



cable

HD Vision coaxial cables



The HD Vision range of 75 Ohm precision coaxial cables comprises a Low Smoke Zero Halogen jacketed single coax and 4 and 6 way PVC jacketed dynamic multicores. Great attention has been paid to their electrical characteristics and tolerances to ensure trouble free performance with SMPTE 292M HD-SDI signals as well as SDI and analogue video. For the audio world, these Van Damme cables are approved by Digidesign for use with the Venue Console up to 150 metres and for MADI applications.

Applications

LSZH Single coaxial

- Transmission of HD-SDI, SDI and analogue video signals
- Installation in public buildings, schools and colleges, government premises and marine vessels

LSZH Single coaxial application notes

- Jacket material specified as the thermoplastic polymer SHF-1; compliant with IEC 60092 Electrical Installations in ships pt. 359 – Sheathing materials for shipboard power and communication cables
- Fully tested and compliant with the following IEC standards (see glossary for full description)
- IEC 60332.1 Fire resistance of a single cable
- IEC 60754.1 Amount of Halogen Gas Emissions
- IEC 60754.2 Degree of acidity of released gases
- IEC 60134.2 Measurement of smoke density

PVC Dynamic multicores

- Multiple transmission of HD-SDI, SDI and analogue video signals
- Digidesign Venue Console Multicores
- MADI multicore
- Designed for touring, outside broadcast and other dynamic uses

General application notes

- Use of precision 75 Ohm components throughout any signal chain is imperative
- Also suitable for use with SMPTE 424M 3 Gb/s (aka dual link) interface over shorter distances
- Ultra pure oxygen free copper for outstanding sonic integrity



HD vision series

Transmission length guidelines

These transmission lengths have been calculated throughout to a maximum attenuation of -30dB at the frequency corresponding to half of the actual signal data rate for SMPTE 259 and -20dB for SMPTE 292 and 424. SMPTE and others advise that 90% of this cable length introduces an appropriate safety factor - the chart below includes an 80% safety factor as jitter and other factors can increase dramatically in the last 20% of a cable run.

	SMPTE 259				SMPTE 292	SMPTE 424
Data rate (clock)	143Mb/s	177Mb/s	270Mb/s	360Mb/s	1.485Gb/s	2.97Gb/s
½ Clock Rate	72MHz	89MHz	135MHz	180MHz	743MHz	1485MHz
Recommended transmission length	443m	399m	328m	287m	90m	64m

Single LSZH Coaxial 278-175-000

Mechanical specification		
Conductor	Material	Bare ultra pure oxygen free copper
	Stranding	1 x 1.02mm
Dielectric	Material	Foamed polyethylene
	Average thickness	1.80mm
	Diameter	4.70mm ±0.15
Screen 1	Type	35µm Aluminium/polyester foil 125% coverage
Screen 2	Material	Tinned bare ultra pure oxygen free copper
	Coverage	95%
	Dimension	24x6x0.15mm
Overall Jacket	Material	SHF-1 LSZH polymer Water blue RAL 5021
	Average thickness	0.70mm
	Overall diameter	6.80mm ±0.30
Physical properties unaged		
Jacket (at 60°C)	Tensile strength	>9 N/mm ²
	Elongation	>125%
	Heat shock test	150 °C x 1 hour - no cracks
Halogen Emissions	0.30% Halogen acid gases according to IEC 60754-2	



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4 and 6 way dynamic multicores

Mechanical specification

Conductor	Material	Bare ultra pure oxygen free copper
	Stranding	1 x 1.02mm
Dielectric	Material	Foamed polyethylene
	Average thickness	1.80mm
	Diameter	4.70mm ±0.15
Screen 1	Type	35µm Aluminium/polyester foil 125% coverage
Screen 2	Material	Tinned bare ultra pure oxygen free copper
	Coverage	95%
	Dimension	24x6x0.15mm
Overall Jacket	Material	Flexible PVC composite Sky blue RAL 5015
	Average thickness	0.75mm
	Overall diameter	7.00mm ±0.20
Overall Jacket Separator	Material	Soft tape
Overall jacket	Coverage	>125%
	Material	Flexible PVC composite
Bend radius	Colour	Jet Black RAL 9005
		15 x overall diameter

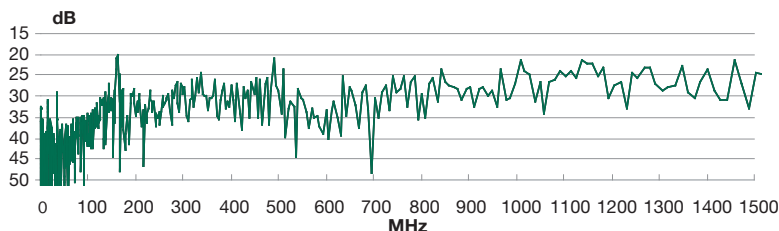
Physical properties unaged

Jacket (at 60°C)	Tensile strength	>12.5 N/mm ²
	Elongation	>125%
	Heat shock test	150 °C x 1 hour – no cracks

Electrical characteristics for both types

Resistance	Conductor	<24 Ohm/Km
	Shield	<8 Ohm/Km
	Insulation	>5000 M Ohm/Km
Voltage test		1000V DC 1 minute OK
Capacitance		58 pF/m
Velocity of propagation		80%
Impedance at 10 MHz		75 Ohms ±1.5
Attenuation	5 MHz	1.45 dB/100m
	10 MHz	2.00 dB/100m
	100 MHz	6.25 dB/100m
	135 MHz	7.31 dB/100m
	180 MHz	8.35 dB/100m
	200 MHz	8.81 dB/100m
	270 MHz	10.30 dB/100m
	400 MHz	12.65 dB/100m
	743 MHz	17.75 dB/100m
1485 MHz	25.16 dB/100m	

Structural return loss



Multicores characteristics by stock code

Stock code	Overall diameter mm	Jacket thickness mm	Weight Kg/km	Construction and lay up
268-475-000	20.50	1.50	446 kg/km	Thermoplastic & cotton fillers, 4 x coax numbered 1-4, 220mm lay
268-675-000	26.00	2.50	698 kg/km	Thermoplastic & cotton fillers, 6 x coax numbered 1-6, 220mm lay

- Maximum reel length 500 metres