



75 Ω Broadcast, Video & CATV Coaxial Cables

12G-SDI 75 Ω RG-6

4K UHD Broadcast Coaxial Cable

SMPTE ST 2082-1 · 75 $\Omega \pm 1.5 \Omega$ · RG-6 (Ø 6.96 mm) · 18 AWG (Ø 1.02) Ag-Cu · 84 % VoP



SMPTE ST 2082-1 12G-SDI

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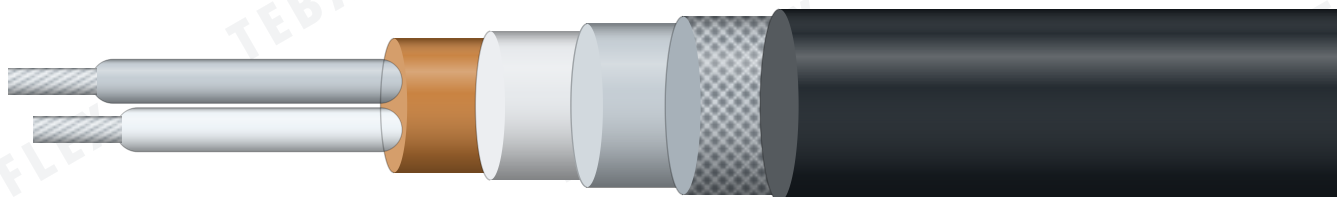
18 AWG Ag-Cu · DC-6 GHz

Application

12G-SDI 4K UHD Broadcast Coaxial Cable (engineered to the industry-benchmark 4694R RG-6 geometry and SMPTE ST 2082-1 / ST 2081-1 / ST 424) transports uncompressed single-link 4K UHD (2160p60 at 11.88 Gbps) video over a single 75 $\Omega \pm 1.5 \Omega$ coaxial line

Typical uses: 4K / 8K UHD Broadcast Studios, Outside Broadcast (OB) Production Trucks, Live Sports Stadium & Arena Video, Medical Surgical 4K Endoscopy Suites, Pro-AV & LED Wall Processors

Construction



Cross-section, not to scale

1	Silver-plated solid copper center (18	SMPTE ST 2082-1
2	Gas-injected foam HDPE dielectric (84	SMPTE ST 2082-1
3	100 % bonded tri-laminate Al/PET/Al foil	SMPTE ST 2082-1
4	95 % tinned copper wire braid shield	SMPTE ST 2082-1
5	Riser CMR PVC or Halogen-Free LSZH	UL 1666 / IEC 60332

Technical data

Typical values

Characteristic impedance Z_0	75 $\Omega \pm 1.5 \Omega$	Nominal capacitance	52.1 pF/m (15.9 pF/ft)
Velocity of propagation (VoP)	84.0 % (3.97 ns/m delay)	Center / shield DC resistance	$\leq 21.0 \Omega/\text{km} / \leq 5.9 \Omega/\text{km}$ at 20 °C
Return loss (5 MHz – 1.5 GHz)	$\geq 23 \text{ dB}$ (exceeds SMPTE ST 424M)	Return loss (1.5 GHz – 4.5 GHz)	$\geq 15 \text{ dB}$ (exceeds SMPTE ST 2082-1)
Operating temperature range	-30 °C to +75 °C	Installation temperature range	-15 °C to +70 °C
Riser fire rating (PVC)	UL 1666 CMR / CSA FT4 / IEC 60332-1-2	LSZH fire rating (optional)	IEC 60332-3-24 & IEC 60754-1/2
Plenum CMP option (FEP)	-20 °C to +75 °C UL 910 CMP	Operating voltage	300 V rms (UL CMR)
Center conductor diameter	1.02 mm solid Ag-Cu (18 AWG, 0.040 in)	Dielectric diameter	4.57 mm $\pm$ 0.08 mm (0.180 in)
Outer jacket diameter	6.96 mm $\pm$ 0.15 mm (0.274 in)	Min. bend radius (fixed / install)	35 mm (5×D) / 70 mm (10×D)
Max. pulling tension	300 N (69 lbf)	Nominal cable weight	59.5 kg/km (40 lb/1000 ft)
6 GHz skin-effect mitigation	Silver-plated oxygen-free copper center	Bending impedance stability	Bonded foil prevents foil buckling
LTE / 5G / Wi-Fi 6E immunity	$> 95 \text{ dB}$ tri-foil + 95 % braid shield	Abrasion & pulling slickness	Satin studio finish for dense conduit pulls
UV resistance (black jacket)	Sunlight resistant per UL 1581	RoHS / REACH status	RoHS 3 compliant
Standards	SMPTE ST 2082-1 (11.88 Gbps)		

Sizes

4 standard constructions

Tick the sizes you need and send this page to info@tebaoflex.com or WhatsApp +86 185 9591 3361.

Order designation	Construction / Variant	Conductor	Outer $\varnothing \approx$ mm	Metal kg/km	Weight $\approx$ kg/km	Min. bend R fixed mm
Standard 12G-SDI 4694R variants 4 sizes						
☐ 12G-SDI 4694R Studio Riser PVC (18 AWG Ag-Cu)	75 Ω Bonded Foil + 95% TC Braid	18 AWG ($\varnothing$ 1.02 Ag-Cu)	6.96	31.0	59.5	35
☐ 12G-SDI 4694NH Halogen-Free LSZH	75 Ω Bonded Foil + 95% TC Braid	18 AWG ($\varnothing$ 1.02 Ag-Cu)	6.96	31.0	63.0	35
☐ 12G-SDI 4694F Mobile OB PUR (7×0.34 Ag-Cu)	75 Ω Double Braid + Foil (PUR)	18 AWG (7×0.34 Ag-Cu)	7.05	38.0	64.0	35
☐ 12G-SDI Mini RG-59 Rack Patch (20 AWG Ag-Cu)	75 Ω Bonded Foil + 95% TC Braid	20 AWG ($\varnothing$ 0.81 Ag-Cu)	5.92	23.5	46.0	30

– Dimensions and weights are nominal production values subject to manufacturing tolerances per SMPTE ST 2082-1 (12G-SDI) / ST 2081-1 (6G-SDI).

Attenuation & RF power handling

6 sizes

Frequency	Nominal attenuation dB / 100 m	Nominal attenuation dB / 100 ft	Max. CW RF power W (@ 40 °C)	Impedance $Z_0 \Omega$	Velocity VoP %
270 MHz (SMPTE 259M SD-SDI)	7.9	2.41	320	75	84.0
750 MHz (SMPTE 292M HD-SDI)	13.1	3.99	190	75	84.0
1500 MHz (SMPTE 424M 3G-SDI)	19.0	5.79	130	75	84.0
3000 MHz (SMPTE 2081 6G-SDI)	27.9	8.50	88	75	84.0
4500 MHz (4.5 GHz Clock Half-Nyquist)	35.1	10.70	70	75	84.0
6000 MHz (SMPTE 2082 12G-SDI Nyquist)	41.3	12.59	58	75	84.0

– Attenuation values apply at +20 °C ambient into a matched 75 Ω load; CW power ratings assume VSWR 1.0:1 at +40 °C ambient.

Standards and approvals

- ✓ SMPTE ST 2082-1 / ST 2081-1
- ✓ UL 1666 CMR / CSA FT4
- ✓ RoHS 3 / CE

Certifications



Management systems: ISO 9001, ISO 14001, ISO 45001

Request a quotation

Send the size, length and destination. An application engineer replies within 2 business hours.

WhatsApp / phone

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Email

info@tebaoflex.com

Web

tebaoflex.com/cables/12g-sdi-4k-uhd-broadcast-coaxial-cable



Typical values for this cable type, based on SMPTE ST 2082-1 (12G-SDI) / ST 2081-1 (6G-SDI). Values for your order are confirmed in the quotation. Subject to change without notice. Jiangsu Tebaoflex Special Cable Co., Ltd., Taicang, Jiangsu, China.