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# INTERNATIONAL STANDARD

**ISO  
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**ADDENDUM 1**  
1989-10-01

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**Information processing systems — Data  
communication — High-level data link control  
procedures — General purpose XID frame  
information field content and format**

**ADDENDUM 1: Additional operational parameters for  
the parameter negotiation data link layer subfield and  
definition of a multilink parameter negotiation data  
link layer subfield**

*Systèmes de traitement de l'information — Communications de données —  
Procédures de commande de liaison de données à haut niveau — Format et  
contenu du champ d'information de la trame XID pour application générale*

*ADDITIF 1: Paramètres fonctionnels additionnels pour la négociation de paramètres  
d'un sous-champ de la couche liaison de données et définition d'un sous-champ de  
la couche liaison de données servant à la négociation des paramètres multiliason*



Reference number  
ISO 8885 : 1987/Add.1 : 1989 (E)

## 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 8885/Add.1 was prepared by Technical Committee ISO/TC 97, *Information processing systems*.

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# Information processing systems — Data communication — High-level data link control procedures — General purpose XID frame information field content and format

## ADDENDUM 1: Additional operational parameters for the parameter negotiation data link layer subfield and definition of a multilink parameter negotiation data link layer subfield

### 1 Scope

This addendum adds an additional data link layer subfield in the XID information field to provide for the exchange of multilink parameters when such capabilities are available in the DTE/DCE. Also, it adds an element to the parameter negotiation data link layer subfield to identify the data link connection so that members of a multilink group can be determined.

This addendum adds four elements to the parameter negotiation data link layer subfield, including parameters specified in most recent applications of HDLC procedures (e.g., ISO 7776, CCITT Recommendations X.25 and Q.921).

### 2 References

Add the following: ISO 7478, *Information processing systems — Data communication — Multilink procedures*.

### 3 Definitions

Change the sentence to read: For the purpose of this International Standard the definitions given in ISO 7498, ISO 4335 and ISO 7478 as well as the following definitions apply:

#### 4.2 Data link layer subfields

Change the fifth paragraph to read: The Group Identifier (GI) identifies the function of that data link layer subfield. Three data link layer subfield identifiers are defined:

Address resolution

Parameter negotiation, and

Multilink parameter negotiation.

#### 5.2.1 Group Identifier encoding

Add the following: 0001 0001 Multilink parameter negotiation identifier

6 Definition and encoding of data link layer parameter fields

Change the first sentence to read: The following is a list of parameter field elements that are defined for the address resolution, parameter negotiation, and multilink parameter negotiation data link layer subfields.

Add to the parameter negotiation list:

- 9 Acknowledgement timer
- 10 Retransmission attempts
- 11 Reply delay timer
- 12 Port number.

Add a third list:

Multilink parameter negotiation (GI = 00010001)

| PI | Parameter field element               |
|----|---------------------------------------|
| 1  | Lost frame timer (MT1)                |
| 2  | Group busy timer (MT2)                |
| 3  | Reset confirmation timer (MT3)        |
| 4  | Multilink window size (MW) - transmit |
| 5  | Multilink window size (MW) - receive  |
| 6  | Guard region window size (MX)         |
| 7  | Multilink group size                  |
| 8  | Multilink group member(s)             |

Add to table 2:

|                         |    |   |   |   |    |   |
|-------------------------|----|---|---|---|----|---|
| Acknowledgement timer   | 9  | N | Wait for acknowledgement timer (msec)       | B | NA | B |
| Retransmission attempts | 10 | N | Maximum number of retransmission attempts   | B | NA | B |
| Reply delay timer       | 11 | N | Maximum delay in generation of reply (msec) | B | NA | B |
| Port number             | 12 | 2 | Local port identifier (for multilink use)   | B | NA | B |

Add a new table 3:

Table 3 - Multilink parameter negotiation data link layer subfield

| Name                                  | PI | PL | Parameter field element  | Code type | Bit No. | Value             |
|---------------------------------------|----|----|--|-----------|---------|-------------------|
| Lost frame timer                      | 1  | N  | MT1 - lost frame timer (msec)  | B         | NA      | B                 |
| Group busy timer                      | 2  | N  | MT2 - Group busy timer (msec)  | B         | NA      | B                 |
| Reset confirmation timer              | 3  | N  | MT3 - Reset confirmation timer (msec)                                | B         | NA      | B                 |
| Multilink window size (transmit)      | 4  | 2  | Multilink window size (MW) - transmit (frames)                       | B         | 1-12    | 0 through 4095-MX |
|                                       |    |    | Reserved   | B         | 13-16   | 0                 |
| Multilink window size (receive)       | 5  | 2  | Multilink window size (MW) - receive (frames)                        | B         | 1-12    | 0 through 4095-MX |
|                                       |    |    | Reserved   | B         | 13-16   | 0                 |
| Guard region window size              | 6  | 2  | Guard region window size (MX) (frames)                               | B         | 1-12    | B                 |
|                                       |    |    | Reserved   | B         | 13-16   | 0                 |
| Multilink group size                  | 7  | 1  | Number of data links in multilink group                              | B         | NA      | B                 |
| Multilink group member <sup>(1)</sup> | 8  | 4  | Local port number - remote port number, for the data link connection | B         | NA      | B                 |

(1) This parameter field element is repeated for each member of the multilink group.

Change the last sentence to read: The following legend explains the symbols used in tables 1, 2 and 3.

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