

Information technology — Functional standard for profiles Y/11 and Y/12 — Character mode terminals on PAD — X.29 over X.25, and X.28 (PSDN character mode access)

Committees responsible for this Draft for Development

The preparation of this Draft for Development was entrusted to Technical Committee IST/6, Data communications, upon which the following bodies were represented.

- British Computer Society
- British Telecommunications plc
- CCTA (the Government Centre for Information Systems)
- Digital Equipment Co. Ltd.
- IBM United Kingdom Ltd.
- Institution of Electrical Engineers
- International Computers Ltd.
- Logica UK Ltd.
- Nine Tiles Computer Systems Ltd.
- Rank Xerox (UK) Ltd.

This Draft for Development was published under the authority of the Standards Board and comes into effect on 15 November 1995

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The following BSI reference relates to the work on this Draft for Development: Committee reference IST/6

ISBN 0 580 24464 4

Amendments issued since publication

Amd. No.	Date	Comments

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National foreword

This Draft for Development is identical with the European prestandard ENV 41901:1994 *Information technology — Functional standard for profiles Y/11 and Y/12 — Character mode terminals on PAD — X.29 over X.25, and X.28 (PSDN character mode access)* prepared by CEN/CENELEC whose members have committed themselves to making it available in an appropriate form. In the UK the Draft for Development is the form now chosen for ENVs in the information technology area.

This publication is not to be regarded as a British Standard.

This Draft for Development is published under the direction of the Information Systems Technology Assembly whose Technical Committee IST/6 has the responsibility to:

- aid enquirers to understand the text;
- present to the responsible international committee any enquiries on interpretation, or proposals for change, and keep UK interests informed;
- monitor related international and European developments and promulgate them in the UK.

NOTE International and European Standards, as well as overseas standards, are available from Customer Services, BSI, 389 Chiswick High Road, London W4 4AL.

After two years this ENV will be reviewed by CEN/CENELEC members with a view to its:

- conversion into a European Standard (which would be implemented in the UK as a British Standard);
- extension once for a further two years;
- replacement by a revised ENV (which would be published in the UK as a revised Draft for Development);
- withdrawal

The future of this Draft for Development is therefore bound to that of the ENV and the Draft for Development will not be reviewed or developed separately.

Cross-references

Publication referred to	Corresponding British Standard
ISO/IEC 2110:1989	BS ISO 2110:1989 <i>Information technology. Data communication. 25-pole DTE/DCE interface connector and contact number assignments</i>
ISO 4902:1989	BS ISO 4902:1989 <i>Information technology. Data communication. 37-pole DTE/DCE interface connector and contact number assignments</i>
ISO 4903:1989	BS ISO 4903:1989 <i>Information technology. Data communication. 15-pole DTE/DCE interface connector and contact number assignments</i>
ISO/IEC 8208:1990	BS ISO/IEC 8208:1990 <i>Information technology. Data communications. X.25 packet layer protocol for data terminal equipment</i>

Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, the ENV title page, pages 2 to 33 and a back cover.

This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.

Descriptors: Data processing, teleprocessing, data transmission, packet transmission, protocols, interface, data circuit terminations, telephone networks

English version

Information technology — Functional standard for
profiles Y/11 and Y/12 — Character mode terminals
on PAD — X.29 over X.25, and X.28
(PSDN character mode access)

Technologies de l'information — Norme
fonctionnelle pour les profils Y/11 et Y/12 —
Terminaux en mode caractère sur un ADP —
X.29 sur X.25, et X.28 (Accès à un PSDN en
mode caractère)

Informationstechnik — Funktionelle Norm für
die Profile Y/11 und Y/12 — Zeichenorientierte
Endgeräte an einer PAD — X.29 über X.25 und
X.28 (Zugang zum PSDN mit
Start-Stop-Übertragung)

This European Prestandard (ENV) was approved by CEN/CENELEC on 1994-03-03 as a prospective standard for provisional application. The period of validity of this ENV is limited initially to three years. After two years the members of CEN/CENELEC will be requested to submit their comments, particularly on the question whether the ENV can be converted into an European Standard (EN).

CEN/CENELEC members are required to announce the existence of this ENV in the same way as for an EN and to make the ENV available promptly at national level in an appropriate form. It is permissible to keep conflicting national standards in force (in parallel to the ENV) until the final decision about the possible conversion of the ENV into an EN is reached.

CEN/CENELEC members are the national standards bodies and national electrotechnical committees, respectively, of Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

CEN/CENELEC

The Joint European Standards Institution
Organisation Commune Européenne de Normalisation
Die Gemeinsame Europäische Normungsorganisation

Central Secretariat: rue de Stassart 36, B-1050 Brussels

Foreword

This European Prestandard (ENV) was first drawn up by Working Group CEN/CENELEC/IT/WG XXX, which was established by the CEN/CENELEC/CEPT Information Technology Steering Committee on 1985-07-17, with BSI as Secretariat. The revision was prepared by the Working Group, which was reconstituted by CEN/CENELEC/ETSI Information Technology Steering Committee on 1991-03-27 with NSAI as Secretariat.

This ENV was adopted by CEN/CENELEC and in accordance with the CEN/CENELEC Internal Regulations, the following countries are bound to announce the existence of this European Prestandard: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, United Kingdom.

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0 Introduction

The concept and structure of functional standards for information systems interconnection are laid down in the CEN/CENELEC/ETSI Memorandum M-IT-01. The purpose of a functional standard is to recommend when and how certain information technology standards and recommendations should be used.

Certain aspects of this functional standard are necessarily mandatory in order that claims of conformance can be made. In these cases the modal auxiliary verb “shall” is used.

This functional standard deals with telecommunications functions Y/11 and Y/12 as defined in the directory of functional standards M-IT-02.

Although a functional standard is, in principle, applicable to the end attachment of an entity to a predefined service, this is not possible in the case of CCITT Recommendations X.3, X.28, and X.29 as they contain no formal service definitions. Consequently it has been necessary to consider the underlying services and thus attention has been paid to the interactions between a packet mode DTE, a PAD, and a start-stop mode DTE.

Tutorial material and recommendations on interworking with systems which do not conform to this functional standard are included in Annex A. Annex A is not an integral part of this functional standard.

1 Scope

This functional standard makes recommendations for achieving interworking between a start-stop mode DTE and a packet mode DTE via a PAD by means of the CCITT and ITU-T Recommendations X.3, X.28, X.29, and X.25 for data networks, and ISO/IEC 8208, ISO/IEC 7776 for X.25 DTEs. It applies to the exploitation of the CCITT 1980, 1984, 1988, and ITU-T 1993 Recommendations in the production of new systems or the enhancement of existing ones. Systems conforming with the functional standard will be capable of interworking as indicated in this functional standard. See Clause 8.

NOTE In the case of this functional standard a balance has to be struck between being prospective and retrospective. As far as possible, existing equipment that complies with what is generally understood to be the intent of the appropriate pre-existing CCITT Recommendations has been accommodated.

1.1 Definition and description for profile Y/11

1.1.1 Functional definition

The Y/11 functional standard is applicable to systems implementing the CCITT and ITU-T Recommendations X.29 and X.3 and CCITT Recommendation X.25 or ISO/IEC 8208 and ISO/IEC 7776. The CCITT and ITU-T Recommendations and ISO standards are:—

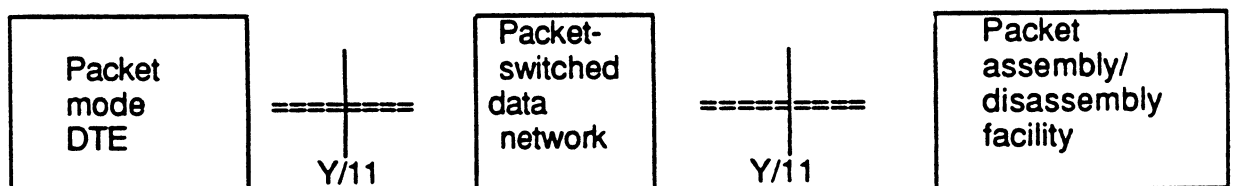
X.29 — Procedures for the exchange of control information and user data between a packet assembly/disassembly (PAD) facility and a packet mode DTE or another PAD.

X.3 — Packet assembly/disassembly facility (PAD) in a CCITT X.25 packet switched network or ISO/IEC 8208 packet switched entity.

X.25 — Interface between data terminal equipment (DTE) and data circuit-terminating equipment (DCE) for terminals operating in the packet mode and connected to data networks and by a dedicated circuit in the case of X.25 (1984 and onwards).

ISO/IEC 8208 and ISO/IEC 7776 — X.25 packet level protocol for data terminal equipment and high-level data link control procedures.

1.1.2 Scenario description



NOTE 1 The inclusion of a packet switched data network in the scenario description does not exclude connection of a packet mode DTE to a PAD without an intervening packet switched data network.

NOTE 2 Y/11 option 2 allows the connection of the packet switched data network to a PAD by other means. In this case there may be no exposed X.25 DTE/DCE interface where conformance testing could be carried out. Option 2 allows a PAD which is integral with the DCE equipment to conform to the Y/11 functional standard.

1.1.3 Model description

[X.29] and [X.3]	
[X.25] Level 3	[ISO/IEC 8208] Packet Level Protocol
[X.25] Level 2, LAPB	[ISO/IEC 7776] LAPB Compatible
[X.25] Level 1 [X.21], [X.21 bis]	[ISO 4903], [ISO 2110, 2593, 4902]

1.2 Definition and description for profile Y/12

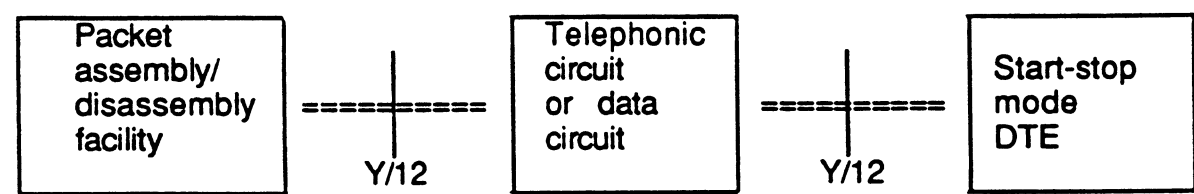
1.2.1 Functional definition

The Y/12 functional standard is applicable to systems implementing CCITT and ITU-T Recommendations X.28 and X.3. The CCITT and ITU-T Recommendations are:—

X.3 — Packet assembly/disassembly facility (PAD) in a CCITT X.25 packet switched network or ISO 8208 packet switched entity.

X.28 — DTE/DCE interface for a start-stop mode data terminal equipment accessing a packet assembly/disassembly facility (PAD) in a data network.

1.2.2 Scenario description



1.2.3 Model description

[X.28] [X.3]

NOTE 1 The inclusion of a telephonic circuit or a data circuit in the scenario description does not imply any specific access information path method.

NOTE 2 Y/12 option 2 allows the connection of a start-stop mode DTE to a PAD by other means. In this case there may be no telephonic or data circuit between the PAD and the start-stop mode DTE where conformance testing could be carried out. Option 2 allows a start-stop mode DTE which is integral with a PAD to conform to the Y/12 functional standard.

2 References

2.1 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications, These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

CCITT T.50 (1984)	International alphabet No. 5. CCITT Red Book Volume VII — Fascicle VII.3.
CCITT X.3 (1980)	Packet assembly/disassembly facility (PAD) in a public data network, ISBN 92-61-01161-6. CCITT Yellow Book Volume VIII — Fascicle VIII.2.
CCITT X.3 (1984)	Packet assembly/disassembly facility (PAD) in a public data network, ISBN 92-61-02321-5. CCITT Red Book Volume VIII — Fascicle VIII.2.
CCITT X.3 (1988)	Packet assembly disassembly facility (PAD) in a public data network. ISBN 92-61-03671-6. CCITT Blue Book Volume VIII — Fascicle VIII.2.
ITU-T X.3 (1993)	Packet assembly disassembly facility (PAD) in a public data network.

CCITT X.20 (1980)	Interface between data terminal equipment (DTE) and data circuit terminating equipment (DCE) for start-stop transmission on public data networks. ISBN 92-61-01161-6. CCITT Yellow Book Volume VIII — Fascicle VIII.2.
CCITT X.20 (1984)	Interface between data terminal equipment (DTE) and data circuit terminating equipment (DCE) for start-stop transmission on public data networks. ISBN 92-61-02321-5. CCITT Red Book Volume VIII — Fascicle VIII.3.
CCITT X.20 (1988)	Interface between data terminal equipment (DTE) and data circuit-terminating equipment (DCE) for start-stop transmission services on public data networks. ISBN 92-61-03671-6. CCITT Blue Book Volume VIII — Fascicle VIII.2.
CCITT X.20 bis (1980)	Use on public data networks of data terminal equipment (DTE) which is designed for interfacing to asynchronous duplex V-series modems. ISBN 92-61-01161-6. CCITT Yellow Book Volume VIII — Fascicle VIII.2.
CCITT X.20 bis (1984)	Use on public data networks of data terminal equipment (DTE) which is designed for interfacing to asynchronous duplex V-series modems. ISBN 92-61-02321-5. CCITT Red Book Volume VIII — Fascicle VIII.3.
CCITT X.20 bis (1988)	Use on public data networks of data terminal equipment (DTE) which is designed for interfacing to asynchronous duplex V-series modems. ISBN 92-61-03671-6. CCITT Blue Book Volume VIII — Fascicle VIII.2.
CCITT X.21 (1980)	Interface between data terminal equipment (DTE) and data circuit terminating equipment (DCE) for synchronous operation on public data networks. ISBN 92-61-01161-6. CCITT Yellow Book Volume VIII — Fascicle VIII.2.
CCITT X.21 (1984)	Interface between data terminal equipment (DTE) and data circuit terminating equipment (DCE) for synchronous operation on public data networks. ISBN 92-61-02321-5. CCITT Red Book Volume VIII — Fascicle VIII.3.
CCITT X.21 (1988)	Interface between data terminal equipment (DTE) and data circuit-terminating equipment (DCE) for synchronous operation on public data networks. ISBN 92-61-03671-6. CCITT Blue Book Volume VIII — Fascicle VIII.2.
CCITT X.21 bis (1980)	Use on public data networks of data terminal equipment (DTE) which is designed for interfacing to synchronous V-series modems. ISBN 92-61-01161-6. CCITT Yellow Book Volume VIII — Fascicle VIII.2.
CCITT X.21 bis (1984)	Use on public data networks of data terminal equipment (DTE) which is designed for interfacing to synchronous V-series modems. ISBN 92-61-02321-5. CCITT Red Book Volume VIII — Fascicle VIII.3.
CCITT X.21 bis (1988)	Use on public data networks of data terminal equipment (DTE) which is designed for interfacing to synchronous V-series modems. ISBN 92-61-03671-6. CCITT Blue Book Volume VIII — Fascicle VIII.2.
CCITT X.25 (1980)	Interface between data terminal equipment (DTE) and data circuit terminating equipment (DCE) for terminals operating in the packet mode on public data networks. ISBN 92-61-01161-6. CCITT Yellow Book Volume VIII — Fascicle VIII.2.
CCITT X.25 (1984)	Interface between data terminal equipment (DTE) and data circuit-terminating equipment (DCE) for terminals operating in the packet mode and connected to public data networks by dedicated circuit. ISBN 92-61-02321-5. CCITT Red Book Volume VIII — Fascicle VIII.
CCITT X.25 (1988)	Interface between data terminal equipment (DTE) and data circuit-terminating equipment (DCE) for terminals operating in the packet mode and connected to public data networks by dedicated circuit. ISBN 92-61-03671-6. CCITT Blue Book Volume VIII — Fascicle VIII.2.
CCITT X.28 (1980)	DTE/DCE interface for a start-stop mode data terminal equipment accessing the packet assembly/disassembly facility (PAD) in a public data network situated in the same country, ISBN 92-61-01161-6. CCITT Yellow Book Volume VIII — Fascicle VIII.2.

CCITT X.28 (1984)	DTE/DCE interface for a start-stop mode data terminal equipment accessing the packet assembly/disassembly facility (PAD) in a public data network situated in the same country. ISBN 92-61-02321-5. CCITT Red Book Volume VIII — Fascicle VIII.3.
CCITT X.28 (1988)	DTE/DCE interface for a start-stop mode data terminal equipment accessing the packet assembly/disassembly facility (PAD) in a public data network situated in the same country. ISBN 92-61-03671-6. CCITT Blue Book Volume VIII — Fascicle VIII.2.
ITU-T X.28 (1993)	DTE/DCE interface for a start-stop mode data terminal equipment accessing the packet assembly/disassembly facility (PAD) in a public data network situated in the same country.
CCITT X.29 (1980)	Procedures for the exchange of control information and user data between a packet assembly/disassembly (PAD) facility and a packet mode DTE or another PAD, ISBN 92-61-01161-6. CCITT Yellow Book Volume VIII — Fascicle VIII.2.
CCITT X.29 (1984)	Procedures for the exchange of control information and user data between a packet assembly/disassembly (PAD) facility and a packet mode DTE or another PAD. ISBN 92-61-02321-5. CCITT Red Book Volume VIII — Fascicle VIII.3.
CCITT X.29 (1988)	Procedures for the exchange of control information and user data between a packet assembly/disassembly facility (PAD) facility and a packet mode DTE or another PAD. ISBN 92-61-03671-6. CCITT Blue Book Volume VIII — Fascicle VIII.2.
ITU-T X.29 (1993)	Procedures for the exchange of control information and user data between a packet assembly/disassembly facility (PAD) facility and a packet mode DTE or another PAD.
ISO 646	Information processing — ISO 7-bit coded character set for information interchange.
ISO/IEC 2110	Information technology — Data communication -25-pole DTE/DCE interface connector and contact number.
ISO 2375	Data processing — Procedure for registration of escape sequences.
ISO 2593	Data communication — 34 pin DTE/DCE interface connector and pin assignments.
ISO 4902	Information technology — Data communication — 37-pole DTE/DCE interface connector and contact number.
ISO 4903	Information technology — Data communication — 15-pole DTE/DCE interface connector and contact number.
ISO/IEC 7776	Information processing systems — Data communications — High-level data link control procedures — Description of the X.25 LAPB- compatible DTE data link procedures.
ISO/IEC 8208	Information technology — Data communications — X.25 Packet Level Protocol for Data Terminal Equipment.

2.2 Additional references

M-IT-01	CEN/CENELEC/ETSI memorandum on the concept of profiles and structure of functional standards for information technology.
M-IT-02	CEN/CENELEC/ETSI memorandum on taxonomy of profiles and directory of functional standards.