

TECHNICAL FILE





GENERAL CABLE CHARACTERISTICS

MATERIAL

The cable's outer jacket is a key factor in adapting the cable to its environment. Mechanical strength and flexibility depend on the material used for the outer jacket.

	PVC	PE	PUR	LSZH	SI	FEP	PTFE
MECHANICAL BEHAVIOUR							
Flexibility	●	●	●	●	●	●	●
Tensile strength	●	●	●	●	●	●	●
Compressive strength and shock resistance	●	●	●	●	●	●	●
Abrasion resistance	●	●	●	●	●	●	●
Tear strength	●	●	●	●	●	●	●
THERMAL BEHAVIOUR							
Lower temperature brittleness	●	●	●	●	●	●	●
Ageing due to cold and temperature variations	●	●	●	●	●	●	●
CHEMICAL RESISTANCES							
Oils and hydrocarbons	●	●	●	●	●	●	●
Water	●	●	●	●	●	●	●
Acid	●	●	●	●	●	●	●

PVC : Polyvinyl chloride
PE : Polyethylene
PUR : Polyurethane
SI : Silicone rubber
FEP : Fluorethylenepropylene
PTFE : Polytetrafluorethylene
LSZH : Low Smoke Zero Halogen

● Ideal
 ● Adapted
 ● No



In compliance with European directives 202/95/CE of 27 January 2003 on the restriction of the use of certain hazardous substances - ROHS & 2002/96/CE – 27 January 2003 on waste from electric and electronic equipments – DEEE.

The following substances should be eliminated of any electrical equipments, especially electric cables, connectors and cords:

- Lead
- Cadmium
- Mercury
- Hexavalent chromium
- Polybrominated biphenyls
- Polybrominated diphenyl ethers

All products of CAE GROUP are compliant with the ROHS Directive.

GENERAL CABLE CHARACTERISTICS

DEFINITION OF IP

Index of protection of electrical material jackets – according to CEI 34–5. EN60034–5 norms

1 st figure: protection against solid objects		2 nd figure: protection against liquids	
IP	No protection	IP	Definition
0	Protected against solid objects larger than 50 mm – e.g. accidental contact with hand	0	No protection
1	Protected against solid objects larger than 12 mm – e.g. finger	1	Protected against vertically falling drops of water – e.g. condensation
2	Protected against solid objects larger than 2.5 mm – e.g. tools and wires	2	Protected against water drops up to 15° from the vertical
3	Protected against solid bodies objects than 1 mm – e.g. thin tools and thin wires	3	Protected against direct sprays of water up to 60° from the vertical
4	Protected against dust – no harmful deposit	4	Protected against water sprayed from all directions
5	Protégé contre les poussières – pas de dépôts nuisibles	5	Protected against low pressure jets of water from all directions
		6	Protected against temporary flooding of water, e.g. for use on ship decks
		7	Protected against the effects of immersion between 0.15 et 1 m
		8	Protected against long periods of immersion under pressure

GENERAL CABLE CHARACTERISTICS



FIRE BEHAVIOUR

Cable fire resistance is evaluated by NF C 32–070 norm.

Non-fire cables, fire-resistant cables or safety cables?

These 3 terms are equivalent. They apply to cables designed to be used in a normal environment (ambient temperature), which will reveal their safety characteristics in case of fire.

The term “fire behavior” needs some precisions, as follows:

- Fire reaction describes if the cable may burn and then contribute to the fire development.
- Fire resistance describes if the cable keeps ensuring its duty (data transmission, powering...) during a minimal period of time in case of a fire.
- Toxic or corrosive smoke emission describes the aggressivity of the smokes produced by a burning cable, for persons and for goods.

FIRE REACTION

There are 3 different categories:

C1 (according to NFC 32–070 test n°1 article 2.1 and test n°2 article 2.2): applies to a cable which, when burning, doesn't produce enough volatile products to create a secondary fire source. It is a “fire propagator”.

C2 (according to NFC 32–070 test n°1 article 2.1): applies to a cable which, when burning, does not propagate the flame.

CR1 (according to NFC 32–070 test n°3 article 2.3 and according to NFC 32–310): applies to a cable which, when placed in a fire, keeps working during a certain period of time. Such a cable is “fire resistant”. To be CR-1 rated, it must belong to the C1- or C2 category.

- CR1–C1 cable is fire-resistant and non flame-propagator.
- CR1–C2 cable is fire-resistant and non fire-propagator.

OTHER TERMS

Flame retardant: cable combustion is slower

Non-propagator: flames do not propagate

Auto-extinguishing: combustions stops itself

Silicon elastomer: after combustion, this material transforms into silicium residue – remaining:

- a suitable insulator, allowing the cable to keep working. Contrarily to PVC, which transforms in pure carbon when burning – an electric conductor, able to create short-circuits.
- Non-fire propagator, but good heat carrier. Silicon enables cables to absorb important over-voltages, dissipating heat excess (Joule effect).

Silicon is an inert and unalterable elastomer, bacteria- and mould-resistant.

ZH: Zero Halogen or HF : Halogen free

This acronym indicates there's no halogen.

In case of fire, the cable will produce only a limited quantity of corrosive gas, and smoke opacity will be reduced.

IEC 60754–1 (EN 50267–2–1) norms, measuring the quantity of acid gas produced during combustion

IEC 60754–2 (EN 60754–2–2), quantifying the acidity (pH) and the conductivity or gas produced during combustion.

LSZH: Low Smoke Zero Halogen

When burning, a LSZH cable will produce smokes of following properties:

- PH: > 4.3
- Gas conductivity : < 10µS/mm
- Halogen acid gas quantity: < 0.5% of the combustion-produced gas
- Light transmittance: > 60 %
- Transmittance lumineuse > 60 %

GENERAL CABLE CHARACTERISTICS



Towards new European norms: Euroclasses

The European Commission decided to evaluate cables according to their resistance to fire and their reactions to fire.

Resistance to fire

Measured in minutes. Cables will be classified in five categories (fire resistance 15, 30, 60, 90 or 120 minutes).

Reaction to fire classification

There are six classes, A to F.

The cables showing the less flame height, heat and smoke production will be in A class.

In contrary, those which are not fire-resistant and produce opaque and toxic smokes will be in F class.

EUROCLASSES CLASSIFICATION

Aca class	No inflammable material
Bca class	Reduced flame and heat production
Cca class	Moderate flame and heat production
Dca class	Heat production similar to construction wood
Eca class	Moderate flame height
F class	No fire performance needed

CR1C1-COMPLIANT OPTIC FIBER ?



The CR1C1 norm is validated by NF 3070.

FOFIRE

The term “fire resistant” applies to cables able to keep ensuring their function during a limited period of time in a fire.

This qualification is granted after a series of tests defined by the NFC 32.070 norm (art. 2 & 3). The cable is placed in an oven heated to 900°C. During the test length, the cable must be able to power a bulb while developing a leakage current. It will be submitted to regular mechanical shocks.

A cable passing this test is CR1-compliant.

An optic fiber cannot be CR1-compliant. It carries light, not current – so it is impossible to power a bulb with an optic fiber, neither to measure a leakage current.

So the fire resistance norm applying to optic fiber is the IEC 60331–25 norm.

This norm asks to maintain the fiber insulation to a temperature greater than 750 °C.

Our FOFIRE optic fibers comply with the fire resistance criteria according to IEC 600331–25 and are C1-certified according to NF 32070 norm (LCIE certificate).

A leaking current is a current flowing from the electrical conductors to the ground or to conductive elements (metal chassis...). This current may result from an insulation problem, and constitutes an useless energy loss, sometimes becoming dangerous.

TWISTED PAIR CABLES

STRUCTURE

The twisted pair's construction is described by the letters of its article number. Here are some tips:

XX / XTP ——— Constituting element: TP = Twisted Pair

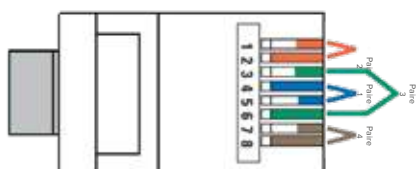
└─── Type of pair shielding: U = unshielded.
F = shielding by aluminium foil

└─── Type of general shielding: U = unshielded.
F = shielding by aluminium foil
S = shielding by braid
SF = shielding by aluminium foil + braid

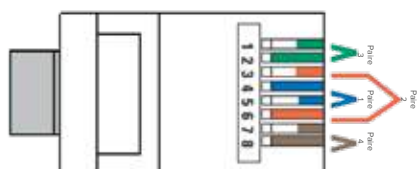
Former denomination According to EIA / TIA 568–B.2	New denomination According to ISO / IEC 11801 Ed.2	Construction / Type of shielding	Example
UTP	U/UTP	Unshielded Twisted Pair	
FTP	F/UTP	Foiled Twisted Pair	
SFTP	SF/UTP	Shielded and Foiled Twisted Pair	
STP	U/FTP	Individually Foiled Twisted pair	
FSTP	F/FTP	Foiled and Individually Foiled Twisted Pair	
SSTP	S/FTP	Shielded and Individually Foiled Twisted pair	

RJ45 PLUG WIRING

There are two wiring plans to wire a RJ45 connector. The most used is the T568B norm – we use it on our cords.



T568B



T568A

TWISTED PAIR CABLES

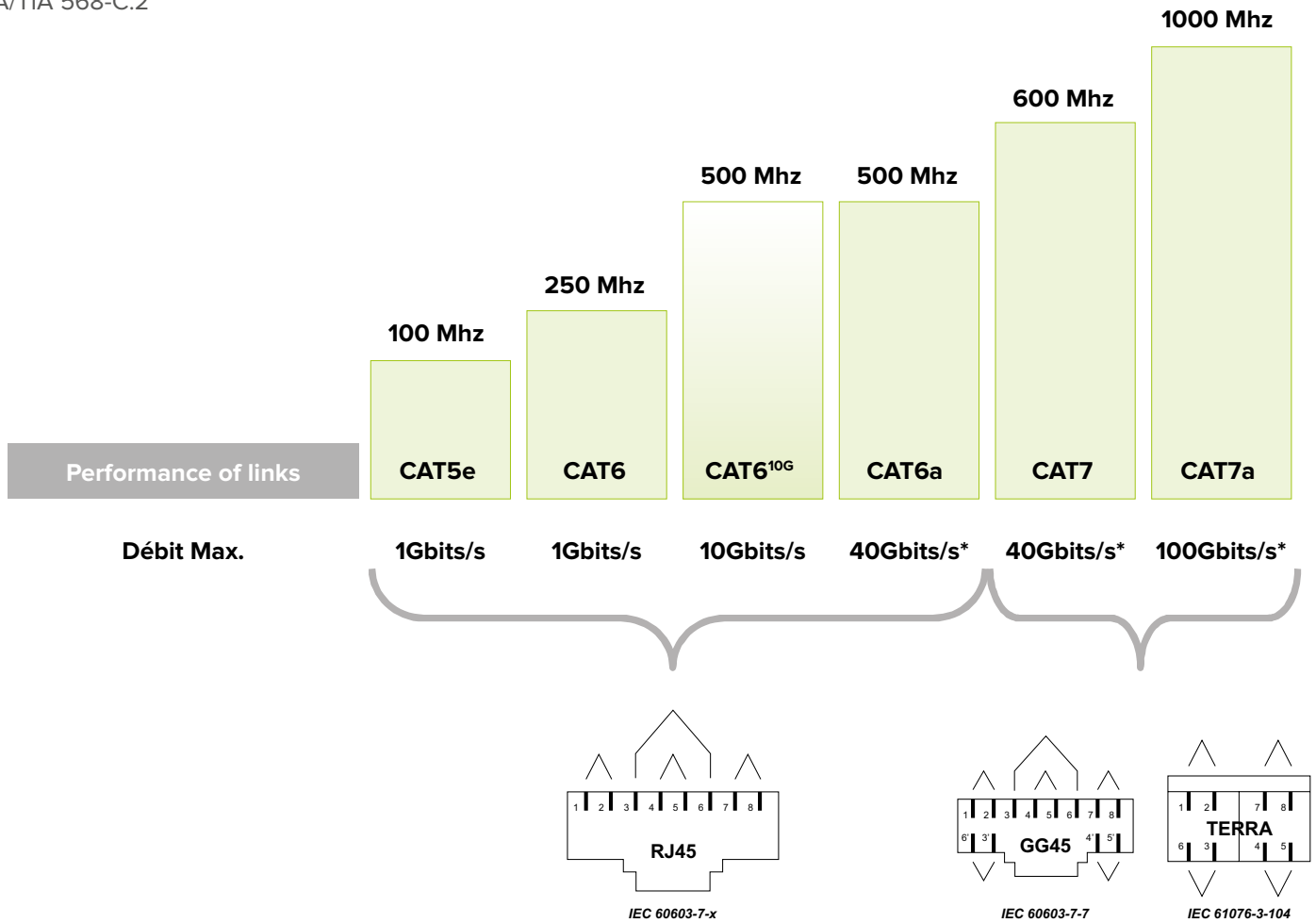
Copper performances

Standards

ISO 11801 AMD1.0 & AMD 2.0

EN50173-1

EIA/TIA 568-C.2



OPTIC FIBER

An optic fiber cable is a wave guide carrying a light signal. It is made of optic fiber assembled with a protection and an external jacket protecting the whole.

There are two main characteristics:

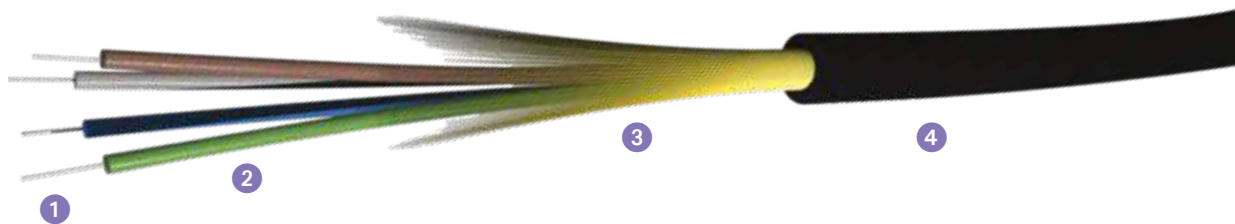
Bandwid:

This is the frequency rating of the optical cable. The higher the bandwidth, the greater the amount of transmitted information.

Attenuation:

This is the signal loss during its transmission along the optical fiber: absorption, refraction, reflexion... It is proportional to fiber length, and is expressed in dB / km.

ANATOMY OF A FIBER



1. Optic fiber

The fiber core is usually made of silicium, but it can be made of plastic or melted quartz.

The light travels in this core, following the refraction principle.

- In multimode fibers, the core diameter is important (between 50 and 200 microns). Performances are around Gb/km.
- In singlemode fibers, the core diameter is much smaller (around 10 microns). Light can travel following a straight line, there is thus almost no signal dispersion. Performances are around 100 Gb/km.

2. Jacket

It is made of the same materials as the core, but often of inferior quality.

3. Protection

The environment in which the optical cable is installed sometimes requires to use a dielectric armour (made of Kevlar, flass fiber or steel).

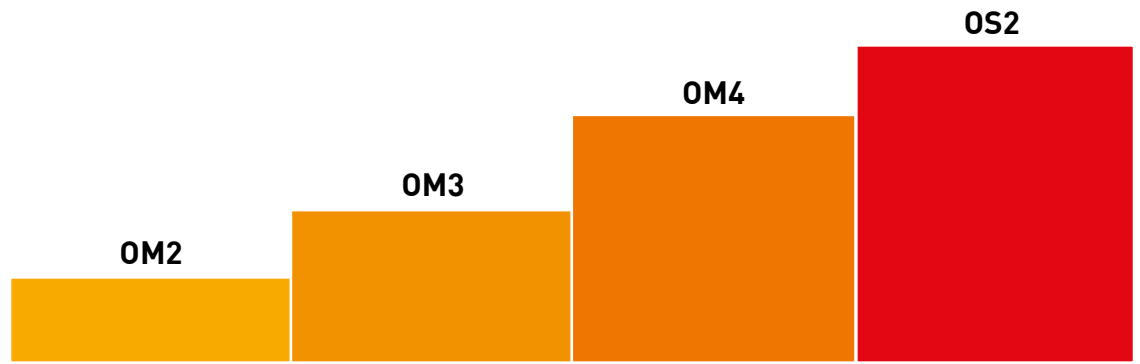
4. Outer jacket

Acts as a mechanical protection.

OPTICAL FIBER: MULTI-MODE AND SINGLE-MODE

ISO 11801 Ed 2.2 standard classifies optical fiber in 4 categories: OM2, OM3, OM4 for multimode fibers and OS2 for singlemode fibers.

Fiber type	Type of Ethernet Network					
	100FX	1000SX	1000LX	10GLX4	10GER/EH	10GRSR
Network speed	100Mbits	Gigabit		10 Gigabit		
Multi-mode OM2 50/125 μm	2 km	550 m	550 m	330 m	N/A	82 m
Multi-mode OM3 50/125 μm	2 km	550 m	550 m	300 m	N/A	300 m
Multi-mode OM4 50/125 μm	2 km	550 m	550 m	300 m	N/A	550 m
Single-mode OS2 9/125 μm	N/A	N/A	2 km	N/A	2 km	N/A



Fiber type	Multi-mode			Single-mode
Light source	LED or VCSEL sources			LASER
Structure	50 / 125 μm			9 / 125 μm
Fiber quality	OM2	OM3	OM4	OS2
Bandwidth of 850 nm	500 Mhz/km	1500 Mhz/km 2000 Mhz/km (VCSEL source)	3500 Mhz/km 4700 Mhz/km (VLSSEL source)	-
Bandwidth of 1300 nm	500 Mhz/km	500 Mhz/km	500 Mhz/km	-
Attenuation at 850 nm (typique)	3.2 dB/km	3.2 dB/km	2.7 dB/km	-
Attenuation at 1300 nm (typique)	1.0 dB/km	1.0 dB/km	0.8 dB/km	-
Attenuation at 1310 nm (typique)	-	-	-	0,35 dB/km
Attenuation at 1550 nm (typique)	-	-	-	0,22 dB/km
Lengths of transmission per application				
10 Base FL & FB	1514 m	2000 m	2000 m	-
Token Ring 4 & 16 Mbits	1857 m	1857 m	1857 m	-
Token Ring 100 Mbits	2000 m	2000 m	2000 m	-
ATM 155 (850 nm)	1000 m	1000 m	1000 m	-
ATM 622 (850 nm)	300 m	300 m	300 m	-
100 Base SX	2000 m	2000 m	2000 m	-
1000 Base SX	550 m	550 m	550 m	-
1000 Base LX	550 m	1000 m*	1000 m*	5000 m
10G Base SX	86 m	300 m	550 m	-
10G Base LW	220 m	220 m	220 m	10000 m
10G Base LX4	300 m	300 m	-	10000 m
40G Base SR4	-	100 m	125 m	-
1400G Base SR4	-	100 m	125 m	-

* On optimized fiber

HD VIDEO



WHAT'S HD?

HD is the highest digital video quality level, henceforth the most demanding. There are several HD formats, with different picture definition levels.

As a reminder, a video picture's quality is defined by three main criteria:

- The number of horizontal lines
- The number of vertical lines
- The number of dots per line

The highest resolution is obtained by using the HD1080i60 format. That's "Full HD", i.e. 1920 x 1080 pixels, progressive encoding, 50/60 Hz.

An HD picture has twice the number of pixels compared to a standard picture.

HD VIDEO NORMS



HD Video is normalized by the SMPTE (Society of Motion Picture & Television Engineers). This international association of engineers was founded in 1916 in the USA, and developed more than 400 video standards, used by television and digital cinema.

There are currently 2 HD Video standards:

- SMPTE 292M – HD Video 1.5Gb/s
- SMPTE 424M – HD Video 3Gb/s

HD VIDEO CABLES

Regarding the cables to use, HD video needs a very high bit rate.

HD video uses 1.5 Gb/s (SMPTE292M) and 3 Gb/s (SMPTE424M) bit rates– compared with a maximum bit rate of around 560 Mb/s for SD video, depending on the format used.

HDTV 3GHz norm (SMPTE 424M) says little about the cable construction and performances, but specifies the obligation to achieve certain results in term of return loss and signal transmission.

HD video needs a large bandwidth, and transporting such signals over important lengths may require large diameter cables.

HOW OUR HD VIDEO CABLES WERE TESTED

We asked the TEKTRONIX company to test our cables and to validate their maximal link length.

TEKTRONIX is an American company, dedicated to the manufacturing of electronic test equipment devices and measure instruments since more than 60 years.

Tektronix products are to be found in most TV master control rooms in the world.

THE TEST PROTOCOL

We chose to follow the test protocols elaborated by the NHK (Japanese public broadcaster, an HD pioneer) and frequently used by the professionals.

The equipment needed to perform this test is:

- A TEKTRONIX WFM8300 B010135 signal generator
- A video oscilloscope, to evaluate the protocol errors on the received signal
- Two 10m-cords, to reproduce the actual conditions of use of the equipment in a studio or an OB van
- The length of cable to test

HD VIDEO

The cables were tested while rolled in a perturbed environment.

Two more 10m-cords have been connected each side of the cable length to test.

These cords, called “reserve lengths”, reproduce the link breaks (distribution on a patchbay, connexion to an equipment in a production truck...).

An HD video 3GHz signal generator WFM8300 is connected at one end of this global link (cords + cable).

The results are measured at the other end, using a test pattern.

All the equipment was setup for HD1080p60 – 3 Gb/s video format.



Digital HD Video signal generator

Creates an HD signal, like a video camera

The HD cable

to test is rolled on a drum cable and placed close to a perturbation source

The oscilloscope

displays the quality of the received signal, and counts the number of errors occurring along the link. If no error has been monitored after 10minutes, the test is considered as positive, and the link is validated.

Useable lengths were validated if no error (CRC) had been spotted after 10minutes of testing (enough time to ensure the connexion reliability, since the bit rate is 3Gb/s).

Suitable plugs : Every cable has been tested and validated with Neutrik connectors

For UHD0628LSZH cable – Neutrik BNC - Art. Nb NBNC75BFG7

For UHD08370LSZH cable – Neutrik BNC - Art. Nb NBNC75BLP9

For UHD10460LSZH cable – Neutrik BNC - Art. Nb NBNC75BTU11

For UHD1250FLEX cable – Neutrik BNC - Art. Nb NBNC75BXU13

For UHD16720LSZH cable – Neutrik BNC - Art. Nb NBLC75BVZ1

Insertion of the reserve cords was realized with a straight BNC / BNC female coupler Art. Nb NBB75DFI.

VIDEO HD

CONCLUSION

The values obtained in actual use conditions for these cables clearly exceed the theoretical values.

The tests were successful, and their results allow us to confirm the reliability and the high performances of HDS2CEB cables.

SMPTE 292M 1.5Gb/s	UHD0628LSZH	UHD08370LSZH	UHD10460LSZH	UHD1250FLEX	UHD16720LSZH
Tested length	125m	170 m	200 m	212 m	300 m
Reserve length	2 x 10 m	2 x 10 m	2 x 10 m	2 x 10 m	2 x 10 m
Total validated length	145 m	190 m	220 m	232 m	310 m

SMPTE 424M 3Gb/s	UHD0628LSZH	UHD08370LSZH	UHD10460LSZH	UHD1250FLEX	UHD16720LSZH
Tested length	85 m	106 m	123 m	130 m	231 m
Reserve length	2 x 10 m	2 x 10 m	2 x 10 m	2 x 10 m	2 x 10 m
Total validated length	105 m	126 m	143 m	150 m	251 m



What's return loss?

Return loss is caused by an impedance variation. This variation can be caused by different elements of the link: connectors, patchbay, or the cable itself. The return loss shows the impedance variations or the losses caused by the cable for a specific impedance and a specific frequency.

Return loss value is the ratio of the reflected signal (coming back to the emission source). According to frequency, this value is very important – the higher the frequency, the most crucial this measure becomes.

The return loss is one of the fundamental parameters in the HD video specifications SMPTE292M and 424M, which require a return loss value:

- ≥ 15 dB at 1.5 GHz
- ≥ 10 dB at 3 GHz

UNBALANCED AND BALANCED AUDIO LINES

Audio cables carry low-intensity electrical signals in most often heavily disturbed environments (many power sources, EMI...).

Generally, shielded cables are used to protect the transmitted signals from any type of interference.

There are 2 typologies of audio cables.

UNBALANCED AUDIO CABLES

This type of link is mostly used to connect musical instruments (guitar, bass guitar, synthesizers...) to amplifiers, audio interfaces, mixing consoles... and to connect consumer audio products.

An unbalanced audio cable is made of:

- a central core, which transmits the signal. This is the phase conductor.

This conductor is also called hot point.

- a shield, which has two functions: phase return and screen.

The shield functions properly as a screen only if the disturbances are not too significant and if the Link lengths are short enough (a few meters).

The most used connectors for unbalanced audio links are the mono jacks, the RCA and, less frequently, XLR.

BALANCED AUDIO CABLES

Most audio links are balanced (microphone level).

A balanced cable is made of two conductors, assembled as a pair, and a shielding.

The signal is transmitted by the two conductors only, which are called hot point (S1) and cold point (S2).

The shield works only as a screen, to be more efficient.

Balanced cables are very well protected against disturbing elements, thanks to:

- their shield blindage.
- the 'twisted pair' disposition of the two conductors.

The conductors of a pair are driven in opposite phase, i.e. each conductor carries a signal of same intensity but opposite polarity (one +, one -).

Moreover, the pair disposition ensures that the phases are shifted by 180° .

As a result, as soon as the cable is in contact with a source of pollution, each conductor picks the same amplitude of disturbance, but with an opposite polarity. Thus the disturbance gets cancelled.

Balanced cables ensure an excellent signal transmission in hostile environments and over large distances.

2040	28	1XDMX512	68	AM2R1B1N	199	BSTBNCx	147	CAMJJ23	64
2060	28	1XDMX512G	68	AM2R1N	201	BXXx	29	CAMJJ25	64
2080	28	1XDMX512N	68	AM2R2020N	201	CA2RJM11	48	CAMRJ210	65
2100	28	1XDMXPOWER	70	AM2RCACI	201	CA2RJM110	48	CAMRJ23	65
2120	28	2RCAM6S	35	AMCSVGA110N	179	CA2RJM13	48	CAMRJ25	65
2160	28	4030.4008	19	AMCSVGA115N	179	CA2RJM15	48	CAMRR110	65
18270006	111	4030.4089	19	AMCSVGA15N	179	CA2RX11	47	CAMRR1105	65
18270007	111	4030.4150	19	AMCSVGAJ110N	187	CA2RX110	47	CAMRR115	65
18270012	111	4030.5067B	19	AMCSVGAJ115N	187	CA2RX13	47	CAMRR15	65
18270013	111	4030.5067G	19	AMCSVGAJ15N	187	CA2RX15	47	CANXX11	41
18270019	111	4030.5067N	19	AMHDMI2020	191	CA2RXF11	48	CANXX110	41
27480001	112	4030.5082B	19	AMHDMICI	190	CA2RXF110	48	CANXX115	41
27480002	112	4030.5122B	19	AMHDMIFF	190	CA2RXF13	48	CANXX12	41
27480003	112	4030.5122G	19	AMJ351	205	CA2RXF15	48	CANXX13	41
27480004	112	4030.5122N	19	AMJ35110N	205	CA2XJ35110	43	CANXX15	41
27480005	112	4030.5126B	19	AMJ35115N	205	CA2XJ3513	43	CAPOTVGA	131
27480006	112	4030.5126G	19	AMJ35120N	205	CA2XJ3515	43	CARR110ES	202
27500706	107	4030.5126N	19	AMJ3515N	205	CA40	7	CARR110NC	202
27500710	109	4030.6150	20	AMJ351CI	205	CAJ2J11	45	CARR115ES	202
27500711	109	4030.6200	20	AMJ352020N	205	CAJ2J115	45	CARR115NC	202
27500712	109	4030.6250	20	AMTVGA1N	178	CAJ2J13	45	CARR15ES	202
27500713	109	4030.7126RN	19	AMUSBA2020N	209	CAJ2J15	45	CARR15NC	202
27500714	109	4030.7126RN5	19	AMUSBACI	209	CAJ2R11	47	CARR210	47
27500715	109	4030.8250	19	AMVGA110N	179	CAJ2R110	47	CARR215	47
27500716	109	4AUDIOLAN6A	85	AMVGA115N	179	CAJ2R13	47	CARR220	47
27500717	109	4AUDIOLAN6AD	86	AMVGA15N	179	CAJ2R15	47	CAS110NC	204
27500732	109	5VCB75	142	AMVGA1N	178	CAJ2X110	43	CAS115NC	204
27500733	109	5XHD0628	143	AMVGA2020N	179	CAJ2X13	43	CAS120NC	204
27500734	109	5XVCB100	142	AMVGA2R1N	186	CAJ2X15	43	CAS15NC	204
27500735	109	A3FCM	34	AMVGACI	178	CAJ2XF110	43	CATT1006N	46
27500741	107	A3MCF	34	AMVGAJ1N	186	CAJ2XF13	43	CATT1006R	46
27500745	107	ABFF75HQ	149	AMVGAJ2020N	187	CAJ2XF15	43	CATT1009N	46
27500746	107	AC3FM6M	34	AMVGAJCI	186	CAJ352J11	45	CATT1009R	46
27500748	107	ACB2V	165	AMX110N	203	CAJ352J110	45	CATT1105N	46
27500749	107	ACB4V	165	AMX115N	203	CAJ352J13	45	CATT1105R	46
27500750	107	ACCASTOR	165	AMX120N	203	CAJ352J15	45	CAX2XM1050	41
27500751	107	ACTHERMOST	165	AMX130N	203	CAJJ11	44	CAX2XM11	41
27500760	107	ADVIFHDMIM	190	AMX15N	203	CAJJ110	44	CAX2XM13	41
27500761	107	ADVIMHD15F	185	AMX1N	203	CAJJ115	44	CAXFJ210	42
27500762	107	ADVIMHD15M	185	AMX3F2020N	203	CAJJ13	44	CAXFJ23	42
27500763	107	ADVIMHDMIF	190	AMXF3CI	203	CAJJ15	44	CAXFJ25	42
27507086	110	AHDMIFF	190	AMXF3N	203	CAJJ310	44	CAXFJ310	43
27507087	110	AM1B110N	193	AUDIOLAN24	80	CAJJ310B	44	CAXFJ33	43
27507088	110	AM1B115N	193	AUDIOLAN4P10	78	CAJJ310CB	45	CAXFJ35	43
27507095	108	AM1B120N	193	AUDIOLAN6	82	CAJJ33	44	CAXJ210	42
27507096	108	AM1B15N	193	AUDIOLAN6A	83	CAJJ33B	44	CAXJ23	42
27507097	108	AM1B1CI	193	AUDIOLAN6AW	84	CAJJ33CB	45	CAXJ25	42
27702000	112	AM1B1N	193	AVGAFF	181	CAJJ35	44	CAXJ310	42
27702001	112	AM1B2020N	193	AVGAMM	181	CAJJ35B	44	CAXJ33	42
27702026	112	AM1R2020N	195	BA4P	109	CAJJ35CB	45	CAXJ35	42
27702035	112	AM1RJ	195	BC6AFSTL8	97	CAMJJ110	64	CAXPW110	55
27702039	107	AM1RJ110N	195	BMASS19	165	CAMJJ15	64	CAXPW115	55
27702040	109	AM1RJ115N	195	BMS50	148	CAMJJ210	64	CAXPW13	55
27702042	109	AM1RJ120N	195	BPF1U450	165	CAMJJ2105	64	CAXPW15	55
27707015	110	AM1RJ15N	195	BPF2U550	165	CAMJJ215	64	CAXW110	55
27707017	110	AM1RJCI	195	BPXx	30	CAMJJ220	64	CAXW115	55

CAXW13	55	CDMX512N12N	72	CFF19SPIDER3G25	120	CHDMI2011SF	191	CHP84SST12	51
CAXW15	55	CDMX512N13N	72	CFF25	38	CHDMI20120SF	191	CHP84SST13	51
CAXX11	41	CDMX512N15N	72	CFF25C	38	CHDMI2012SF	191	CHP84SST15	51
CAXX110	41	CDMX513	72	CFF25TP	38	CHDMI2013SF	191	CHP8SS11	50
CAXX110ES	204	CDMX513N	72	CFF25TPC	38	CHDMI2015ES	192	CHP8SS110	50
CAXX115	41	CDMX515	72	CFF37	38	CHDMI2015NC	192	CHP8SS115	50
CAXX115ES	204	CDMX515N	72	CFF37C	38	CHDMI2015SF	191	CHP8SS12	50
CAXX12	41	CDMXN3110N	74	CFF37TP	38	CHDMI20115NC	192	CHP8SS13	50
CAXX120ES	204	CDMXN3115N	74	CFF37TPC	38	CHP24CP4S15	53	CHP8SS15	50
CAXX13	41	CDMXN311N	74	CFF54	38	CHP24CPS13	52	CMPAP12CC1xx	59
CAXX15	41	CDMXN3120N	74	CFF54C	38	CHP2SS11	49	CMPAP12CC2xx	59
CAXX15ES	204	CDMXN3125N	74	CFF54TP	38	CHP2SS110	49	CMPAP12CX1xx	60
CAXXP110	55	CDMXN312N	74	CFF54TPC	38	CHP2SS115	49	CMPAP12CXF1xx	60
CAXXP115	55	CDMXN313N	74	CFF85	38	CHP2SS12	49	CMPAP12RR1xx	61
CAXXP13	55	CDMXN315N	74	CFF85C	38	CHP2SS120	49	CMPAP12RR2xx	61
CAXXP15	55	CDMXPOWERPW110	75	CFF85TP	38	CHP2SS13	49	CMPAP12RX1xx	62
CDMX311	73	CDMXPOWERPW13	75	CFF85TPC	38	CHP2SS15	49	CMPAP12RXF1xx	62
CDMX3110	73	CDMXPOWERPW15	75	CFM150	39	CHP2ST42S1050	53	CMPAP12SB1xx	57
CDMX3110G	73	CDMXPOWERX110	74	CFM150C	39	CHP2STS82S1050	53	CMPAP12xx	56
CDMX3110N	73	CDMXPOWERX13	74	CFM150TP	39	CHP2STS84S1050	53	CMPAP168SB1xx	57
CDMX3115	73	CDMXPOWERX15	74	CFM150TPC	39	CHP44CP2S13	52	CMPAP16CC1xx	59
CDMX3115G	73	CDMXPOWERXP110	75	CFM19	39	CHP44CPS13	52	CMPAP16CC2xx	59
CDMX3115N	73	CDMXPOWERXP13	75	CFM19SPIDER3G15	120	CHP44SS11	49	CMPAP16CX1xx	60
CDMX311G	73	CDMXPOWERXP15	75	CFM19SPIDER3G25	120	CHP44SS110	49	CMPAP16CXF1xx	60
CDMX311N	73	CDMXPOWERXPN110	74	CFM25	39	CHP44SS115	49	CMPAP16RR1xx	61
CDMX312	73	CDMXPOWERXPN13	74	CFM25C	39	CHP44SS12	49	CMPAP16RR2xx	61
CDMX3120	73	CDMXPOWERXPN15	74	CFM25TP	39	CHP44SS120	49	CMPAP16RX1xx	62
CDMX3120G	73	CDMXPOWERXW110	75	CFM25TPC	39	CHP44SS13	49	CMPAP16RXF1xx	62
CDMX3120N	73	CDMXPOWERXW13	75	CFM37	39	CHP44SS15	49	CMPAP16SB1xx	57
CDMX3125	73	CDMXPOWERXW15	75	CFM37C	39	CHP44SST11	50	CMPAP16xx	56
CDMX3125G	73	CEF150	38	CFM37TP	39	CHP44SST110	50	CMPAP24CC1xx	59
CDMX3125N	73	CEF150C	38	CFM37TPC	39	CHP44SST115	50	CMPAP24CC2xx	59
CDMX312G	73	CEF19	120	CFM85	39	CHP44SST12	50	CMPAP24CX1xx	60
CDMX312N	73	CEF25	38	CFM85C	39	CHP44SST120	50	CMPAP24CXF1xx	60
CDMX313	73	CEF25C	38	CFM85TP	39	CHP44SST13	50	CMPAP24RR1xx	61
CDMX313G	73	CEF37	38	CFM85TPC	39	CHP44SST15	50	CMPAP24RR2xx	61
CDMX313N	73	CEF37C	38	CFOyMLCLCxxROL	105	CHP4SS11	49	CMPAP24RX1xx	62
CDMX315	73	CEF54	38	CFOyMSCSCxxROL	105	CHP4SS110	49	CMPAP24RXF1xx	62
CDMX315G	73	CEF54C	38	CFOyMSTSTxxROL	105	CHP4SS115	49	CMPAP24SB1xx	57
CDMX315N	73	CEF85	38	CFOySLCLCxxROL	105	CHP4SS12	49	CMPAP24xx	56
CDMX511	72	CEF85C	38	CFOySSCSCxxROL	105	CHP4SS120	49	CMPAP32CC1xx	59
CDMX5110	72	CEM150	39	CFOySSTSTxxROL	105	CHP4SS13	49	CMPAP32CC2xx	59
CDMX5110N	72	CEM150C	39	CHDFO1100L	159	CHP4SS15	49	CMPAP32CX1xx	60
CDMX5115	72	CEM19	39	CHDFO110L	159	CHP84CCP1070	52	CMPAP32CXF1xx	60
CDMX511N	72	CEM25	39	CHDFO1200L	159	CHP84CCP110	52	CMPAP32RR1xx	61
CDMX512	72	CEM25C	39	CHDFO120L	159	CHP84CCP125	52	CMPAP32RR2xx	61
CDMX5120	72	CEM37	39	CHDFO1300L	159	CHP84CCP15	52	CMPAP32RX1xx	62
CDMX5120N	72	CEM37C	39	CHDFO1500L	159	CHP84SS11	51	CMPAP32RXF1xx	62
CDMX5125	72	CEM85	39	CHDFO150L	159	CHP84SS110	51	CMPAP32SB1xx	57
CDMX5125N	72	CEM85C	39	CHDFO15L	159	CHP84SS115	51	CMPAP32xx	56
CDMX512N	72	CFF150	38	CHDMI201050SF	191	CHP84SS12	51	CMPAP4xx	56
CDMX512N110N	72	CFF150C	38	CHDMI20110ES	192	CHP84SS13	51	CMPAP84SB1xx	57
CDMX512N115N	72	CFF150TP	38	CHDMI20110NC	192	CHP84SS15	51	CMPAP8SB1xx	57
CDMX512N11N	72	CFF150TPC	38	CHDMI20110SF	191	CHP84SST11	51	CMPAP8xx	56
CDMX512N120N	72	CFF19	38	CHDMI20115ES	192	CHP84SST110	51	COBRA	13
CDMX512N125N	72	CFF19SPIDER3G15	120	CHDMI20115SF	191	CHP84SST115	51	CORDKX6A1	154

CORDKX6A10	154	CORPP3G1513	124	CRJ645110NE	101	CRJ645A15NE	102	CTR11215L	158
CORDKX6A100	154	CORPP3G1515	124	CRJ645115	101	CRJ645A15S2	103	CTRA21100L	157
CORDKX6A15	154	CORPP3G25110	125	CRJ645115NE	101	CRJ645A15S2N	104	CTRA2110L	157
CORDKX6A2	154	CORPP3G2513	125	CRJ64511NE	101	CRJ645A170NE	102	CTRA21150L	157
CORDKX6A20	154	CORPP3G2515	125	CRJ64512	101	CRJ645A170NEROL	102	CTRA21200L	157
CORDKX6A25	154	CORPP3G15110	124	CRJ645120	101	CRJ645A170S2	103	CTRA2125L	157
CORDKX6A30	154	CORPP3G1513	124	CRJ645120NE	101	CRJ645A170S2N	104	CTRA2150L	157
CORDKX6A5	154	CORPP3G1515	124	CRJ64512NE	101	CRJ645A170S2NROL	104	CTRA215L	157
CORDKX6A50	154	CORPP3G25110	125	CRJ64513	101	CRJ645A170S2ROL	103	CTRA81100L	158
CORDKX6AR1	154	CORPP3G2513	125	CRJ645130	101	CRJ645A180NE	102	CTRA8110L	158
CORDKX6AR10	154	CORPP3G2515	125	CRJ645130NE	101	CRJ645A180NEROL	102	CTRA81150L	158
CORDKX6AR15	154	CRJ2451100	100	CRJ64513NE	101	CRJ645A180S2	103	CTRA81200L	158
CORDKX6AR2	154	CRJ2451100NE	100	CRJ645140	101	CRJ645A180S2N	104	CTRA8125L	158
CORDKX6AR20	154	CRJ2451100NEROL	100	CRJ645140NE	101	CRJ645A180S2NROL	104	CTRA8150L	158
CORDKX6AR25	154	CRJ245110NE	100	CRJ64515	101	CRJ645A180S2ROL	103	CTRA815L	158
CORDKX6AR5	154	CRJ245120	100	CRJ645150	101	CSPIDERF3G15P1050	122	CTRB21100L	157
CORDPW751	155	CRJ245120NE	100	CRJ645150NE	101	CSPIDERM3G15P1050	122	CTRB2110L	157
CORDPW7510	155	CRJ245120NEROL	100	CRJ64515NE	101	CSVGA110ES	180	CTRB21150L	157
CORDPW7515	155	CRJ245130	100	CRJ645170	101	CSVGA110N	180	CTRB21200L	157
CORDPW752	155	CRJ245130NE	100	CRJ645170NE	101	CSVGA115ES	180	CTRB2125L	157
CORDPW7520	155	CRJ245130NEROL	100	CRJ645180	101	CSVGA115N	180	CTRB2150L	157
CORDPW7525	155	CRJ24513N	100	CRJ645180NE	101	CSVGA11N	180	CTRB215L	157
CORDPW7530	155	CRJ245150	100	CRJ645A1100NE	102	CSVGA120ES	180	CUHD0628AR110ES	196
CORDPW755	155	CRJ245150NE	100	CRJ645A1100NEROL	102	CSVGA120N	180	CUHD0628AR115ES	196
CORDPW7550	155	CRJ245150NEROL	100	CRJ645A1100S2	103	CSVGA12N	180	CUHD0628AR120ES	196
CORNF13G25110	122	CRJ24515N	100	CRJ645A1100S2N	104	CSVGA130ES	180	CUHD0628AR15ES	196
CORNF13G25120	122	CRJ245170	100	CRJ645A1100S2NROL	104	CSVGA130N	180	CUHD0628LS110ES	194
CORNF13G25125	122	CRJ245170NE	100	CRJ645A1100S2ROL	103	CSVGA13N	180	CUHD0628LS110NC	196
CORNF13G2515	122	CRJ245170NEROL	100	CRJ645A110NE	102	CSVGA15ES	180	CUHD0628LS115ES	194
CORNF19G25110	122	CRJ245180	100	CRJ645A110S2	103	CSVGA15N	180	CUHD0628LS115NC	196
CORNF19G25120	122	CRJ245180NE	100	CRJ645A110S2N	104	CSVGAB1020	181	CUHD0628LS120ES	194
CORNF19G25125	122	CRJ245180NEROL	100	CRJ645A115NE	102	CSVGAB12	181	CUHD0628LS120NC	196
CORNF19G2515	122	CRJ451005	99	CRJ645A115S2	103	CSVGAB2020	181	CUHD0628LS15ES	194
CORNF3G1511	123	CRJ451005NE	99	CRJ645A115S2N	104	CSVGAB22	181	CUHD0628LS15NC	196
CORNF3G15110	123	CRJ4511	99	CRJ645A11NE	102	CSVGAFB1020	181	CUHD0628LSZH1025	155
CORNF3G15115	123	CRJ45110	99	CRJ645A11S2	103	CSVGAFB12	181	CUHD0628LSZH1050	155
CORNF3G15120	123	CRJ45110NE	99	CRJ645A11S2N	104	CSVGAFB2020	181	CUHD0628LSZH11	155
CORNF3G15125	123	CRJ4511NE	99	CRJ645A120NE	102	CSVGAFB22	181	CUHD0628LSZH110	155
CORNF3G1513	123	CRJ4512	99	CRJ645A120S2	103	CSVGAJ110ES	188	CUHD0628LSZH115	155
CORNF3G1515	123	CRJ45120	99	CRJ645A120S2N	104	CSVGAJ110N	187	CUHD0628LSZH12	155
CORNF3G25110	123	CRJ45120NE	99	CRJ645A12NE	102	CSVGAJ110NC	188	CUHD0628LSZH120	155
CORNF3G25120	123	CRJ4512NE	99	CRJ645A130NE	102	CSVGAJ115N	187	CUHD0628LSZH125	155
CORNF3G2513	123	CRJ4513	99	CRJ645A130S2	103	CSVGAJ120ES	188	CUHD0628LSZH130	155
CORNF3G2515	123	CRJ4513NE	99	CRJ645A130S2N	104	CSVGAJ120NC	187	CUHD0628LSZH140	155
CORNF3G25A25	123	CRJ4515	99	CRJ645A13NE	102	CSVGAJ120NC	188	CUHD0628LSZH15	155
CORNF3G25A30	123	CRJ45150	99	CRJ645A13S2	103	CSVGAJ12N	187	CUHD1250FL11	155
CORNF3G25A50	123	CRJ45150NE	99	CRJ645A13S2N	104	CSVGAJ13N	187	CUHD1250FL110	155
CORNF3G1511	124	CRJ45150NEROL	99	CRJ645A140NE	102	CSVGAJ15ES	188	CUHD1250FL1100ROL	156
CORNF3G1512	124	CRJ4515NE	99	CRJ645A140S2	103	CSVGAJ15NC	187	CUHD1250FL115	155
CORNF3G1513	124	CRJ45180	99	CRJ645A140S2N	104	CSVGAJ15NC	188	CUHD1250FL1150ROL	156
CORNF3G1515	124	CRJ45180NE	99	CRJ645A150NE	102	CTR1121100L	158	CUHD1250FL12	155
CORNF3G2511	125	CRJ45180NEROL	99	CRJ645A150NEROL	102	CTR112110L	158	CUHD1250FL120	155
CORNF3G2512	125	CRJ64511	101	CRJ645A150S2	103	CTR1121150L	158	CUHD1250FL1200ROL	156
CORNF3G2513	125	CRJ645110	101	CRJ645A150S2N	104	CTR1121200L	158	CUHD1250FL125	155
CORNF3G2515	125	CRJ6451100	101	CRJ645A150S2NROL	104	CTR112125L	158	CUHD1250FL130	155
CORPP3G15110	124	CRJ6451100NE	101	CRJ645A150S2ROL	104	CTR112150L	158	CUHD1250FL140	155

CUHD1250FL15	155	DMC75HQ	148	FF8B	40	GT380	168	MIC222FRNC	8
CUHD1250FL150ROL	156	DMC75S	148	FFA3T675CTAY11	131	GT380RM	168	MIC240	9
CUHD1250FLP11	156	DMS50	148	FFA3T675CTAY13S	131	GT450	168	MK6AFS	97
CUHD1250FLP110	156	DMSE75COMP	148	FFA3T675CTAY92S	131	GT480RMFK	168	MMCP86MET	95
CUHD1250FLP1100ROL	156	DMSE75HQ	148	FFS108	36	GT8D	169	MMCP8METBW	96
CUHD1250FLP115	156	DMSE75S	148	FFS40	36	GTADP3	169	MMCRJ45SC5UNIV	95
CUHD1250FLP1150ROL	156	DMSER50	148	FFS64	36	GTADP4	169	MMCRJ45SC6BW1	96
CUHD1250FLP12	156	DMX512	69	FFS72	36	HDFO	146	MMCRJ45SC6SI	96
CUHD1250FLP120	156	DMX512FRNC	69	FHP215	15	HT380	168	MMCRJP8BLMER1	95
CUHD1250FLP1200ROL	156	DMX512N	69	FHP215CR1C1	18	HT480	168	MPAI12	21
CUHD1250FLP125	156	DSSE75HQ	148	FHP225	15	HT481	168	MPAI16	21
CUHD1250FLP130	156	DUAL22	14	FHP225CR1C1	18	HT482	168	MPAI2	21
CUHD1250FLP140	156	DUAL22HQ	14	FHP225FRNC	17	HT582	168	MPAI24	21
CUHD1250FLP15	156	DUALMIC	11	FHP2400	15	HXRBC	147	MPAI32	21
CUHD1250FLP150ROL	156	DVCB100HQ	148	FHP2400CR1C1	18	INST	39	MPAI4	21
CUSB3A13ES	210	DVCB100S	148	FHP240FRNC	17	INTEX1250	93	MPAI8	21
CUSB3A15ES	210	DVCB75HQ	148	FHP415CR1C1	18	INTEX12509125	93	MPAP12	22
CUSB3AA208	210	DVCB75MS	148	FHP425	15	INTEX1250OM3	93	MPAP16	22
CUSB3AB108	209	EB75HQ	148	FHP425CR1C1	18	INTEX1250OM4	93	MPAP2	22
CUSB3AB13	209	ECOFF12UP450T	166	FHP425FRNC	17	INTEX2450	93	MPAP20	22
CUSB3AB15	209	ECOFF12UP600	166	FHP4400	15	INTEX24509125	93	MPAP24	22
CUSB3B13ES	210	ECOFF15UP450T	166	FHP4400CR1C1	18	INTEX2450OM3	93	MPAP32	22
CUSB3B15ES	210	ECOFF15UP600	166	FHP4400FRNC	17	INTEX2450OM4	93	MPAP4	22
CVB75025	154	ECOFF6UP450T	166	FHP825	15	INTEX650	93	MPAP40	22
CVB751	154	ECOFF9UP450T	166	FHP8400N	15	INTEX6509125	93	MPAP48	22
CVB7510	154	ECOFF9UP600	166	FM8	40	INTEX650OM3	93	MPAP8	22
CVB7515	154	ECOFFAN1V	166	FM8B	40	INTEX650OM4	93	MRJBWx1	95
CVB752	154	ECOFFAN2V	166	FMR222	10	JA14	6	MRJSR6x	95
CVB7520	154	ECOFFWHEEL	166	FMR240	10	JA28	6	MULTI12IE50	92
CVB7530	154	EF8	40	FMS108	37	JA28110	23	MULTI12IE50OM3	92
CVB755	154	EF8B	40	FMS40	37	JLCLCxxDMONO	105	MULTI12IE50OM4	92
D0628HQ	148	EFS108	36	FMS64	37	JLCLCxxDMUL50OM3	105	MULTI12IE9125	92
DAC	23	EFS40	36	FMS72	37	JSCSCxxDMONO	105	MULTI24IE50	92
DBABL	29	EFS64	36	FOFIRE1250125	91	JSCSCxxDMUL50OM3	105	MULTI24IE50OM3	92
DFC75	148	EFS72	36	FOFIRE12OM4	91	JSTSTxxDMONO	105	MULTI24IE50OM4	92
DIERBNCPDC	147	EM8	40	FOFIRE12OS2	91	JSTSTxxDMUL50OM3	105	MULTI24IE9125	92
DIERBNCPDU	147	EM8B	40	FOFIRE240125	91	KEYSTD	97	MULTI2IE50	92
DIERBNCPSP	147	EMS108	37	FOFIRE24OM4	91	KITS2CEB	130	MULTI2IE50OM3	92
DIERBNPCZ	147	EMS40	37	FOFIRE24OS2	91	KOMBxxRM	169	MULTI2IE50OM4	92
DIGI1	24	EMS64	37	FOFIRE650125	91	KOMBxxSO	169	MULTI2IE9125	92
DIGI12	26	EMS72	37	FOFIRE6OM4	91	M100x	130	MULTI4IE50	92
DIGI16	26	ERA3T675CTL	131	FOFIRE6OS2	91	M3S2F3S	35	MULTI4IE50OM3	92
DIGI1LSZH	24	ETA0119	167	FOLIVE12OM3	90	M3SF6S	35	MULTI4IE50OM4	92
DIGI2	26	ETA0219	167	FOLIVE12OS2	90	M50BN	130	MULTI4IE9125	92
DIGI24	26	ETA0219R	167	FOLIVE2OM3	90	M50BRx	130	MULTI6IE50	92
DIGI32	26	ETA0319	167	FOLIVE2OS2	90	M6SF3S	35	MULTI6IE50OM3	92
DIGI4	26	EXT	39	FOLIVE4OM3	90	M75Bx	130	MULTI6IE50OM4	92
DIGI8	26	EXTALCT1250	94	FOLIVE4OS2	90	MC75	128	MULTI6IE9125	92
DIGIB12LSZH	27	EXTALCT129125	94	FOLIVE8OM3	90	MCCFP	141	MULTI8IE50	92
DIGIB16LSZH	27	EXTALCT2450	94	FOLIVE8OS2	90	MCCFP110NC	181	MULTI8IE50OM3	92
DIGIB24LSZH	27	EXTALCT249125	94	GIGAAUDIO	79	MCCFP115NC	181	MULTI8IE50OM4	92
DIGIB2LSZH	27	EXTALCT650	94	GT1D	169	MCCFP120NC	181	MULTI8IE9125	92
DIGIB32LSZH	27	EXTALCT69125	94	GT235RM	168	MCCFP125NC	181	NA02MH1WA	98
DIGIB4LSZH	27	F3SF3S	35	GT24D	169	MCCFP130NC	181	NA02SH1WA	98
DIGIB8LSZH	27	F6SF6S	35	GT310	168	MCCFP15NC	181	NA2FPMF	34
DIGIMIC	25	FF8	40	GT310RM	168	MIC222	8	NA2MPMF	34

INDEX

NA2MPMM	34	NC3MXXBAG	29	NLT8FX	31	PXRx	30	SBHP84L	54
NA3FF	34	NE8FDP	95	NLT8FXBAG	31	RCAFDB	32	SBHP84N	54
NA3FJ	34	NE8FDPB	95	NLT8MP	31	RCAFDR	32	SBOBT	163
NA3FP	34	NE8FDV	95	NLT8MX	31	RCAFM6M	35	SBOBT22	163
NA3M	34	NE8FDVB	95	NLT8MXBAG	31	RCAMDB	33	SBOBT28	163
NA3MJ	34	NE8FDVYK	95	NO24FDWA	98	RCAMDR	33	SBOBT37	163
NA3MM	34	NE8FDVYKB	95	NO4FDWA	98	RCAMOB	33	SCDPx	29
NA3MP	34	NE8FDXP6	96	NP2RX	30	RCAMOB	33	SCDX	29
NAC3FCA	121	NE8FDXP6B	96	NP2RXB	30	RCAMOBL	33	SDB15HDS	131
NAC3FCB	121	NE8FDXY6	96	NP2RXBAG	30	RCAMOJ	33	SK4700	169
NAC3FPX	121	NE8FDXY6B	96	NP2X	30	RCAMON	33	SK4701	169
NAC3FXW	121	NE8FF	95	NP2XB	30	RCAMOR	33	STARQUAD	12
NAC3MPA1	121	NE8MC	95	NP2XBAG	30	RCAMOV	33	T2766	164
NAC3MPB1	121	NE8MC1	95	NP3RX	30	RFM8	40	T3366	164
NAC3MPX	121	NE8MC1B	95	NP3RXB	30	RJ45MH	32	T3388	164
NAC3MXW	121	NE8MCB	95	NP3RXBAG	30	RNF13G25	118	T4266	164
NAC3P	121	NE8MX6	96	NP3TBB	30	RNF19G25	118	T4268	164
NADITBNCF	35	NE8MX6B	96	NP3TBR	30	RNF3G15	118	T42810	164
NADITBNCFX	35	NJ3FC6	30	NP3TTPB	30	RNF3G25	118	T4286	164
NADITBNCM	35	NJ3FC6BAG	30	NP3TTPR	30	RNF3G6	118	T4288	164
NADITBNCMX	35	NJ3FP6C	30	NP3X	30	RNF4G15	118	T4788	164
NAHDMIW	153	NJ3FP6CBAG	30	NP3XB	30	RNF5G16	118	TIR219F	167
NAHDMIWB	153	NKO2MA2100	114	NP3XBAG	30	RNF5G25	118	TIR319F	167
NBB75DFG	147	NKO2MA2150	114	PAN119	162	RNF5G25	118	TIR419F	167
NBB75DFGB	147	NKO2MA2200	114	PAN11912	162	RNF5G6	118	TMFF75HQ	149
NBB75DFI	147	NKO2MA2300	114	PAN11916	162	RZ61CB	33	TOUR	39
NBB75DFIB	147	NKO2SA2100	114	PAN11916T	162	RZ61CJ	33	TOUR150	39
NBB75FI	147	NKO2SA2150	114	PAN1191V	162	RZ61CN	33	TPI75FFHQ	149
NBNC75BFG7	147	NKO2SA2200	114	PAN1198	162	RZ61CR	33	TRIAX11	145
NBNC75BLP9	147	NKO2SA2300	114	PAN219	162	S2C4R5SH	87	TRIAX8	145
NBNC75BLP9+	147	NKO2SS1A3100	115	PAN2192V	162	S2C4R6ATSH	89	TRIAXA2	144
NBNC75BTU11	147	NKO2SS1A5150	115	PAN21932	162	S2C4R6SH	88	TRIAXB2	144
NBNC75BVZ17	147	NKO4MA2100	114	PAN21932T	162	S2C4S6	81	TT14	11
NBNC75BXU13	147	NKO4MA2150	114	PAN319	162	S2C8R6ATSH	89	TT14B	11
NC1515	35	NKO4MA2200	114	PAN3193V	162	S2C8R6SH	88	TT14R	11
NC1523	35	NKO4MA2300	114	PAN419	162	S2CPWG6A	97	UHD0628LSZH	133
NC1524	35	NKO4SA2100	115	PAN4194V	162	SA332	130	UHD08370LSZH	134
NC1525	35	NKO4SA2150	115	PANPCA	162	SB12	163	UHD08370ULTRA	139
NC1525	35	NKO4SA2200	115	PBNCC	130	SB12C37	58	UHD10460LSZH	135
NC3FDLX	29	NKO4SA2300	115	PBNCCOMP	130	SB12C40	58	UHD1250FLEX	137
NC3FDLXB	29	NL2FX	31	PBNCS	130	SB16	163	UHD1250FLEXPUR	138
NC3FDLXBAG	29	NL2MP	31	PC16F	109	SB16C54	58	UHD1250ULTRA	140
NC3FMC	29	NL4FRX	31	PC16M	109	SB16C64	58	UHD16720LSZH	136
NC3FMCB	29	NL4FX	31	PFS108	36	SB192	163	VCB100	131
NC3FRX	29	NL4LJX	31	PFS40	36	SB193	163	VCB100LSZH	131
NC3FRXBAG	29	NL4MMX	31	PFS64	36	SB194	163	VCB75	130
NC3FXX	29	NL4MP	31	PFS72	36	SB195	163	VCB7510	130
NC3FXXB	29	NL4MPR	31	PMS108	37	SB24	163	VIPER	9
NC3FXXBAG	29	NL8FC	31	PMS40	37	SB24C72	58	VIPERB	9
NC3MDLX	29	NL8MM	31	PMS64	37	SB24C85	58	VIPERR	9
NC3MDLXB	29	NL8MPR	31	PMS72	37	SB32	163	XF3	32
NC3MDLXBAG	29	NLT4FX	31	PPC	39	SB32C108	58	XF3N	32
NC3MRX	29	NLT4FXBAG	31	PSA3T675CTLY11SH	131	SB32C150	58	XM3	32
NC3MRXBAG	29	NLT4MP	31	PSA3T675CTLY13S	131	SB40	163	XM3N	32
NC3MXX	29	NLT4MX	31	PSA3T675CTLY92S	131	SB48C150	58	XXRx	29
NC3MXXB	29	NLT4MXBAG	31	PW75	129	SB8	163		

LEGEND OF PICTOGRAMS



Construction Products Regulation
Euroclass certified



Fire resistance



Cables for mobile application
Great flexibility cables, tractions strenghts with abrasions and are easily lovables



LSZH cable
Cable with an external jacket which in case of fire doesn't release from toxic smoke: chloride, brominates, iodine and fluorine



Cables for fixed application
Conceived to transmit the audio and video signals on important distances and in electromagnetic environments with strong pollution



Cable for unbalanced links



Analog
Cables are usually used for microphone, instrumental... signals and for some video links



Cable for balanced links



Digital
Cables transmit digital signals. The characteristic impedance is 110 Ohm



Indoor / outdoor use



High Definition Tv
Defined by standard SMPTE424M - 3 Gbits/s



Colour jacket
Black, blue or red



Ultra High Definition
Defined by standard SMPTE2081.1 - 6 Gbits/s



Rodent resistance



Serial Digital Interface
It's an universal interface for digital video



Water resistance



Cable category



Loose tube fiber



Oxygen Free Copper
Cables having a copper a low oxygen content



Tight buffer fiber