

## 7851A Multi-Conductor - Enhanced Category 6 Bonded-Pair Cable



For more Information  
please call

1-800-Belden1



### General Description:

CAT6+ (600MHz), 4-Bonded-Pairs, U/UTP-Unshielded, Riser-CMR, Premise Horizontal Cable, 23 AWG Solid Bare Copper Conductors, Polyolefin Insulation, Patented E-Spline, Ripcord, PVC Jacket

### Usage (Overall)

**Suitable Applications:** Premise Horizontal Cable, Gigabit Ethernet, 100BaseTX, 100BaseVG ANYLAN, 155ATM, 622ATM, NTSC/PAL Component or Composite Video, AES/EBU Digital Audio, AES51, RS-422, Noisy Environments

### Physical Characteristics (Overall)

#### Conductor

AWG:

# Pairs	AWG	Stranding	Conductor Material
4	23	Solid	BC - Bare Copper

**Total Number of Conductors:** 8

#### 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 Diameter:

Nom. Dia. (in.)
0.265

**Outer Jacket Ripcord:** Yes

#### Overall Cable

**Overall Cabling Separator Material:** Patented E-Spline Center Member

**Overall Nominal Diameter:** 0.227 x 0.315 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)

**Storage Temperature Range:** -20°C To +75°C

**Installation Temperature Range:** -20°C To +75°C

**Operating Temperature Range:** 0°C To +75°C

**Bulk Cable Weight:** 35 lbs/1000 ft.

**Max. Recommended Pulling Tension:** 45 lbs.

**Min. Bend Radius/Minor Axis:** 0.500 in.

**Min. Bend/Installation:** 2.250 in.

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### Applicable Specifications and Agency Compliance (Overall)

#### Applicable Standards & Environmental Programs

NEC/(UL) Specification:	CMR
NEC Articles:	800
CEC/C(UL) Specification:	CMR
EU Directive 2011/65/EU (ROHS II):	Yes
Other Standards:	ISO/IEC 11801 ed 2.1 (2008) Class E
EU CE Mark:	Yes
EU Directive 2000/53/EC (ELV):	Yes
EU Directive 2002/95/EC (RoHS):	Yes
EU RoHS Compliance Date (mm/dd/yyyy):	01/01/2004
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:	Category 6 - TIA 568.C.2

#### Applicable Patents:

Country
www.belden.com/p

#### Flame Test

UL Flame Test:	UL1666 Vertical Riser
C(UL) Flame Test:	FT4
CSA Flame Test:	FT4
IEEE Flame Test:	1202

#### Suitability

Suitability - Indoor:	Yes
Suitability - Outdoor:	No
Suitability - Burial:	No
Sunlight Resistance:	No

#### Plenum/Non-Plenum

Plenum (Y/N):	No
Plenum Number:	7852A

### Electrical Characteristics (Overall)

#### Nom. Mutual Capacitance:

Capacitance (pF/ft)
15.5

Maximum Capacitance Unbalance (pF/100 m):	90
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#### Nominal Velocity of Propagation:

VP (%)
67

#### Maximum Delay:

Delay (ns/100 m)
538 @ 100MHz

#### Max. Delay Skew:

Delay Skew (ns/100 m)
38

#### Maximum Conductor DC Resistance:

DCR @ 20°C (Ohm/100 m)
8.2

#### Max. Operating Voltage - UL:

Voltage
300 V RMS

#### Maximum DCR Unbalanced:

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**DCR Unbalance @ 20°C (%)**

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### 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	1.900	82.3	80.3	80.5	78.5	20.000
4	3.600	73.3	71.3	69.7	67.7	23.000
8	5.100	68.8	66.8	63.7	61.7	24.500
10	5.700	67.3	65.3	61.6	59.6	25.000
16	7.200	64.3	62.3	57.0	55.0	25.000
20	8.100	62.8	60.8	54.7	52.7	25.000
25	9.100	61.3	59.3	52.3	50.3	25.000
31.25	10.200	59.9	57.9	49.7	47.7	25.000
62.5	14.700	55.4	53.4	40.7	38.7	25.000
100	18.900	52.3	50.3	33.4	31.4	25.000
155	23.900	49.5	47.5	25.5	23.5	22.800
200	27.500	47.8	45.8	20.3	18.3	21.700
250	31.200	46.3	44.3	15.2	13.2	20.500
300	34.500	43.1	43.1	8.6	8.6	20.200
350	37.700	42.1	42.1	4.4	4.4	19.800
400	40.600	41.3	41.3	0.7	0.7	19.500
450	43.500	40.5	40.5	0	0	18.900
460	44.000	40.4	40.4	0	0	18.800
500	46.200	39.8	39.8			18.400
550	48.800	39.2	39.2			18.000
600	51.400	38.6	38.6			17.600

Premise Cable Electrical Table 2:

Freq. (MHz)	Input (Unfitted) Imp. (Ohms)	Fitted Impedance	Min. ACRF (dB)	Min. PSACRF (dB)
1	100 ± 12	100 ± 15	74.8	72.8
4	100 ± 12	100 ± 10.4	62.8	60.8
8	100 ± 12	100 ± 8	56.7	54.7
10	100 ± 12	100 ± 7.3	54.8	52.8
16	100 ± 12	100 ± 5.7	50.7	48.7
20	100 ± 12	100 ± 5	48.8	46.8
25	100 ± 15	100 ± 5	46.8	44.8
31.25	100 ± 15	100 ± 5	44.9	42.9
62.5	100 ± 15	100 ± 5	38.9	36.9
100	100 ± 15	100 ± 5	34.8	32.8
155	100 ± 15	100 ± 5	31.0	29.0
200	100 ± 15	100 ± 5	28.8	26.8
250	100 ± 20	100 ± 5	26.8	24.8
300	100 ± 20	100 ± 5	25.3	23.3
350	100 ± 22	100 ± 5	23.9	21.9
400	100 ± 22	100 ± 5	22.8	20.8
450	100 ± 22	100 ± 5	21.7	19.7
460	100 ± 22	100 ± 5	21.5	19.5
500	100 ± 22	100 ± 5	20.8	18.8
550	100 ± 22	100 ± 5	20.0	18.0
600	100 ± 22	100 ± 5	19.2	17.2

### Notes (Overall)

Notes: Belden IBDN. Jacket sequentially marked at 2 ft/1m intervals. Third party verified to ANSI/TIA-568-C.2, Category 6.

### Put Ups and Colors:

Item #	Putup	Ship Weight	Color	Notes	Item Desc
7851A F6HA1000	1,000 FT	39.000 LB	GRAY, DARK PEARL		CAT6E+ 4PRB U/UTP CMR RIB
7851A F6H1000	1,000 FT	36.000 LB	GRAY, DARK PEARL	C	CAT6E+ 4PRB U/UTP CMR REEL
7851A 002A1000	1,000 FT	39.000 LB	RED		CAT6E+ 4PRB U/UTP CMR RIB
7851A 0021000	1,000 FT	36.000 LB	RED		CAT6E+ 4PRB U/UTP CMR REEL
7851A 003A1000	1,000 FT	39.000 LB	ORANGE		CAT6E+ 4PRB U/UTP CMR RIB
7851A 0031000	1,000 FT	36.000 LB	ORANGE	C	CAT6E+ 4PRB U/UTP CMR REEL
7851A 004A1000	1,000 FT	39.000 LB	YELLOW		CAT6E+ 4PRB U/UTP CMR RIB
7851A 0041000	1,000 FT	36.000 LB	YELLOW	C	CAT6E+ 4PRB U/UTP CMR REEL
7851A 005A1000	1,000 FT	39.000 LB	GREEN, DARK		CAT6E+ 4PRB U/UTP CMR RIB
7851A 0051000	1,000 FT	36.000 LB	GREEN, DARK	C	CAT6E+ 4PRB U/UTP CMR REEL

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7851A 006A1000	1,000 FT	39.000 LB	BLUE, LIGHT		CAT6E+ 4PRB U/UTP CMR RIB
7851A 006I000	1,000 FT	36.000 LB	BLUE, LIGHT	C	CAT6E+ 4PRB U/UTP CMR REEL
7851A 009A1000	1,000 FT	39.000 LB	WHITE		CAT6E+ 4PRB U/UTP CMR RIB
7851A 009I000	1,000 FT	36.000 LB	WHITE	C	CAT6E+ 4PRB U/UTP CMR REEL
7851A 010A1000	1,000 FT	39.000 LB	BLACK		CAT6E+ 4PRB U/UTP CMR RIB
7851A 010I000	1,000 FT	36.000 LB	BLACK		CAT6E+ 4PRB U/UTP CMR REEL

**Notes:**

C = CRATE REEL PUT-UP.

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