BRITISH STANDARD

BS EN 50049-1:1998
BS 6552:1998

Incorporating Amendment No. 1

Domestic and similar electronic equipment interconnection requirements: Peritelevision connector

The European Standard EN 50049-1:1997 with the incorporation of amendment A1:1998 has the status of a British Standard

ICS 31.220.10; 33.160.40

National foreword

This British Standard is the English language version of EN 50049-1:1997 including amendment A1:1998. It supersedes BS 6552:1990 which was withdrawn on 98-06-01.

The UK participation in its preparation was entrusted by Technical Committee EPL/100, Audio, video and multimedia systems and equipment, to Subcommittee EPL/100/3, Equipment and systems in the field of audio, video and audiovisual engineering, which has the responsibility to:

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

A list of organizations represented on this subcommittee can be obtained on request to its secretary.

Cross-references

The British Standards which implement international or European publications referred to in this document may be found in the BSI Standards Catalogue under the section entitled "International Standards Correspondence Index", or by using the "Find" facility of the BSI Standards Electronic Catalogue.

A British Standard does not purport to include all the necessary provisions of a contract. Users of British Standards are responsible for their correct application.

Compliance with a British Standard does not of itself confer immunity from legal obligations.

Summary of pages

This document comprises a front cover, an inside front cover, the EN title page, pages 2 to 16, an inside back cover and a back cover.

The BSI copyright notice displayed in this document indicates when the document was last issued.

Sidelining in this document indicates the most recent changes by amendment.

Amendments issued since publication

Amd. No.	Date	Comments
10412	February 2000	Indicated by a sideline

This British Standard, having been prepared under the direction of the Electrotechnical Sector Board, was published under the authority of the Standards Board and comes into effect on 15 June 1998

ISBN 0 580 29860 4

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 50049-1

November 1997

+ A1

August 1998

ICS 33.160.40

Supersedes EN 50049-1:1989 and its amendments

Descriptors: Communication equipment, electronic equipment, household electrical appliance, television set, appliances interconnection, data terminal equipment, peritelevision devices, designation, electrical characteristics, mechanical characteristics, dimensions, sockets, electrical connector, screen (display), peritelevision system, videography

English version

Domestic and similar electronic equipment interconnection requirements: Peritelevision connector

(includes amendment A1:1998)

Prescriptions d'interconnexion des appareils électroniques grand public et analogues: Connecteur de péritélévision (inclut l'amendement A1:1998)

Kennwerte für die Kleinsignalverbindung zwischen elektronischen Geräten für den Heimgebrauch und ähnliche Anwendungen: Peritelevision Verbindung (enthält Änderung A1:1998)

This European Standard was approved by CENELEC on 1997-07-01. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the Central Secretariat has the same status as the official versions.

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

CENELEC

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

Central Secretariat: rue de Stassart 35, B-1050 Brussels

Ref. No. EN 50049-1:1997+A1:1998 E

Foreword

This European Standard was prepared by Technical Committee CENELEC TC 203, Electronic entertainment and educational systems for household and similar use.

The text of the draft was submitted to the formal vote and was approved by CENELEC as EN 50049-1 on 1997-07-01.

This European Standard supersedes EN 50049-1:1989, which was approved by CENELEC on 1988-09-13.

Since this date the evolution of services is such that several amendments were approved. Also the application implies the introduction in the European Standard of some general rules independent of the interconnection architecture. Due to this a new edition has become necessary.

Significant technical differences are:

a) addition: contents of amendments A1, A2, A3, A4

b) deletion: connector characteristics which are contained in IEC 60807-9.

c) addition: clause **6** Essential/optional signal types for various applications.

The following dates were fixed:

— latest date by which the EN has to be implemented at national level by publication of an identical national standard or by endorsement	(dop) 1998-06-01
— latest date by which national standards conflicting with the EN have to be withdrawn	(dow) 1998-06-01

Foreword to amendment A1

This amendment was prepared by the former Technical Committee CENELEC TC 203, Electronic entertainment and educational systems for household and similar use (in July 1998 TC 203 has become part of TC 206, Consumer equipment for entertainment and information and related sub-systems).

The text of the draft (prAA) was submitted to the formal vote and was approved by CENELEC as amendment A1 to EN 50049-1:1997 on 1998-08-01.

The following dates were fixed:

— latest date by which the amendment has to be implemented at national level by publication of an identical national standard or by endorsement	(dop) 1999-08-01
— latest date by which national standards conflicting with the amendment have to be withdrawn	(dow) 1999-08-01

1 Introduction

1.1 Object

This standard defines the interconnection characteristics of peritelevision devices, both between themselves and with television receivers (monochrome or colour).

The interconnections covered by this standard are at baseband (video and audio) or digital signals.

For the purpose of defining conformance, this standard specifies the types and related groups of signals, composite video, audio, primary colour and control that shall be present on the connectors. The levels and impedances together with the tolerances on these values are also specified.

The manner in which the signals on the connector are processed within the products incorporating the connectors and the presentation of the results of such processing to the user is outside the scope of this standard. These details depend upon the system involved, e.g. PAL or SECAM and the specification of the product.

This standard lays down collectively the electrical matching characteristics (type of signals, voltage and impedance values), dimensional, mechanical and electrical characteristics of the connectors, type and wiring of interconnection cordsets.

Attention is drawn to the fact that the interconnection covered by this standard shall in any circumstances meet the safety requirements specified in EN 60065:1993 and the electromagnetic compatibility requirements specified in the appropriate publications.

1.2 Field of application

This standard applies to the connector socket mounted on various devices that are components of domestic audio-visual systems, and includes the designation of contacts, the type of interchanged signals and the matching values of voltage and impedance. This standard does not apply to equipment so small that its size is not compatible with the dimensions of the socket.

It applies also to the plug fitted to the end of interconnection cordsets.

It covers the interconnection cordsets themselves (type of conductors, wiring).

Permanent connection of several pieces of equipment which may be used simultaneously or otherwise is ensured:

— either by fitting each piece of equipment with a suitable number of connectors;

— or by a single connector on each piece of equipment linked to a central interconnection and switching device.

The user shall be informed about the possible applications that are provided by a device.

2 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 (including amendments).

EN 60065, *Safety requirements for mains operated electronic and related apparatus for household and similar general use.*
(IEC 60065, modified)

IEC 60268-15, *Sound system equipment — Part 15: Preferred matching values for the interconnection of sound system components.*
(harmonized as HD 483.15 S4:1992)

IEC 60608, *Interconnections between video-tape recorders and television receivers for 50 Hz-625 lines.*

NOTE IEC 60608 is restricted to a specific system, whereas this standard relates to an interconnection system intended to cover a substantially wider scope. Thus in particular, the interconnection as defined in IEC 60608 does not provide for simultaneous conveyance, on separate pins, of receiver input and output (audio and video) signals in order to be processed by a peripheral device.

IEC 60807-9, *Rectangular connectors for frequencies below 3 MHz Part 9: Detail specification for a range of peritelevision connectors.*

IEC 60933-1, *21 pin-connector for video systems (Application No. 1 and Amendment 1).*

Recommendation ITU-R draft (11 A/XE “Enhanced wide-screen PAL TV transmission system”).

3 Characteristics of the interconnections

(See Table 1)

General remarks:

All input and output signals may be present simultaneously.

All input and output signals are defined and measured taking into account the appropriate CCIR and IEC Publications.

Table 1

Signal designation	Matching value	Contact number	Test conditions and comments
audio output A[1)] mono stereo channel left independent channel A	300 Ω ≤ impedance ≤ 1 kΩ[2)] Voltage (r.m.s. value) nominal 0,5 V* ± 3 dB maximum 5,65 V_{pp} *Superimposed d.c. component within 0 V and + 1 V*	3	Load impedance for compliance testing: 10 kΩ *for a modulation factor *by a sinusoidal signal at 1 kHz* at the transmitter of 54 % in A.M and F.M. type of modulation with a vision carrier level of 70 dB (μV). for a level at the transmitter corresponding in digital system to: −11,2 dB FS for the NICAM B G and L −15,8 dB FS for the NICAM I −11,2 dB FS for the D2 MAC Note FS = Full Scale If a MAC coded signal is present at pin 19 the connected equipment shall ignore the signal at this contact
AUDIO output B[1)] mono stereo channel right independent channel B		1	
AUDIO input A[1)] mono stereo channel left independent channel A	Impedance ≥ 10 kΩ[2)] Electromotive force (r.m.s. value) nominal 0,5 V minimum 0,2 V* maximum 5,65 V_{pp}	6	Source impedance for compliance testing: 1 kΩ *for a nominal output value according to the equipment specifications
AUDIO input B[1)] mono stereo channel right independent channel B	 *Superimposed d.c. component within 0 V and + 1 V*	2	
AUDIO common return		4	

Table 1 (*continued*)

Signal designation	Matching value	Contact number	Test conditions and comments
VIDEO output	Impedance: 75Ω[4)]	19	
	Composite video signal or Y'': Difference between white level and synchronizing level: 1 V (±3 dB)[3)]		Positive going Video Y'' signal is the blanked luminance signal plus the synchronization signal plus data signals (when present). In case of satellite reception the residual energy dispersal signal component shall be ≤ 17 mV. p.t.p.
	When the signal on this terminal is exclusively a synchronization signal, the peak to peak voltage is 0,3 V (−3 dB, +10 dB)		*Negative going signal*
	MAC signal: *The amplitude between black level and white level is 1 V (±3 dB) and if the superimposed energy dispersal is present, it can cause an additional amplitude of maximum 0,3 V_{pp}*		*If the equipment is designed to deliver a MAC coded signal, the MAC signal at this contact shall be free of linear pre-emphasis in case of satellite reception, but it may or may not contain the energy dispersal signal.*
	In both cases: Superimposed d.c. component within 0 V and +2 V		
VIDEO output return		17	
VIDEO input	Impedance: 75 Ω[4)]		Positive going Video
	Composite video signal or Y'': Difference between white level and synchronizing level 1 V (±3 dB)[3)]	20	*Y'' signal is the blanked luminance signal plus the synchronization signal plus data signals (when present).* *In case of satellite reception the residual energy dispersal signal component shall be ≤ 17 mV. p.t.p.*
	When the signal on this terminal is exclusively a synchronization signal, the peak to peak voltage is 0,3 V (−3 dB, +10 dB)		*Negative going signal*

Table 1 (*continued*)

Signal designation	Matching value	Contact number	Test conditions and comments
	MAC signal: *The amplitude between black level and white level is 1 V (±3 dB) and if the superimposed energy dispersal is present, it can cause an amplitude contribution of maximum 0,3 V* *In both cases:* Superimposed d.c. component within 0 V and +2 V		*If the equipment is designed to receive a MAC coded signal, the MAC signal at this contact shall be free of linear pre-emphasis in case of satellite reception, but it may or may not contain the energy dispersal signal.*
VIDEO input return		18	
FUNCTION SWITCHING[6)] (slow switching) Input or output	Level 0: 0 V to +2 V *Level 1A*: +4,5 V to +7 V* *Level 1B: +9,5 V to +12 V* *input resistance ≤ 10 kΩ* *input capacitance ≤ 2 nF* Output source resistance when contact 8 acts as an output: 300 Ω ≤ output source resistance ≤ 1kΩ	8	Load resistance for compliance testing 10 kΩ For a television receiver, the control voltage is an input signal delivered by the peripheral equipment. Level 0: television broadcast reproduction Level 1B: peritelevision reproduction Level 1A: reproduction of an external source with aspect ratio 16.9, if the equipment is designed to display in this aspect ratio. Note The maximum rise time of switching from 0 to 1B shall not exceed 5 ms.
RED primary colour signal input or output or (Optional) C′′ signal[9)] input or output	Impedance 75 Ω[4)] Difference between the peak value and and blanking level 0,7 V (±0,1 V)[5)8)] Superimposed d.c. component within 0 V and +2 V standard chrominance level ± 3 dB at 1 V_{pp} of Y′′ input signal (see CCIR Report 624-3) modulated Helper signal with 0,3 V_{pp} amplitude	15	Positive going signal The C′′ signal is the chrominance signal plus the PAL burst. In case of PAL + transmission C′′ signal includes the Helper The complementary application of C′′ signal on pin 15 can use the same contact as RED, with appropriate switching.

Table 1 (*continued*)

Signal designation	Matching value	Contact number	Test conditions and comments
RED return		13	
GREEN primary colour signal Input or output	Impedance 75 Ω[4)] Difference between the peak value and blanking level 0,7 V (±0,1 V)[5)8)] Super imposed d.c. component within 0 V and +2 V	11	Positive going signal
GREEN return		9	
BLUE primary colour signal Input or output *or (Optional)* C′′-signal[9)] (only used in case of "down stream", coming from TV in a chain concept) Input or output	Impedance: 75 Ω[4)] Difference between the peak value and blanking level 0,7 V (±0,1 V)[5)8)] Superimposed d.c. component within 0 V and +2 V Standard chrominance level ±3 dB at 1 V_{pp} of Y′′ input signal (see CCIR report 624-3) modulated helper signal with 0,3 V_{pp} amplitude.	 7	Positive going signal The C′′ signal is the chrominance signal plus the PAL burst In case or PAL + transmission C′′ signal includes the Helper. The complementary application of C′′ signal on pin 7 can use the same contact as BLUE, with appropriate switching.
BLUE return		5	
BLANKING[7)] (Rapid switching) Input or output	0 V to 0,4 V logical "0" +1 V to +3 V logical "1" Impedance 75 Ω	16	Bandwidth and time delay shall be matched to those of the RGB primary colour signals
BLANKING return		14	
under consideration	No connection permitted (future use under consideration)	12	

Table 1 (*continued*)

Signal designation	Matching value	Contact number	Test conditions and comments
Control signal line bi-directional (Optional)*	All measurements are with a power supply of +5,0 V unless otherwise stated, the control signal is a pulse shaped burst with a burst time of maximum 500 ms. The time between the first falling edge and the next falling edge within the pulse-shaped burst is maximum 10 ms. The time gap between two pulse-shaped bursts is minimum 15 ms 1 Maximum voltage slew rate measured with external circuit both open circuit and also with external test circuit connected to contact 10 consisting of a 3 900 Ω ± 5 % resistor connected to +5.0 V power supply: Maximum slope dv/dt = 0,2 V/µs. 2 Voltage of the control signal with the device in logical "0" state and external test circuit connected to contact 10 consisting of a resistor of worst case value 3 900 ohms −5 % connected to +5,5 V power supply: Maximum voltage = 600 mV 3 Voltage of the control signal with the device in logical "1" state and external test circuit connected to contact 10 consisting of a resistor of worst case va© BSI 02-2000lue 27 k Ω +5 % connected to +4,5 V power supply: Minimum voltage = 3,7 V 4 Input threshold shall be such that a reading of the control signal line should give a logical "0" level with the voltage set to: 800 mV	10	*Optional means: if the signal is not in accordance with the listed values, then pin 10 shall not be connected.

Table 1 (*continued*)

Signal designation	Matching value	Contact number	Test conditions and comments
	5 Input threshold shall be such that a reading of the control signal line should give a logical "1" level with the voltage set to: *2,7 V* *6 Maximum capacitance load of a device (excluding external cable):* *100 pF* *7 Maximum rise time from 10 % to 90 % of pulse amplitude:* *500 µs*		
	8 Maximum fall time from 90 % to 10 % of pulse amplitude: *100 µs* *9 Maximum leakage current with equipment in "Standby" mode, or "power off" switched by a front mounted power switch or when the mains is removed:* *Maximum current* ±1,8 *µA.* *10 Maximum polling interval time equals:* *0,5 ms*		

Table 1 (*continued*)

Signal designation	Matching value	Contact number	Test conditions and comments
Common return and contacts 8, 10 and 12		21	Connected to reference potential and plug shield

NOTES

[1] The existence of various modes of operation in audio circuits (mono, stereo, independent channels) requires switching in the signal originating equipment.

[2] For frequencies from 20 Hz up to 20 kHz.

[3] For television systems using positive video modulation, the tolerance may be enlarged to −3 dB, +6 dB.
NOTE This enlargement is not allowed for modern sets, the tolerance shall be reduced to the value stated on pages 6 and 7.

[4] The specified signal voltages shall be measured under matched conditions.

[5] For monochrome signals the difference between any two primary colour signals shall not exceed 0,5 dB. The peak values of primary colour signals are those that give rise to a peak white luminance signal.

[6] A low data rate communication between pieces of equipment can be implemented via contact 8, it is permitted to superimpose this AC signalling information on the DC function switching line, provided that the peak-to-peak value remains within the voltage limits defining logical “0” and logical “1” that are specified in the standard.

[7] Logical “1” corresponds to blanking active: external RGB primary colour signals *may* then be displayed.

[8] If the video signals represent text or synthetic, rather than natural, pictures (for example, teletext or video graphics), the tolerances are ± 3 dB.

[9] PAL only
The C′′ signal shall be time coincident with the Y′′ signal within 100 ns. This shall be measured at the output of the source equipment, using a standard colour bar signal, and measuring at the green-magenta transition, where the C′′ signal makes a zero crossing (see Fig. 1). The amplitudes of the green and magenta chroma signals shall be equal within 10 % for this measurement.
Output signal of PAL + S-VHS video recorder during black bands of the letter box picture is with vertical Helper signals.

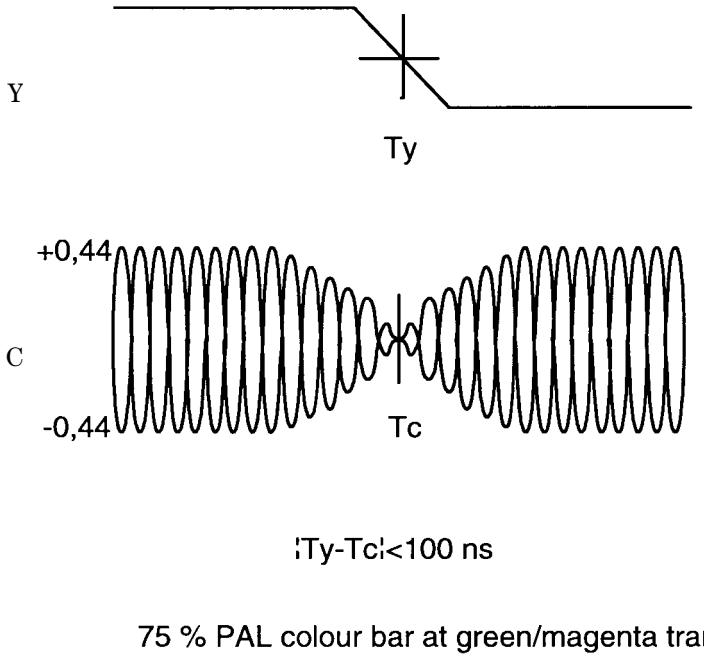


Figure 1 — Time coincidence of the chrominance and luminance signals

4 Description of the connector

Basically described in IEC 60807-9.

The mechanical and electrical characteristics defined here are only those necessary for compatibility when male and female elements are of different origin and make.

4.1 General description

The "peritelevision" connector consists of two elements.

4.1.1 A female part, the "socket", permanently mounted on pieces of equipment and permanently wired to the relevant circuits or elements. All contacts designated as return have to be effectively connected to the reference potential.

4.1.2 A male part, the "plug", located at the end of the cordset.

4.1.3 Connections between socket and plug consist of 2 rows of 10 contacts in a staggered arrangement (plus a special "shield" contact).

4.2 Mechanical characteristics

The centre-to-centre distance between contacts in a row is 3,81 mm. The distance between the centre-lines of the rows is 5,08 mm.

4.2.1 *Socket*

4.2.1.1 The socket consists of two rows of female contacts in a staggered arrangement (one row of 10 contacts and one row of 11 contacts). The contact 21 provides connection with the plug shield.

4.2.1.2 Contacts: shape designed to accept male "blade" type contacts, 3,6 mm wide and 0,3 mm thick, as well as the 0,4 mm thick shield.

4.2.2 *Plug*

4.2.2.1 The plug shall in every case carry 20 pins having a staggered arrangement in 2 rows of 10 each. The twenty-first contact is provided by the shield itself.

This shield can be replaced by a contact.

4.2.2.2 Shield: a conductive screen, 0,4 mm thick.

Three locking indentations are provided.

4.3 Electrical characteristics

Nominal operating voltage	35 V r.m.s. value
Frequency	50 Hz
Nominal current:	
Per contract, operating alone	3 A at 20 °C 1 A at 70 °C
Per contact, all contacts in operation	1,5 A at 20 °C 0,1 A at 70 °C
Contact resistance less than	25 mΩ

4.4 Numbering and layout of contacts

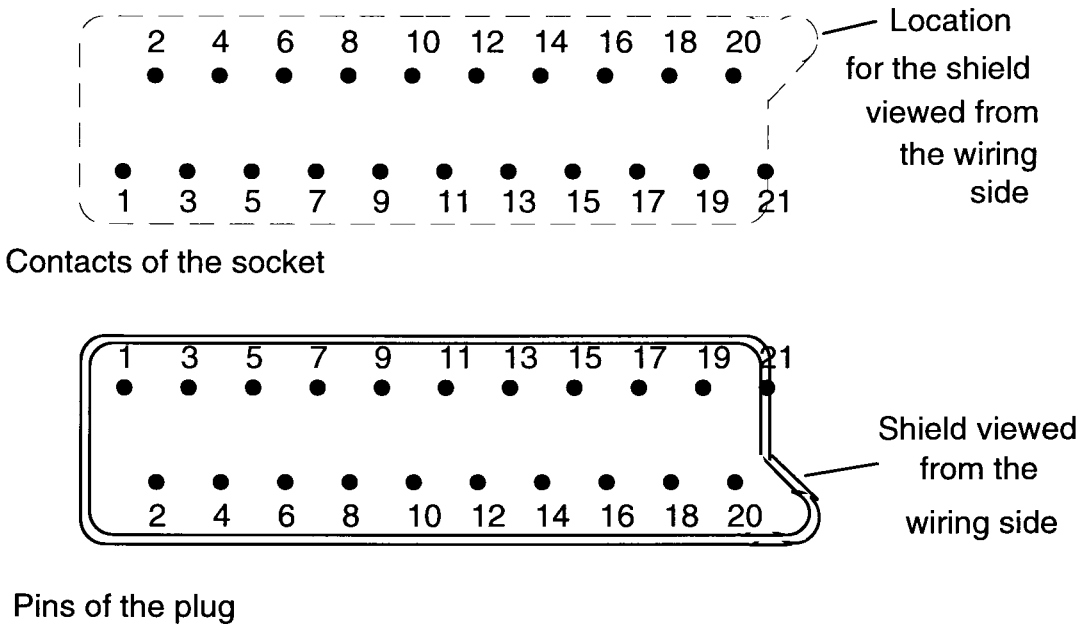


Figure 2 — Numbering and layout of contacts

5 Cordsets

5.1 As all pieces of the equipment that comprise the domestic audio-visual system are equipped with "female" sockets, the junctions are made by cords fitted at each end with a "male" plug.

5.2 To provide for certain particular circumstances, an extension cord fitted with a "male" plug at one end and a "female" plug at the other end may be used.

5.3 The possibility of linking together two "male-male" cords may be provided for by means of a cordset fitted with "female" plugs at each end.

5.4 Figure 3 illustrates these various arrangements.

5.5 Since certain of the connectors contacts are specifically for input or output functions (audio and video) and clearly intended to connect one input to one output, but not two inputs or two outputs together, the cordset shall incorporate the means for making the necessary cross-connections.

In a situation in which several cordsets are linked together in succession, it is essential for the number of crossings to be odd. The following rule shall be applied:

male-male cordset : crossing
male-female extension cord : no crossing
female-female cordset : crossing

5.6 The diagram in Figure 4 shows the connections to be made in the case where crossings are required.

5.7 Nature of the conductors

5.7.1 The conductors conveying video signals or equivalent, namely those connected to the pairs of contacts (19, 17), (20, 18), (15, 13), (11, 9), (7, 5), (16, 14), are of the coaxial type 75 Ω (characteristic impedance).

5.7.2 The conductors conveying audio signals are of the screened cable type for audio frequencies (contacts 3, 1, 6, 2, 4).

5.7.3 The conductors conveying digital data (contact 10, 12, 21) are of the screened cable type for audio frequencies.

5.7.4 The connection corresponding to contact 8 is by means of a single insulated wire.

5.8 Cordset types

Five types of cordset may be considered suitable, according to the intended use:

Cordset type U (Universal). This cordset incorporates all the interconnections covered by this standard. It is identified by a black marking.

Cordset type V (Video only). This cordset incorporates connections
8, 19, 17, 20, 18, 15, 13, 11, 9, 7, 5, 16, 14, 10, 12, 21. It is identified by a white marking.

Cordset type C (Audio and composite video but not the R.G.B. primary colour signals) — It includes the interconnections of contacts
3, 1, 6, 2, 4, 8, 10, 21, 12, 17, 19, 18, 20. It is identified by a grey marking.

Cordset type A (Audio only). It incorporates all the interconnections other than those concerned with video. It includes the interconnections of contacts 3, 1, 6, 2, 4, 8, 10, 12, 21. It is identified by a yellow marking.

Cordset type B (Data bus only). This cordset only provides interconnection of contacts 10, 12, 21 and no others. It is identified by a green marking.

NOTE Marking with the appropriate colour on or close to the socket may indicate the suitable cordset(s).

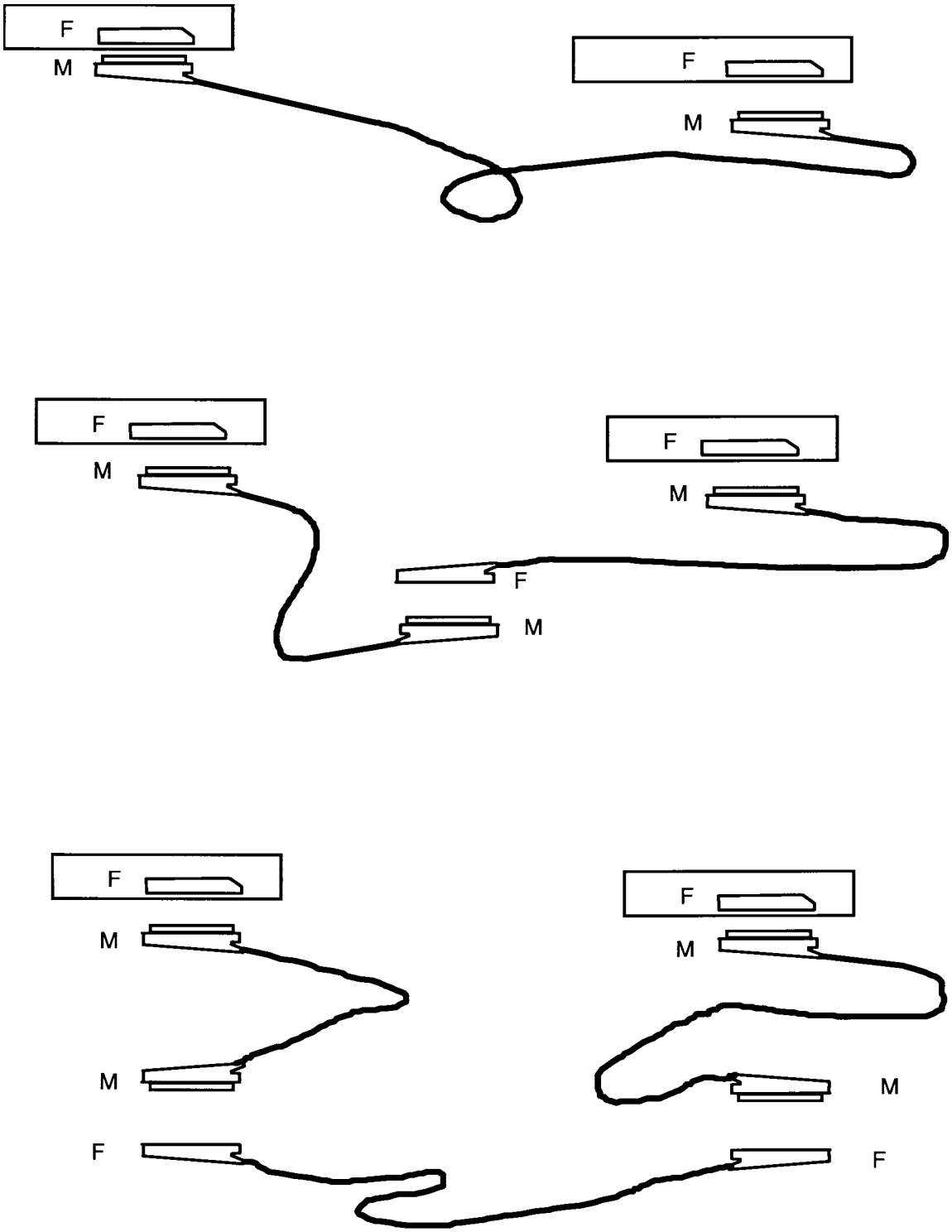


Figure 3 — Association of cordsets

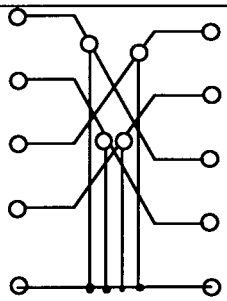
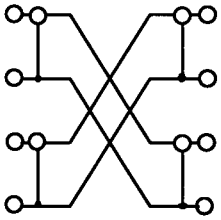
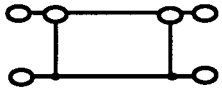
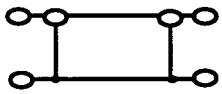
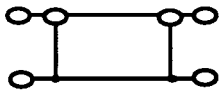
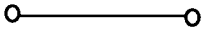
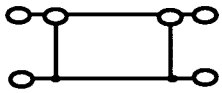
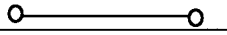
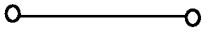
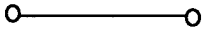
SOCKET CONNECTOR		CORD-SET		SOCKET CONNECTOR
AUDIO A out ○	3		3	○ AUDIO A out
AUDIO B out ○	1		1	○ AUDIO B out
AUDIO A in ○	6		6	○ AUDIO A in
AUDIO B in ○	2		2	○ AUDIO B in
AUDIO common return ○	4		4	○ AUDIO common return
VIDEO out ○	19		19	○ VIDEO out
Return contact 19 ○	17		17	○ Return contact 19
VIDEO in ○	20		20	○ VIDEO in
Return contact 20 ○	18		18	○ Return contact 20
RED or C" out ○ in	15		15	○ RED or C" out in
Return contact 15 ○	13		13	○ Return contact 15
GREEN out ○ in	11		11	○ GREEN out in
Return contact 11 ○	9		9	○ Return contact 11
BLUE or C" out ○ in	7		7	○ BLUE or C" out in
Return contact 7 ○	5		5	○ Return contact 7
FUNCTION out ○ in SWITCHING	8		8	○ FUNCTION out in SWITCHING
BLANKING out ○ in	16		16	○ BLANKING out in
Return contact 16 ○	14		14	○ Return contact 16
Reserved for future use ○	12		12	○ Reserved for future use
CONTROL ○	10		10	○ CONTROL
COMMON RETURN ○ of contacts 8, 10 and 12	21		21	○ COMMON RETURN of contacts 8, 10 and 12

Figure 4 — Cross-connections in cordsets having connectors of the same gender at each end

6 Essential/optional signal types for various applications

6.1 General rules

6.1.1 The signals on some contacts can be optional or of different types. The instructions for the use of this connector for each device shall describe the use of the contacts that are effectively wired.

6.1.2 A device may be provided with several peritelevision connectors. In this case at least one shall conform to this standard. The use of the remaining connector(s) shall be described in the instructions for that device.

6.1.3 All return contacts shall be connected in the device.

6.1.4 In case of monophonic sound both output contacts 1 and 3 shall deliver the same signal with the required matching values listed in Table 1.

6.1.5 To enable the television receiver to proceed signals applied at pins of the peritelevision connector, the first condition is to apply at pin 8, a voltage corresponding at logical level "1A" or "1B", also to proceed R, G, B signals.

6.1.6 In case of RGB signals the synchronising signal must be derived from the signal on pin 20.

6.1.7 The C′′ signal will be applied on pin 7 in the "down stream" direction by a device which conforms the AV-link. If a connection to such a device is required then this signal must be available in the appropriate direction. However, there is equipment in the market, mainly VCR's which apply the C′′ signal on pin 15 in both directions depending on the mode of operation. To ensure backward compatibility suitable switching of the C′′ signal may be required.

6.1.8 It is recommended that restitution of audio or video signals is the same, irrespective of the path, when the signal comes from an internal or external source.

6.2 Particular conditions of application

Table 2 — Essential/optional signal types for various applications

Contact number	**8**		**6**	**3**	**2**	**1**	**15, 11, 7, 16**	**20**	**19**	**15**		**7**[3]		**20**	**19**	**20**	**19**	**20**	**19**	**10**		**12**	
Returns	**21**		**4**	**4**	**4**	**4**	**13, 9, 5, 14**	**18**	**17**	**13**		**5**		**18**	**17**	**18**	**17**	**18**	**17**	**21**		**21**	
Signal type	**2 Level**		**3 Level**		**AUDIO**			**R.G.B. Fast Blanking**		**Y''**		**C"**				**SYNC**		**CVBS**		**D2-MAC**			
Type of device	**IN**	**OUT**	**IN**	**OUT**	**IN**	**OUT**	**IN**	**OUT**	**IN**	**OUT**	**IN**	**OUT**	**IN**	**OUT**	**IN**	**OUT**	**IN**	**OUT**	**IN**	**OUT**	**IN**	**OUT**	**IN**	**OUT**	**IN**	**OUT**
Colour TV	E	—	O	—	E	E[1]	E	E[1]	E	—	O	O	O	O	—	O	E	—	E	E	O	O	O	O	—	—
Monitor	—	—	O	—	O	—	O	—	O	—	O	—	O	—	O	—	O	—	E	—	—	—	O	O	—	—
Play Source Device/Tuner	—	E	—	—	—	E	—	E	—	O[1]	—	O	—	O	—	O	—	O	—	E	—	O	O	O	—	—
Video Recorder	—	E	—	O	E	E	E	E	—	O	—	—	—	—	—	—	—	O	E	E	—	—	O	O	—	—
Y"/C" Video Recorder	—	E	—	O	E	E	E	E	—	O	O	E[2]	O	E	—	E	—	O	E	E[2]	—	—	O	O	—	—
MAC-Decoder/Descrambler	—	—	—	E	—	E	—	E	—	E	—	O	—	O	—	O	—	E	—	E	E	—	O	O	—	—

E = essential
O = optional
— = not applicable

[1] See Table 1.
[2] For S-Video recorders two alternative signals are essential, therefore a suitable (hard or software) switch has to be applied.
[3] Downstream in the case of a chain concept.

blank

BSI — British Standards Institution

BSI is the independent national body responsible for preparing British Standards. It presents the UK view on standards in Europe and at the international level. It is incorporated by Royal Charter.

Revisions

British Standards are updated by amendment or revision. Users of British Standards should make sure that they possess the latest amendments or editions.

It is the constant aim of BSI to improve the quality of our products and services. We would be grateful if anyone finding an inaccuracy or ambiguity while using this British Standard would inform the Secretary of the technical committee responsible, the identity of which can be found on the inside front cover. Tel: 020 8996 9000. Fax: 020 8996 7400.

BSI offers members an individual updating service called PLUS which ensures that subscribers automatically receive the latest editions of standards.

Buying standards

Orders for all BSI, international and foreign standards publications should be addressed to Customer Services. Tel: 020 8996 9001. Fax: 020 8996 7001.

In response to orders for international standards, it is BSI policy to supply the BSI implementation of those that have been published as British Standards, unless otherwise requested.

Information on standards

BSI provides a wide range of information on national, European and international standards through its Library and its Technical Help to Exporters Service. Various BSI electronic information services are also available which give details on all its products and services. Contact the Information Centre. Tel: 020 8996 7111. Fax: 020 8996 7048.

Subscribing members of BSI are kept up to date with standards developments and receive substantial discounts on the purchase price of standards. For details of these and other benefits contact Membership Administration. Tel: 020 8996 7002. Fax: 020 8996 7001.

Copyright

BSI
389 Chiswick High Road
London
W4 4AL