

OPTRAL

HIGH PERFORMANCE
OPTICAL CABLES

Technological Center:
Polígono Industrial Ctra. BV-5128 Km-22.3
08359 Sant Iscle de Vallalta (Barcelona) - Spain
Phone: +34 902 40 12 13 / +34 93 741 86 86
Fax: +34 93 741 86 99
info@optral.com

Main Office:
Av. de la Industria 32
Edificio PAYMA - 2ª Planta oficina 2P 5-1
28108 Alcobendas (Madrid) - Spain
Comercial Phone: +34 902 40 12 13 /
+34 91 345 08 49
Administration Phone: +34 93 741 86 86
Fax: +34 91 359 45 09
info@optral.com

OPTRAL Chile:
Las Esteras Norte, 2610 - Galpón nº 18
Quilicura - Santiago de Chile - Chile
Phone: + 56 2 7387538
Cel. 09-0995002
Fax: +56 2 7387538
info@optral.com

OPTRAL Colombia:
Calle 93 # 11 A - 28 Oficina 601
Edificio Capital Park
110221 (Bogotá) - Colombia
evacca@optral.com.co

OPTRAL Mexico:
Insurgentes Sur 2453, Piso 6, suite 6087
Col. Tizapán, CP 01090
Álvaro Obregón, Ciudad de México, México.
Phone: +52 55 8000 0269
info@optral.com

OPTRAL

HIGH PERFORMANCE
OPTICAL CABLES

Broadcast

Transmission of high definition signals





Broadcast

Transmission of high definition signals

OPTRAL has several solutions in Fibre Optic Cables specially designed for the transmission of high definition signals for HDTV, professional video or Broadcast.

Optic Fibre has achieved a significant importance in the broadcasting of events thanks to the technological requirements of high definition cameras, in which bandwidth and distance between electronic devices are an important component to take into account.

Working environments are very demanding and, therefore, Optical Cables must be suitable to work in harsh conditions while at the same time making winding and unwinding easier without affecting the optic fibre.

OPTRAL's Broadcast cables have been designed to meet the requirements of the market and provide an excellent mechanical behavior, paying special attention to cable friction and crushing.

Aiming at obtaining a reliable, robust and flexible transmission link, the cables are manufactured with 900µm tight buffered fibers and with fire protected flexible thermoplastic materials that guarantee fire safety in publicly-trafficked environments.

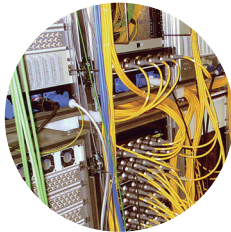
OPTRAL has four groups of Optic Fibre Cables classified according to application:

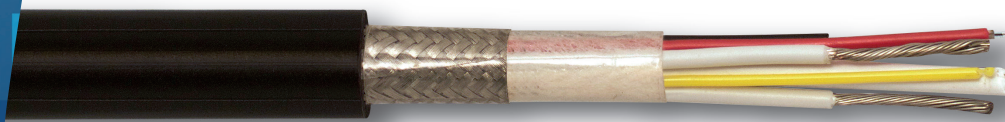
- Studio Optical Cables
- Optical Cables for assembled reel
- Armored Optical Cables
- Hybrid Cables for cameras, in compliance with SMPTE standard



Solutions and advantages of the Optical Cables in Broadcast application

- Indoor installation: cables for cameras, studio set or fixed installations in buildings.
- Outdoor installation: mobile units and cables for cameras.
- Useful on any terrain, including harsh environments and under bad weather conditions.
- Water, moisture and ultraviolet (UV) radiation resistant.
- Flexible and light cables compact in weight and reduced size that make their transportation and deployment easier.
- Resistant to severe tractions during its use in the deployment.
- Wide range of jacket color that help identifying them.
- The Xtreme design offers a double jacket and dielectric armor that provides greater durability and resistance to stress.
- SMPTE-LSZH cable for fixed indoor installations or in studio sets: flame-retardant, halogen free and low smoke emission jacket.
- Custom designs for Camera cables.
- Hybrid cables for cameras based on the SMPTE international standard.
- Optical Cables for Broadcast can be supplied assembled with connectors and in custom lengths in simple or double flange reels, fully prepared to be quickly deployed and installed.





SMPTE 311M Outdoor Hybrid-Cam-HD Cable

Cable Description

Central Strength Member
Tight Buffer Fibre (0.9 mm)
Conductors (20AWG)
Conductors (24AWG)
Fillers
Non woven pol. Tape
Braid Shield
Outer Jacket

Applications

Outdoor Type
High Definition Television (HDTV)
SMPTE 304M connectors

Norms / Approvals

SMPTE 311-2009 Standard

Options

Outer Jacket: PUR / LSZH (Indoor Type)
Optic Fibre: G.657.A2

Fire Performances

Flame Propagation (IEC60332-1)
Fire Propagation (IEC60332-3)
Features
Extremely rugged
Excellent flexing and twist capability
High tensile strength



SPECIFICATIONS

	STRENGTH MEMBER	POWER	CONTROL	OPTIC FIBRE
NO. OF CORES	1	4	2	2
CORES TYPE	Galvanized steel wires	AWG20	AWG24	Tight Buffer SM G.657.A1
CONDUCTOR CONSTRUCTION (n/mm)	19x0.25	19x0.20	7x0.20	-
IDENTIFICATION	White	2x Black 2x White	1x Red 1x Gray	1x Blue 1x Yellow
CORE ø (mm)	2.10 ± 0.1	1.50 ± 0.1	1.10 ± 0.1	0.9 ± 0.05
Overall Braid Shield	Tinned Copper Braid (Coverage >70%)			
Outer Sheath	PVC-FLX – Black			
Nominal Outer ø (mm)	9.20			
Weight (Kg/Km)	125			
Tensile Load Permanent / Install. (N)	800 / 1500			
Maximum Crush (N/10cm)	1800			
Impact (J)	20 cycles @ 5.88N			
Temperature Range	-40°C ~ +75°C			
Min. Bending Radius (mm) @20°C	7 x Outer ø			

Standards: Thermal and mechanical tests: EN187000, IEC60794-1-2. - SMPTE 311-2009



M-Tac Ruggedized Tactical Cable



Cable Description

Tight Buffer Fibre (0.9 mm)
Strength Members
Outer Jacket

Applications

Pre-terminated Broadcast solutions
Broadcast and Mil Tactical use
Deployable Cable

Options

Outer Jacket PUR-Smooth Black

Features

Resistance to moisture, sunlight
Compact
Flexible
Excellent mechanical resistance
Totally dielectric
Direct connectorization

SPECIFICATIONS

	2	4	6	8	12
Fibre Count	2	4	6	8	12
Fibre Type	SM (G.657.A) / MM (OM1 / OM2 / OM3 / OM4)				
Strength Members	Aramid Yarns				
Outer Sheath	PUR-FR – Matt Black				
Weight (Kg/Km)	22	27	30	33	39
Outer ø (mm)	5.0 ± 0.3	5.8 ± 0.3	6.0 ± 0.3	6.5 ± 0.3	8.2 ± 0.3
Max. Tensile Load Operating / Install. (N)	600 / 1100				700 / 1250
Max. Crush (N/10cm)	4400				
Impact (J)	5J				
Temperature Range	-40°C~+85°C (Operation) / -10°C~+85°C ((Installation) / -40°C~+85°C ((Storage)				
Min. Bending Radius (mm)	10 x Outer ø				

Standards: Thermal and mechanical tests: EN187000, IEC60794-1-2.

Fibres colour code (TIA-598): Blue – Orange – Green – Brown – Grey – White – Red – Black – Yellow – Violet – Pink – Turquoise.



Cable Description

Central Strength Member
Tight Buffer Fibre (0.9 mm)
Conductors (20AWG)
Conductors (24AWG)
Fillers
Non woven pol. Tape
Braid Shield
Outer Jacket

Applications

Indoor Type
Permanent Installation High Definition
Television (HDTV)
SMPTE 304M connectors

Norms / Approvals

SMPTE 311-2009 Standard

Options

Outer Jacket: PUR / PVC-FLX (Outdoor Type)
Optic Fibre: G.657.A2

Fire Performances

Flame Propagation (IEC60332-1)
Fire Propagation (IEC60332-3)
Halogen Free (IEC60754-1)
Low Smoke Emission (IEC61034-1/2)

Features

Extremely rugged
High tensile strength

SMPTE 311M LSZH Indoor Hybrid-Cam-HD Cable



MOISTURE
PROTECTED



ULTRAVIOLET
RESISTANCE



LOW SMOKE
EMISSION



FLAME
RETARDANT



HALOGEN
FREE

SPECIFICATIONS

	STRENGTH MEMBER	POWER	CONTROL	OPTIC FIBRE
NO. OF CORES	1	4	2	2
CORES TYPE	Galvanized steel wires	AWG20	AWG24	Tight Buffer SM G.657.A1
CONDUCTOR CONSTRUCTION (n/mm)	19x0.25	19x0.20	7x0.20	-
IDENTIFICATION	White	2x Black 2x White	1x Red 1x Gray	1xBlue 1xYellow
CORE ø (mm)	2.10 ± 0.1	1.50 ± 0.1	1.10 ± 0.1	0.9 ± 0.05
Overall Braid Shield	Tinned Copper Braid (Coverage >70%)			
Outer Sheath	LSZH ¹ – Black			
Nominal Outer ø (mm)	9.20			
Weight (Kg/Km)	135			
Tensile Load Permanent / Install. (N)	800 / 1500			
Maximum Crush (N/10cm)	1800			
Impact (J)	20 cycles @ 5.88N			
Temperature Range -20°C ~ +75°C	-20°C ~ +75°C			
Min. Bending Radius (mm) @20°C	7 x Outer ø			

Standards: Thermal and mechanical tests: EN187000, IEC60794-1-2. - SMPTE 311-2009
LSZH¹ – Flame retardant, low smoke and zero halogen compound.



Cable Description

Tight Buffer Fibre (0.9 mm)
Strength Members
Inner Jacket
Dielectric Armour
Outer Jacket

Applications

Pre-terminated Broadcast solutions
Broadcast and Mil Tactical use
Deployable Cable

Options

Outer Jacket PUR-Smooth Black

Features

Resistance to moisture, sunlight
Compact
High tensile strength
Excellent mechanical resistance
Totally dielectric
Direct connectorization

M-Tac Xtreme Dielectric-Armouring Ruggedized Tactical Cable



HALOGEN
FREE



MOISTURE
PROTECTED



ULTRAVIOLET
RESISTANCE



RESISTENTE
A ACETES



OIL
RESISTANT



HIGH
FLEXIBILITY

SPECIFICATIONS

Fibre Count	2	4	6	8	12
Fibre Type	SM (G.657.A) / MM (OM1 / OM2 / OM3 / OM4)				
Strength Members	Aramid Yarns				
Inner Jacket	PUR-FR – Black				
Inner Jacket Å (mm)	7.0 ± 0.3	5.8 ± 0.3	6.0 ± 0.3	6.5 ± 0.3	8.2 ± 0.3
Armour	Aramid Braid				
Outer Sheath	PUR-FR – Matt Black				
Weight (Kg/Km)	61	88	91	98	113
Outer Å (mm)	7.7 ± 0.3	8.5 ± 0.3	8.7 ± 0.3	9.2 ± 0.3	10.9 ± 0.3
Max. Tensile Load Operating / Install. (N)	1000 / 1800				1100 / 2000
Max. Crush (N/10cm)	4400				
Impact (J)	5J				
Temperature Range	-40°C ~ +85°C (Operation) / -10°C ~ +85°C (Installation) / -40°C ~ +85°C (Storage)				
Min. Bending Radius (mm)	10 x Outer ø				

Thermal and mechanical tests: EN187000, IEC60794-1-2.

Fibres colour code (TIA-598): Blue – Orange – Green – Brown – Grey – White – Red – Black – Yellow – Violet – Pink – Turquoise.



CDI-PUR Frexible Distribution Cable

Descripción cable

Cable Description
Tight Buffer Fibre (0.9 mm)
Aramid
Outer Jacket
Ripcords

Norms / Approvals

Based on military norm MIL-C-85045

Options

Easy-Strip Buffer
PU-LSZH Jacket

Advantages

Compact
Lightweight
Flexible
Easy to strip (gel free)
Totally dielectric
Reduced diameter
Direct connectorization
Based on military norm



SPECIFICATIONS

Fibres	2	4	6	8	12
Strength Members	Aramid Yarns				
Outer jacket	Polyurethane				
Colour	Black				
Weight (Kg/Km)	23	27	29	36	43
Outer ø (mm)	5.3 ± 0.3	5.8 ± 0.3	6.5 ± 0.3	7.0 ± 0.3	8.2 ± 0.3
Tensile Load Perm / Inst (N)	600 / 1100				700 / 1250
Crush (N)	2000				
Temperature Range	-40°C to +70°C				
Min. Bending Radius	20 x Outer ø				
Maximum Length	4200 m				

Fibres colour: Blue – Orange – Green – Brown – Grey – White – Red – Black – Yellow – Violet – Pink – Turquoise

Assembled Reel

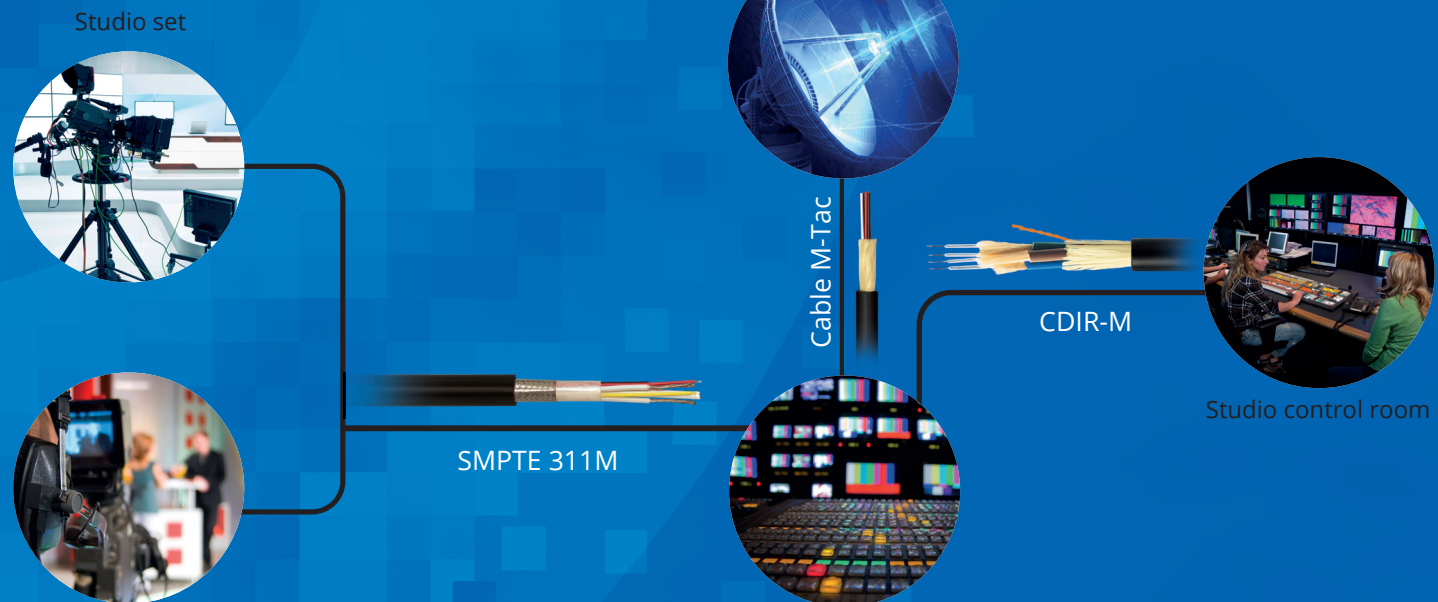
*Solutions and advantages of Optical Cables
assembled in portable format:*

- Simple storage, installation and retrieval system of optical cable.
- Easy to install without need for tools and specialized technicians, allowing the personnel to carry out a quick and smooth deployment.
- Fully reusable.
- Easy deployable method.
- Reduced installation time.
- Easy to install, no special training is required.



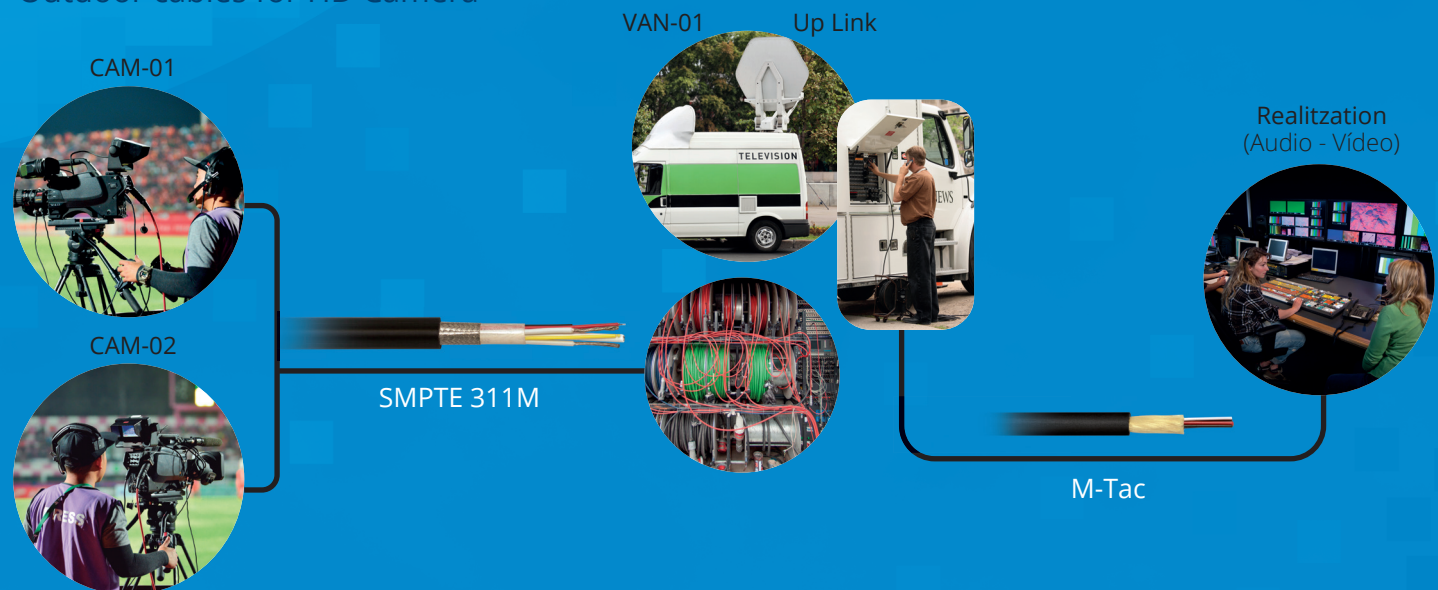
Studio Cables

Indoor cables for HD Camera & Audio



Broadcast Cables

Outdoor cables for HD Camera



TVE (Spanish national television), Televisión Chile, BBC, London 2012 Olympic and Paralympic Games broadcast, Spanish league football clubs, Dorna, Percon, Caracol Televisión.

