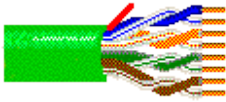


7988R Multi-Conductor - 4-Pair UTP Cable for RGB Video



Description:

Category 5e, 24 AWG bonded pairs solid bare copper conductors, non-plenum, polyolefin insulation, skew 9.0ns/100m nominal, rip cord, PVC jacket.

Usage (Overall)

Suitable Applications: Category 5e, UPT Based Video Applications, and KVM

Physical Characteristics (Overall)

Conductor

AWG:

# Pairs	AWG	Stranding	Conductor Material
4	24	Solid	BC - Bare Copper

Insulation

Insulation Material:

Insulation Material
PO - Polyolefin

Outer Shield

Outer Shield Material:

Outer Shield Material
Unshielded

Outer Jacket

Outer Jacket Material:

Outer Jacket Material
PVC - Polyvinyl Chloride

Outer Jacket Ripcord: Yes

Overall Cabling

Overall Nominal Diameter: 0.204 in.

Pair

Pair Color Code Chart:

Number	Color
1	White/Blue Stripe & Blue
2	White/Orange Stripe & Orange
3	White/Green Stripe & Green
4	White/Brown Stripe & Brown

Mechanical Characteristics (Overall)

Operating Temperature Range: -20°C To +75°C

Bulk Cable Weight: 29 lbs/1000 ft.

Max. Recommended Pulling Tension: 40 lbs.

Min. Bend Radius (Install)/Minor Axis: 0.250 in.

Applicable Specifications and Agency Compliance (Overall)

Applicable Standards & Environmental Programs

7988R Multi-Conductor - 4-Pair UTP Cable for RGB Video

NEC/(UL) Specification:	CMR
CEC/C(UL) Specification:	CMG
Other Standards:	11801 Category 5
EU CE Mark:	No
EU Directive 2000/53/EC (ELV):	Yes
EU Directive 2002/95/EC (RoHS):	Yes
EU RoHS Compliance Date (mm/dd/yyyy):	01/01/2005
EU Directive 2002/96/EC (WEEE):	Yes
EU Directive 2003/11/EC (BFR):	Yes
CA Prop 65 (CJ for Wire & Cable):	Yes
MII Order #39 (China RoHS):	Yes
Telecommunications Standards:	ANSI/TIA/EIA-568-B.2 Category 5e
Other Specification:	NEMA WC-63.1 Category 5e, UL Verified to Category 5e

Flame Test

UL Flame Test:	UL1666 Riser
CSA Flame Test:	FT4

Plenum/Non-Plenum

Plenum (Y/N):	No
Plenum Number:	7988P

Electrical Characteristics (Overall)

Nom. Mutual Capacitance:

Capacitance (pF/ft)
15

Nominal Velocity of Propagation:

VP (%)
70

Maximum Capacitance Unbalance (pF/100 m): 66

Maximum Delay:

Delay (ns/100 m)
510

Typical Delay Skew:

Delay Skew (ns/ft)
9

Maximum Conductor DC Resistance:

DCR @ 20°C (Ohm/100 m)
9

Max. Operating Voltage - UL:

Voltage
300 V RMS

Maximum DCR Unbalanced:

DCR Unbalance @ 20°C (%)
3

Electrical Characteristics-Premise (Overall)

Premise Cable Electrical Table 1:

Freq. (MHz)	Max. Attenuation (dB/100 m)	Min. NEXT (dB)	Min. PSNEXT (dB)	Min. ACR (dB)	Min. PSACR (dB)	Min RL (dB)
1	2.0	65.3	65.3	60.3	60.3	20.0
4	4.1	56.3	53.3	49.2	49.2	23.0

7988R Multi-Conductor - 4-Pair UTP Cable for RGB Video

8	5.8	51.8	48.8	43.0	43.0	24.5
10	6.5	50.3	47.3	40.8	40.8	25.0
16	8.2	47.3	44.3	36.0	36.0	25.0
20	9.3	45.8	42.8	33.5	33.5	25.0
25	10.4	44.3	41.3	30.9	30.9	24.3
31.25	11.7	42.9	39.9	28.2	28.2	23.6
62.5	17.0	38.4	35.4	18.4	18.4	21.5
100	22.0	35.3	32.3	10.3	10.3	20.1
155	28.1	32.5	29.5	2.0	2.0	15.8
200	32.4	30.8	27.8	1.0	1.0	15.0

Premise Cable Electrical Table 2:

Freq. (MHz)	Input (Unfitted) Imp. (Ohms)	Fitted Impedance	Min. ELFEXT (dB)	Min. PSELFEXT (dB)
1	100 ± 15	100 ± 15	63.8	60.8
4	100 ± 15	100 ± 15	51.7	48.7
8	100 ± 15	100 ± 15	45.7	42.7
10	100 ± 15	100 ± 15	43.8	40.8
16	100 ± 15	100 ± 15	39.7	36.7
20	100 ± 15	100 ± 15	37.7	34.7
25	100 ± 15	100 ± 15	35.8	32.8
31.25	100 ± 15	100 ± 15	33.9	30.9
62.5	100 ± 15	100 ± 15	27.8	24.8
100	100 ± 15	100 ± 15	23.8	20.8
155	100 ± 25	100 ± 15	19.9	16.9
200	100 ± 25	100 ± 15	17.7	14.7

Notes (Overall)

Notes: Jacket sequentially marked at 2 ft. intervals. US Patent #'s 5, 606, 151; 5, 734, 126. Third party verified to TIA/EIA-568-B.2, Category 5e.

Put Ups and Colors:

Item #	Putup	Ship Weight	Color	Notes	Item Desc
7988R N3UU1000	1,000 FT	22,000 LB	GREEN, MIL		4 PR #24 PP PVC

RJ-45 Cables for Audio and Video Applications

4-Pair UTP Cables for RGB Video

NanoSkew™ Non-Data and Brilliance VideoTwist® Low-Skew Data Rated Types



For economy, some system designers seek to use UTP (unshielded twisted pair) cable for video applications. However, Digital Video and Digital Data are processed and viewed differently. Digital Video contains much more information, requiring more bandwidth than Ethernet data. In addition, video has to be streaming — viewable live and continuously — whereas data can be sent in packets, resent as necessary, and given time to recompile. Such delays are unacceptable in video. Be cautious, digital signals are not all the same thing!

Delay Skew should be kept to a minimum for component video and RGB applications for better picture quality and the ability to transmit over longer distances. Delay skew is the difference in the time of arrival of the components transmitted over different cable components — pairs in the case of UTP. Skew is inherent in all cables, but especially in UTP cables because the pairs are normally

twisted to differing degrees for Ethernet data purposes, specifically to reduce crosstalk. Obviously picture clarity is lost when the red, green, and blue components arrive out of time with each other, and varying twist rates cause exactly that to occur.

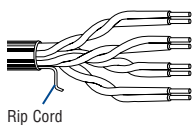
Cables in this section are NanoSkew, a UTP cable with no Ethernet data rating (all pairs have the same twist rate), and Brilliance VideoTwist Cat 5e and Cat 6 rated cables with lower, carefully monitored skew relative to standard data cables. Cables designed only for data applications meet their own skew requirements, but those are too high for better video transmission, and may be varied by manufacturers without notice. For guaranteed low and consistent skew performance from UTP cables, only NanoSkew or VideoTwist should be used. The Cat 5e and Cat 6 rated versions are ideal for KVM and blade-edge computer applications.

Description	Part No.	UL NEC/ C(UL) CEC Type	No. of Pairs	Standard Lengths		Standard Unit Wt.		Nominal OD		Max. DCR (Ω/100m)	Nom. Imped. (Ω)	Min. RL (dB)	Freq. (MHz)	Max. Atten. (dB/100m)
				Ft.	m	Lbs.	kg	Inch	mm					

Nanoskew™ 24 AWG Solid BC Conductors • Twisted Pairs • Skew 2.2ns/100m nom. • Rip cord • See Color Code Chart (below)

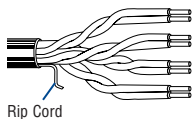
Non-Plenum • Polyolefin Insulation • Maroon PVC Jacket

300V RMS	7987R <small>new</small>	NEC: CMR CEC: CMG	4	U-1000 U-1640	U-304.8 U-500.0	20.0 32.8	9.1 14.9	.195	4.95	9.0	100	15.0	1	2.0
													4	4.1
													8	5.8
													10	6.5
													16	8.2
													20	9.3
													25	10.4
													31.25	11.7
													62.5	17.0
													100	22.0
													155	28.1
													200	32.0
													250*	36.4
													350*	44.8



Plenum • FEP Insulation • Maroon Flamarrest® PVC Jacket

300V RMS	7987P <small>new</small>	NEC: CMP CEC: CMP	4	U-1000 U-1640	U-304.8 U-500.0	22.0 36.1	10.0 16.4	.200	5.08	9.0	100	15.0	(same as above)	
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Third party verified to TIA/EIA-568-B.2, Category 5e

BC = Bare Copper • DCR = DC Resistance • FEP = Fluorinated Ethylene Propylene • RL = Return Loss • UTP = Unshielded Twisted Pair(s)

*Values provided for information only.

Color Codes: DataTwist 5e

Pair No.	Color Combination
1	White/Blue Stripe & Blue
2	White/Orange Stripe & Orange
3	White/Green Stripe & Green
4	White/Brown Stripe & Brown

RJ-45 Cables for Audio and Video Applications

4-Pair UTP Cables for RGB Video & Wireless LAN

NanoSkew® Non-Data and Brilliance VideoTwist® Low-Skew Data Rated Types



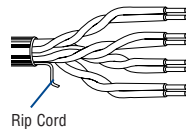
19 • Brilliance® Broadcast

Description	Part No.	UL NEC/ C(UL) CEC Type	No. of Pairs	Standard Lengths		Standard Unit Wt.		Insulation Thickness		Nominal OD		Max. DCR (Ω/100m)	Max. DCR Unbal. (%)	Max. Cap. Unbal. (pF/100m)	Freq. (MHz)	Max. Atten. (dB/100m)	Min. PSUM NEXT (dB)	Min. PSUM ACR (dB/100m)	Min. PSUM ELFEXT (dB/100m)	Input Imped. (Ω)	Min. RL (dB)
				Ft.	m	Lbs.	kg	Inch	mm	Inch	mm										

Nanoskew™ Category 5e • 24 AWG Bonded-Pairs Solid Bare Copper Conductors • Skew 9.0ns/100m Nominal • Rip Cord

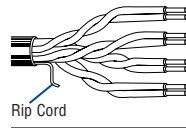
Non-Plenum • Polyolefin Insulation (Color Code: See Chart Below) • Green PVC Jacket

300V RMS	7988R <small>new</small>	NEC: CMR CEC: CMG FT4	4	U-1000 U-1640	U-304.8 U-500.0	22.0 36.1	10.0 16.4	.008 .20	.204 5.18	9.0 3.0	66.0	1 4 8 10 16 20 25 31.25 62.5 100 155 200	2.0 4.1 5.8 6.5 8.2 9.3 10.4 11.7 17.0 22.0 28.1	65.3 53.3 48.8 47.3 44.3 42.8 41.3 39.9 35.4 32.3 29.5 27.8	60.3 49.2 43.0 40.8 36.0 33.5 30.9 28.2 18.4 10.3 2.0 1.0	60.8 48.7 42.7 40.8 36.7 34.7 32.8 30.9 24.8 20.8 16.9 14.7	100±15 100±15 100±15 100±15 100±15 100±15 100±15 100±15 100±15 100±15 100±25 100±25	20.0 23.0 24.5 25.0 25.0 25.0 24.3 23.6 21.5 20.1 15.8 15.0
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Plenum • FEP Insulation (Color Code: See Chart Below) • Green Flamarrest® Jacket

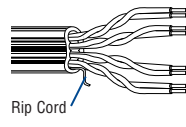
300V RMS	7988P <small>new</small>	NEC: CMP CEC: CMP FT6	4	U-1000 U-1640	U-304.8 U-500.0	23.0 37.7	10.4 17.1	.008 .20	.193 4.90	9.0 3.0	66.0	(same as 7988R above)							
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Nanoskew™ Category 6 • 23 AWG Bonded-Pairs Solid Bare Copper Conductors • Skew 10.0ns/100m Nominal • Rip Cord

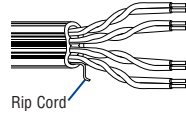
Non-Plenum • Polypropylene Insulation (Color Code: See Chart Below) • Blue PVC Jacket

300V RMS	7989R <small>new</small>	NEC: CMR CEC: CMG FT4	4	1000 1640	304.8 500.0	32.0 52.5	14.5 23.8	.009 .23	.365 x .165	9.27 x 4.19	9.0 3.0	49.2	1 4 8 10 16 20 25 31.25 62.5 100 155 200 250	2.0 3.8 5.3 6.0 7.6 8.5 9.5 10.7 15.4 19.8 25.2 29.0 32.8	72.3 63.3 58.8 57.3 54.3 52.8 51.4 49.9 45.4 42.3 39.5 37.8 36.3	70.3 59.5 53.4 51.3 46.7 44.3 41.8 39.2 30.0 22.5 14.3 8.8 3.5	64.8 52.7 46.7 44.8 40.7 38.7 36.8 34.9 28.8 24.8 20.9 18.7 16.8	100±15 100±15 100±15 100±15 100±15 100±15 100±15 100±15 100±15 100±15 100±22 100±22 100±32	20.0 23.0 24.5 25.0 25.0 25.0 24.3 23.6 21.5 20.1 18.8 18.0 17.3
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Plenum • FEP Teflon® Insulation (Color Code: See Chart Below) • Blue Flamarrest Jacket

300V RMS	7989P <small>new</small>	NEC: CMP CEC: CMP FT6	4	1000 1640	304.8 500.0	41.0 62.3	18.6 28.3	.009 .23	.365 x .165	9.27 x 4.19	9.0 3.0	49.2	(same as 7989R above)							
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ACR = Attenuation Crosstalk Ratio • BC = Bare Copper • DCR = DC Resistance • ELFEXT = Equal Level Far-end Crosstalk • FEP = Fluorinated Ethylene Propylene • NEXT = Near-end Crosstalk • PSUM = Power Sum • RL = Return Loss • TC = Tinned Copper • UTP = Unshielded Twisted Pair(s)

Teflon is a DuPont trademark.

Color Codes

Pair No.	Color Combination
1	White/Blue Stripe & Blue
2	White/Orange Stripe & Orange
3	White/Green Stripe & Green
4	White/Brown Stripe & Brown

