



**Part Number: 4505R**

12 GHz Coax, 4K UHD Precision Video Cable, RG-59, 75 Ohm, 20 AWG Solid, CMR

**Product Description**

12 GHz Coax, 4K UHD Precision Video Cable, RG-59, 75 Ohm, 20 AWG solid .032" silver plated copper conductor, gas-injected foam HDPE insulation, Duofoil® bonded to core + tinned copper braid shield (95% coverage), PVC jacket.

**Technical Specifications**

**Product Overview**

Environmental Space:	Outdoor - Aerial
Suitable Applications:	SMPTE 2082-1 12 Gb/s UHDTV, SMPTE 2081-1 6 Gb/s UHDTV, SMPTE 424M 3 Gb/s HD-SDI 1080P

**Physical Characteristics (Overall)**

**Conductor**

AWG	Stranding	Material	Nominal Diameter	No. of Coax
20	Solid	SPC - Silver Plated Copper	0.032 in	1

Conductor Size:	20 AWG
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**Insulation**

Material	Nominal Diameter
Gas-injected FHDPE - Foam High Density Polyethylene	0.145 in

**Outer Shield Material**

Type	Layer	Material	Material Trade Name	Coverage [%]
Tape	1	Aluminum/Polyester/Aluminum	Bonded Duofoil® (Bonded to Dielectric)	100 %
Braid	2	TC - Tinned Copper		95 %

**Outer Jacket Material**

Material	Nominal Diameter
PVC - Polyvinyl Chloride	0.233 in

**Electrical Characteristics**

**Conductor DCR**

<b>Nominal Conductor DCR</b>
10.2 Ohm/1000ft

**Capacitance**

<b>Nom. Capacitance Conductor to Shield</b>
16.1 pF/ft

**Inductance**

<b>Nominal Inductance</b>
0.107 µH/ft

**Impedance**

<b>Nominal Characteristic Impedance</b>
75 Ohm

#### Return Loss (RL)

Frequency [MHz]	Minimum Return (RL)
5 MHz - 1600 MHz	23 dB
1600 MHz - 4500 MHz	21 dB
4500 MHz - 12000 MHz	15 dB

#### High Frequency (Nominal/Typical)

Frequency [MHz]	Nom. Insertion Loss
1 MHz	0.30 dB/100ft
3.58 MHz	0.60 dB/100ft
5 MHz	0.63 dB/100ft
6 MHz	0.69 dB/100ft
7 MHz	0.74 dB/100ft
10 MHz	0.90 dB/100ft
12 MHz	0.91 dB/100ft
25 MHz	1.30 dB/100ft
55 MHz	1.98 dB/100ft
67.5 MHz	2.05 dB/100ft
71.5 MHz	2.1 dB/100ft
88.5 MHz	2.2 dB/100ft
100 MHz	2.3 dB/100ft
135 MHz	2.7 dB/100ft
143 MHz	2.8 dB/100ft
180 MHz	3.1 dB/100ft
270 MHz	3.8 dB/100ft
360 MHz	4.4 dB/100ft
540 MHz	5.5 dB/100ft
720 MHz	6.4 dB/100ft
750 MHz	6.5 dB/100ft
1000 MHz	7.6 dB/100ft
1500 MHz	9.3 dB/100ft
2000 MHz	10.8 dB/100ft
2250 MHz	11.5 dB/100ft
3000 MHz	13.4 dB/100ft
4500 MHz	16.7 dB/100ft
6000 MHz	19.7 dB/100ft
12000 MHz	28.7 dB/100ft

#### Delay

Nominal Delay	Nominal Velocity of Propagation (VP) [%]
1.22 ns/ft	83 %

#### Voltage

##### UL Voltage Rating

300 V RMS

Electrical Characteristics Notes: Return Loss: Fixed bridge and termination

#### Temperature Range

UL Temp Rating:	75°C
Operating Temp Range:	-30°C To +75°C

#### Mechanical Characteristics

UV Resistance:	Yes
Bulk Cable Weight:	31 lbs/1000ft
Max Recommended Pulling Tension:	52 lbs
Min Bend Radius/Minor Axis:	2.5 in

#### Standards

NEC/(UL) Specification:	CMR
CEC/C(UL) Specification:	CMG

RG Type:	59/U Type
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## Applicable Environmental and Other Programs

EU Directive 2000/53/EC (ELV):	Yes
EU Directive 2003/96/EC (BFR):	Yes
EU Directive 2011/65/EU (ROHS II):	Yes
EU Directive 2012/19/EU (WEEE):	Yes
EU Directive 2015/863/EU:	Yes
EU Directive Compliance:	EU Directive 2003/11/EC (BFR)
EU CE Mark:	Yes
EU RoHS Compliance Date (yyyy-mm-dd):	2004-01-01
CA Prop 65 (CJ for Wire & Cable):	Yes

## Suitability

Suitability - Aerial:	Yes - Black only, when supported by messenger wire
Suitability - Burial:	No
Suitability - Hazardous Locations:	No
Suitability - Indoor:	Yes
Suitability - Outdoor:	Yes - Black only

## Flammability, LSOH, Toxicity Testing

UL Flammability:	UL1666 Vertical Shaft
CSA Flammability:	FT4
UL voltage rating:	300 V RMS

## Plenum/Non-Plenum

Plenum (Y/N):	No
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## Part Number

### Variants

Item #	Color
4505R 0101000	Black
4505R 0105000	Black
4505R 0061000	Blue, Light
4505R N3U1000	Mil Green
4505R 0031000	Orange
4505R 0071000	Purple
4505R 0021000	Red
4505R 0091000	White

## Product Notes

Notes:	Print legend includes sequential footage marks.
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