering capabilities are described in CCITT Recommendation I.430, section 9, and are summarized in annex B.

Interface cables shall be terminated in jacks. Figure 2 illustrates the jack which provides 4, 6 or 8 contacts. As with the cord terminating plug, the number of contacts provided or required is dependent upon the provision for the powering options discussed in annex B.

Connector dimensions³⁾ necessary to assure mating of plugs with jacks are specified in figures 3 to 5. Connectors for use in the applications covered by this International Standard shall conform⁴⁾ to the dimensions specified in these figures. No additional provisions for keying shall be provided.

1) Red Book, Volume III — Fascicle III. 5, 1985.

2) The interface cable may or may not be directly connected to an NT. Where the NT is a multi-port device, for example, a PABX, the connection to the NT may involve a large connector arrangement which accommodates multiple interfaces.

3) See note to clause 1.

4) Compliance with this International Standard does not depend on compliance with any other standard.

Figure 3 gives the mechanical specification for mating of the 8-pole plug. Figure 4 gives the plug/jack contact specification for mating. Figure 5 gives the mechanical specification for mating of the 8-pole jack. While physical contacts are indicated for poles 1, 2, 7 and 8 of the plug and jack, contacts corresponding to these numbers are not required in some applications and, in such applications, may be omitted.

5 Assignment of contact numbers

Four contact numbers are assigned for the conductors of the two pairs used for the signal transmission from NT to TE and from TE to NT. Two contacts each are assigned for TRANSMIT and RECEIVE directions at TEs and, correspondingly, for RECEIVE and TRANSMIT directions at NTs. Contacts are also assigned, for sources and sinks at TEs and NTs, individually, for the two optional conductor pairs used for powering TEs from NTs or from other TEs (or NTs from TEs). The provision of twisted pairs for TRANSMIT and RECEIVE circuits and of conductors for powering shall be in conformance with the provisions of CCITT Recommendation I.430 in all applications. The assignments applicable to the interface on the NT1 side of NT2s shall be the same as for the interface at TEs.

The contact number assignments for plugs and jacks are given in the table. The individual contact, for each conductor pair, is designated "+" or "-".

For TRANSMIT and RECEIVE pairs, the contact designated "+" indicates the conductor (lead in CCITT Recommendation I.430) of the pair for which the framing pulse should be relatively positive. However, it is unnecessary to distinguish the individual conductors of transmit and receive circuit pairs in interface cables or extension cords in point-to-point interconnections.

For pairs used for powering across the interface (see source 1 or 2 in section 9 of CCITT Recommendation I.430), the contact designated "+" indicates the conductor (lead in CCITT Recommendation I.430) of the pair that carries the relatively positive d.c. voltage.

Table — Contact assignments for plugs and jacks

Contact number	TE	NT	Polarity
1	Power source 3	Power sink 3	+
2	Power source 3	Power sink 3	-
3	Transmit	Receive	+
4	Receive	Transmit	+
5	Receive	Transmit	-
6	Transmit	Receive	-
7	Power sink 2	Power source 2	-
8	Power sink 2	Power source 2	+

NOTE — For its use in TE-to-TE interconnections, power source/sink 3 shall conform to the requirements, specified in CCITT Recommendation I.430, section 9.2, for power source/sink 2.