

7851NH 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, Zero Halogen, Premise Horizontal Cable, 23 AWG Solid Bare Copper Conductors, Polyolefin Insulation, Patented E-Spline, Ripcord, Haloarrest® II Jacket.

Usage (Overall)**Suitable Applications:**

Premise Horizontal Cable, Gigabit Ethernet, 100BaseTX, 100BaseVG ANYLAN, 155 ATM, 622 ATM, NTSC/PAL Component or Composite Video, AES/EBU Digital Audio, AES51, RS-422, Noisy Environments, 600MHz Enhanced Category 6

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 Trade Name | Outer Jacket Material |
|-------------------------|------------------------------|
| Haloarrest® | LSNH - Low Smoke Non-Halogen |

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/Green & Green |
| 2 | White/Orange & Orange |
| 3 | White/Blue & Blue |
| 4 | White/Brown & Brown |

Mechanical Characteristics (Overall)

Operating Temperature Range:

-20°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.

Applicable Specifications and Agency Compliance (Overall)**Applicable Standards & Environmental Programs**

EU Directive 2011/65/EU (ROHS II):

Yes

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| | |
|---------------------------------------|-------------------------------------|
| 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

IEC Flame Test: 60332-1

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

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 - Non-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 | 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 |

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| | | | | | | |
|-----|--------|------|------|-----|-----|--------|
| 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: Jacket Sequentially marked at 1 meter intervals. Third party verified to ANSI/TIA-568-C.2, Category 6.

Put Ups and Colors:

| Item # | Putup | Ship Weight | Color | Notes | Item Desc |
|-----------------|----------|-------------|-----------------|-------|----------------------------|
| 7851NH E4XA1000 | 1,000 FT | 41.000 LB | GRAY, LIGHT DEC | | CAT6E+ 4PRB U/UTP LSZH RIB |

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