

Australian Standard[®]

**INFORMATION PROCESSING
SYSTEMS—
DATA COMMUNICATION—
HIGH-LEVEL DATA LINK
CONTROL BALANCED CLASSES
OF PROCEDURES—
DATA-LINK LAYER ADDRESS
RESOLUTION/NEGOTIATION IN
SWITCHED ENVIRONMENTS
(ISO 8471)**

This Australian Standard was prepared by Committee IS/1, Information Processing Systems. It was approved on behalf of the Council of the Standards Association of Australia on 27 October 1987 and published on 1 December 1987.

The following interests are represented on Committee IS/1:

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Australian Bankers' Association
Australian Bureau of Statistics
Australian Computer Equipment Manufacturers Association
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PREFACE

This Standard was prepared by the Association's Committee on Information Processing Systems. It is identical with and has been reproduced from International Standard ISO 8471—1987; drawn up by ISO TC 97, Information Processing Systems.

This Standard is applicable to data stations employing HDLC balanced classes of procedures which provide the XID command/response capability with the two specific parameter fields, identified below. It is used to select a pair of operational link addresses when preassigned, system designated addresses are not known on an *a priori* basis, e.g. switched circuit data links. Additional XID frame functions (including the exchange of operational parameters, command/response support, higher layer information, etc.) may be accomplished in conjunction with data link layer address determination or following address determination, with additional XID frame exchanges.

The Standard is one of a series of Open Systems Interconnection (OSI) Standards which are currently under development or in the course of publication. Since OSI Standards are developmental, there may be some minor difficulties encountered in their implementation. For this reason, SAA will be providing a limited interpretation service to co-ordinate and disseminate information concerning difficulties which are identified in using this Standard.

For the purpose of this Australian Standard, the text of the ISO Standard given herein should be modified as follows:

- (a) *Terminology.* The words 'Australian Standard' should replace the words 'International Standard' wherever they appear.
- (b) *Cross-references.* The references to International Standards should be replaced by references to Australian Standards as follows:

<i>Reference to International Standard</i>	<i>Appropriate Australian Standard</i>
ISO 3309, Information processing systems—Data communication—High-level data link control procedures—Frame structure	AS 2572, Information processing systems—Data communication—High-level data link control procedures—Frame structure
ISO 4335, Information processing systems—Data communication—High-level data link control elements of procedures	No Australian equivalent
ISO 7809, Information processing systems—Data communication—High-level data link control procedures—Consolidation of classes of procedures	AS 2751, Information processing systems—Data communication—High-level data link control procedures—Consolidation of classes of procedures
ISO 8885, Information processing systems—Data communication—High-level data link control procedures—General purpose XID frame information field, content and format	No Australian equivalent

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Information processing systems — Data communication — High-level data link control balanced classes of procedures — Data-link layer address resolution/negotiation in switched environments

0 Introduction

High-level Data Link Control (HDLC) procedures define the Exchange Identification (XID) command/response capability as being an optional feature for the exchange of necessary information (identification, parameters, functional capability, etc.). This International Standard specifies the parameters and procedures which may be employed for two data stations to mutually determine the data link layer addresses to be used prior to logical data link establishment.

1 Scope and field of application

This International Standard is applicable to data stations employing HDLC balanced classes of procedures which provide the XID command/response capability with the two specific parameter fields, identified below. It is used to select a pair of operational link addresses when preassigned, system designated addresses are not known on an apriori basis; e.g., switched circuit data links. Additional XID frame functions (including the exchange of operational parameters, command/response support, higher layer information, etc.) may be accomplished in conjunction with data link layer address determination or following address determination, with additional XID frame exchanges.

NOTE - Address resolution procedures for situations where the remote DTE does not have XID frame, "all-station" address, or complete address support capabilities as deemed in clause 4 below are not within the scope of this International Standard.

2 References

ISO 3309, *Information processing systems - Data communication - High-level data link control procedures - Frame structure.*

ISO 4335, *Information processing systems - Data communication - High-level data link control procedures - Consolidation of elements of procedures.*

ISO 7809, *Information processing systems - Data communication - High-level data link control procedures - Consolidation of classes of procedures.*

ISO 8885, *Information processing systems - Data communication - High-level Data Link Control Procedures - General purpose XID frame information field, content and format.*

3 Definitions

For the purpose of this International Standard, the following definitions apply;

3.1 Address resolution/negotiation data-link layer sub-field: See ISO 8885.

3.2 All station address: See ISO 3309.

3.3 Data-link layer address parameter: See ISO 8885.

3.4 Initiating combined station: A station that sends the initial XID command frame as part of the address resolution process.

3.5 Non-initiating combined station: A station that waits for its peer to send the initial XID command frame as part of the address resolution process.

3.6 No-Station address: See ISO 3309.

3.7 Unique identifier: See ISO 8885.

4 Operational requirements

4.1 XID Command/Response Frame Support

All stations shall support the XID frame optional function defined as Optional Function 1 in ISO 7809.