

Detailed Specifications & Technical Data



7851NH Paired - DataTwist® Enhanced Category 6

| | |
|---|---|
|  | <p>For more information please call 1-800-Belden1</p> <p><u>See Put-ups and Colors</u></p> <p>Color Code Chart : No. 8 for DataTwist Cables (Modified Western Electric).pdf</p> |
|---|---|

Description:

4 pair unshielded twisted pair (UTP), 23 AWG solid bare copper conductors, polyolefin insulation, bonded pairs, E-Spline center member, Haloarrest® II LSNH jacket, rip cord. Sequential marking at two foot intervals.

SUITABLE APPLICATIONS:

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

PHYSICAL CHARACTERISTICS:

CONDUCTOR:

| | |
|----------------------------|------------------|
| Number of Pairs | 4 |
| Total Number of Conductors | 8 |
| AWG | 23 |
| Stranding | Solid |
| Conductor Material | BC - Bare Copper |

INSULATION:

| | |
|---------------------|-----------------|
| Insulation Material | PO - Polyolefin |
|---------------------|-----------------|

Pair Color Code Chart :

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

OVERALL CABLING:

| | |
|-------------------------|------------------------|
| Overall Cabling Fillers | E-Spline Center Member |
|-------------------------|------------------------|

OUTER SHIELD:

| | |
|-----------------------|------------|
| Outer Shield Material | Unshielded |
|-----------------------|------------|

OUTER JACKET:

| | |
|----------------------------------|-------------|
| Outer Jacket Material Trade Name | Haloarrest® |
|----------------------------------|-------------|

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|-----------------------|------------------------------|
| Outer Jacket Material | LSNH - Low Smoke Non-Halogen |
| Outer Jacket Ripcord | Yes |

OVERALL NOMINAL DIAMETER:

| | |
|--------------------------|-----------------|
| Overall Nominal Diameter | .225 x .310 in. |
|--------------------------|-----------------|

MECHANICAL CHARACTERISTICS:

| | |
|----------------------------------|-------------------|
| Operating Temperature Range | -20°C To +75°C |
| Bulk Cable Weight | 31.3 lbs/1000 ft. |
| Max. Recommended Pulling Tension | 45 lbs. |
| Min. Bend Radius (Install) | 0.25 in. |

APPLICABLE SPECIFICATIONS AND AGENCY COMPLIANCE:

APPLICABLE STANDARDS:

| | |
|-------------------------|------------------------------|
| NEC/(UL) Specification | CMR |
| CEC/C(UL) Specification | CMR |
| TIA/EIA Specification | ANSI/TIA/EIA-568-B.2-1 CAT 6 |

PLENUM/NON-PLENUM:

| | |
|---------------|-------|
| Plenum (Y/N) | N |
| Plenum Number | 7852A |

ELECTRICAL CHARACTERISTICS:

| | |
|---|-----------------------|
| Nom. Mutual Capacitance @ 1 KHz | 15.5 pF/ft |
| Maximum Capacitance Unbalance (pF/100 m) | 65.6 pF/100 m |
| Nominal Velocity of Propagation | 67 % |
| Maximum Delay (ns/100 m) | 538 @ 100MHz ns/100 m |
| Maximum Delay Skew (ns/100m) | 38 ns/100 m |
| Maximum Conductor DC Resistance @ 20 Deg. C | 8.2 Ohms/100 m |
| Maximum DCR Unbalance @ 20 Deg. C | 3 % |
| Max. Operating Voltage - Non-UL | 300 V RMS |

ELECTRICAL CHARACTERISTICS - PREMISE:

| | |
|-------------------------------------|--|
| Premise Cable Electricals Table 1 : | |
|-------------------------------------|--|

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| Frequency (MHz) | Max. Attenuation (dB/100 m) | Min. NEXT (dB) | Min. PSNEXT (dB) | Min. ACR (dB) | Min. PSACR (dB) | Min. Return Loss (dB) | Min. Structural Return Loss (dB) |
|-----------------|-----------------------------|----------------|------------------|---------------|-----------------|-----------------------|----------------------------------|
| 1 | 1.9 | 82.3 | 80.3 | 80.5 | 78.5 | 20.0 | 27.0 |
| 4 | 3.6 | 73.3 | 71.3 | 69.7 | 67.7 | 23.0 | 27.0 |
| 8 | 5.1 | 68.8 | 66.8 | 63.7 | 61.7 | 24.5 | 27.0 |
| 10 | 5.7 | 67.3 | 65.3 | 61.6 | 59.6 | 25.0 | 27.0 |
| 16 | 7.2 | 64.3 | 62.3 | 57.0 | 55.0 | 25.0 | 27.0 |
| 20 | 8.1 | 62.8 | 60.8 | 54.7 | 52.7 | 25.0 | 27.0 |
| 25 | 9.1 | 61.3 | 59.3 | 52.3 | 50.3 | 25.0 | 27.0 |
| 31.25 | 10.2 | 59.9 | 57.9 | 49.7 | 47.7 | 25.0 | 27.0 |
| 62.5 | 14.7 | 55.4 | 53.4 | 40.7 | 38.7 | 25.0 | 27.0 |
| 100 | 18.9 | 52.3 | 50.3 | 33.4 | 31.4 | 25.0 | 27.0 |
| 155 | 23.9 | 49.5 | 47.5 | 25.5 | 23.5 | 22.8 | 24.7 |
| 200 | 27.5 | 47.8 | 45.8 | 20.3 | 18.3 | 21.7 | 23.4 |
| 250 | 31.2 | 46.3 | 44.3 | 15.2 | 13.2 | 20.5 | 22.2 |
| 300 | 34.5 | 43.2 | 41.2 | 10.6 | 8.6 | 20.2 | 21.2 |
| 310 | 35.2 | 42.9 | 40.9 | 9.8 | 7.8 | 20.1 | 21.1 |
| 350 | 37.7 | 42.2 | 40.2 | 6.5 | 4.5 | 19.8 | 20.4 |
| 400 | 40.6 | 41.3 | 39.3 | 2.6 | 0.6 | 19.5 | 19.7 |
| 450 | 43.5 | 40.5 | 38.5 | 2.1 | 0.10 | 18.9 | 19.1 |
| 460 | 44.0 | 40.4 | 38.4 | 0 | 0 | 18.8 | 19.0 |
| 500 | 46.2 | 39.8 | 37.8 | | | 18.4 | 18.5 |
| 550 | 48.8 | 39.2 | 37.2 | | | 18.0 | 18.0 |
| 600 | 51.4 | 38.6 | 36.6 | | | 17.6 | 17.6 |

Premise Cable Electricals Table 2 :

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| Frequency (MHz) | Input (Unfitted) Impedance (Ohms) | Fitted Impedance (Ohms) | Min. ELFEXT (dB) | Min. PSELFEXT (dB) |
|-----------------|-----------------------------------|-------------------------|------------------|--------------------|
| 1 | 100 ± 12 | 100 ± 15 | 73.8 | 70.8 |
| 4 | 100 ± 12 | 100 ± 10.4 | 61.8 | 58.8 |
| 8 | 100 ± 12 | 100 ± 8 | 55.7 | 52.7 |
| 10 | 100 ± 12 | 100 ± 7.3 | 53.8 | 50.8 |
| 16 | 100 ± 12 | 100 ± 5.7 | 49.7 | 46.7 |
| 20 | 100 ± 12 | 100 ± 5 | 47.8 | 44.8 |
| 25 | 100 ± 15 | 100 ± 5 | 45.8 | 42.8 |
| 31.25 | 100 ± 15 | 100 ± 5 | 43.9 | 40.9 |
| 62.5 | 100 ± 15 | 100 ± 5 | 37.9 | 34.9 |
| 100 | 100 ± 15 | 100 ± 5 | 33.8 | 30.8 |
| 155 | 100 ± 15 | 100 ± 5 | 30.0 | 27.0 |
| 200 | 100 ± 15 | 100 ± 5 | 27.8 | 24.8 |
| 250 | 100 ± 20 | 100 ± 5 | 25.8 | 22.8 |
| 300 | 100 ± 20 | 100 ± 5 | 24.3 | 21.3 |
| 310 | 100 ± 20 | 100 ± 5 | 24.0 | 21.0 |
| 350 | 100 ± 22 | 100 ± 5 | 22.9 | 19.9 |
| 400 | 100 ± 22 | 100 ± 5 | 21.8 | 18.8 |
| 450 | 100 ± 22 | 100 ± 5 | 20.7 | 17.7 |
| 460 | 100 ± 22 | 100 ± 5 | 20.5 | 17.5 |
| 500 | 100 ± 22 | 100 ± 5 | 19.8 | 16.8 |
| 550 | 100 ± 22 | 100 ± 5 | 19.0 | 16.0 |
| 600 | 100 ± 22 | 100 ± 5 | 18.2 | 15.2 |

NOTES:

Notes US Patent #'s 6, 297, 454-B1; 5, 606, 151; 5, 734, 126; 5, 789, 711.

PUT-UPS AND COLORS:

| Item | Description | Put-Up (ft.) | Ship Weight (lbs.) | Jacket Color | Notes |
|-----------------|------------------------|--------------|--------------------|-----------------|-------|
| 7851NH E4X1000 | 4 PR #23 PP NH LS/FRPO | 1000 | 39 | GRAY, LIGHT DEC | |
| 7851NH E4XA1000 | 4 PR #23 PP NH LS/FRPO | A1000 | 42 | GRAY, LIGHT DEC | |

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