

ISO/IEC 11801-4:2017-11 (E)

Information technology - Generic cabling for customer premises - Part 4: Single-tenant homes

CONTENTS

- FOREWORD.....5
- INTRODUCTION.....7
- 1 Scope.....9
- 2 Normative references9
- 3 Terms, definitions and abbreviated terms9
 - 3.1 Terms and definitions.....9
 - 3.2 Abbreviated terms.....10
- 4 Conformance.....11
- 5 Structure of the generic cabling system11
 - 5.1 General.....11
 - 5.2 Functional elements.....12
 - 5.3 Cabling subsystems for ICT and BCT.....12
 - 5.3.1 General12
 - 5.3.2 Primary home cabling subsystem.....14
 - 5.3.3 Secondary home cabling subsystem14
 - 5.4 Cabling structure14
 - 5.5 Interfaces.....15
 - 5.5.1 Equipment interfaces and test interfaces15
 - 5.5.2 Channel and permanent link16
 - 5.5.3 Network access cabling17
 - 5.5.4 External network interface18
 - 5.6 Accommodation of functional elements18
 - 5.6.1 General18
 - 5.6.2 Coverage areas19
 - 5.6.3 Dimensioning and configuring.....20
 - 5.6.4 Connecting hardware.....21
 - 5.6.5 Application outlets21
 - 5.6.6 Equipment cords.....21
- 6 Channel performance requirements22
 - 6.1 General.....22
 - 6.2 Environmental performance22
 - 6.3 Transmission performance22
 - 6.3.1 Channel construction.....22
 - 6.3.2 Balanced cabling22
 - 6.3.3 Coaxial cabling23
 - 6.3.4 Optical fibre cabling.....23
- 7 Link performance requirements23
 - 7.1 General.....23
 - 7.2 Balanced cabling23
 - 7.3 Coaxial cabling23
 - 7.4 Optical fibre cabling23

8	Reference implementations	23
8.1	General.....	23
8.2	Channel construction	24
8.3	Balanced cabling	24
8.3.1	General	24
8.3.2	ICT channels	25
8.3.3	BCT channels	25
8.4	Coaxial cabling	26
8.5	Optical fibre cabling	26
8.5.1	General	26
8.5.2	Component selection	26
8.5.3	Dimensions.....	26
9	Cable requirements	26
9.1	General.....	26
9.2	Balanced cables	27
9.2.1	ICT cabling	27
9.2.2	BCT cabling.....	27
9.3	Coaxial cables	27
9.4	Optical fibre cables	27
10	Connecting hardware requirements	27
10.1	General requirements	27
10.2	Connecting hardware for balanced cabling.....	27
10.2.1	General requirements	27
10.2.2	Electrical, mechanical and environmental performance	27
10.3	Connecting hardware for coaxial cabling.....	28
10.3.1	General requirements	28
10.3.2	Electrical, mechanical and environmental performance.....	28
10.4	Connecting hardware for optical fibre cabling.....	28
10.4.1	General requirements	28
10.4.2	Optical, mechanical and environmental performance	28
11	Cords	28
11.1	Jumpers.....	28
11.2	Balanced cords	28
11.3	Coaxial cords.....	28
11.4	Optical fibre cords.....	28
Annex A	(informative) Reference implementation of TV and radio applications – use of baluns	29
A.1	Types and locations of baluns.....	29
A.1.1	General	29
A.1.2	Baluns at the ENI and baluns at the equipment interface toward the PHD	29
A.1.3	Baluns near or in the BO	30
A.1.4	Baluns in the cord between BO and the terminal equipment	31
A.2	Home network interface	31
	Bibliography.....	33

Figure 1 – Relationships between the generic cabling documents produced by ISO/IEC JTC 1/SC 25	7
Figure 2 – Structure of the generic cabling system	12
Figure 3 – Interconnect and cross-connect models	13
Figure 4 – Interconnect and cross-connects at the PHD	13
Figure 5 – Hierarchical structure of a generic cabling system in support of ICT and BCT applications.....	14
Figure 6 – Equipment and test interfaces in support of ICT and BCT applications	16
Figure 7 – Channels and permanent links within the home	17
Figure 8 – Examples of interconnection of home and network access cabling	18
Figure 9 – Overview of a generic cabling for home.....	19
Figure 10 – Interconnection of home cabling subsystems.....	20
Figure 11 – Reference implementations for ICT and BCT channels (PHD/SHD to TO/BO).....	24
Figure A.1 – Balun at the ENI	29
Figure A.2 – Baluns in the PHD	30
Figure A.3 – Balun built into the system outlet	30
Figure A.4 – Balun in the cord between BO and the TE.....	31
Figure A.5 – Types of HNI.....	32
Table 1 – Maximum channel lengths for reference implementations of ICT/BCT channels	21
Table 2 – Link length equations	25
Table A.1 – Insertion loss and total sectional slope.....	32