

## 7851A Paired - Enhanced Category 6 Bonded-Pair Cable

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

### Description:

23 AWG bonded-pairs solid bare copper conductors, non-plenum, polyolefin insulation, patented e-spline center member, rip cord, see color code chart (below), PVC jacket (red, orange, yellow, green, blue, black, white, or gray).

### SUITABLE APPLICATIONS:

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:

#### 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/Blue Stripe & Blue	3	White/Green Stripe & Green
2	White/Orange Stripe & Orange	4	White/Brown Stripe & Brown

### OVERALL CABLING:

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

### OUTER SHIELD:

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

### OUTER JACKET:

Outer Jacket Material	PVC - Polyvinyl Chloride
Outer Jacket Ripcord	Yes

## 7851A Paired - Enhanced Category 6 Bonded-Pair Cable

### OVERALL NOMINAL DIAMETER:

Overall Nominal Diameter	.227 x .315 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, UL444
CEC/C(UL) Specification	CMR
EU CE Mark (Y/N)	Yes
EU RoHS Compliant (Y/N)	Yes
EU RoHS Compliance Date (mm/dd/yyyy):	01/01/2004
TIA/EIA Specification	568-B.2-1 Category 6
Other Specification	UL verified to Category 6

#### FLAME TEST:

UL Flame Test	UL1666 Riser
CSA Flame Test	FT4

#### 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 - UL	300 V RMS

#### ELECTRICAL CHARACTERISTICS - PREMISE:

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

**7851A Paired - Enhanced Category 6 Bonded-Pair Cable**

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 :

## 7851A Paired - Enhanced Category 6 Bonded-Pair Cable

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

Belden IBDN. Jacket sequentially marked at 2 ft. intervals. US Patent #'s 6, 297, 454-B1; 5, 606, 151; 5, 734, 126; 5, 789, 711. Third party verified to TIA/EIA-568-B.2-1, Category 6.

### PUT-UPS AND COLORS:

Item	Description	Put-Up (ft.)	Ship Weight (lbs.)	Jacket Color	Notes
7851A 0021000	4 PR #23 PP FRPVC	1000	40	RED	
7851A 002A1000	4 PR #23 PP FRPVC	A1000	41	RED	
7851A 0031000	4 PR #23 PP FRPVC	1000	40	ORANGE	C
7851A 003A1000	4 PR #23 PP FRPVC	A1000	41	ORANGE	
7851A 0041000	4 PR #23 PP FRPVC	1000	40	YELLOW	C
7851A 004A1000	4 PR #23 PP FRPVC	A1000	41	YELLOW	
7851A 0051000	4 PR #23 PP FRPVC	1000	40	GREEN, DARK	C
7851A 005A1000	4 PR #23 PP FRPVC	A1000	41	GREEN, DARK	
7851A 0061000	4 PR #23 PP FRPVC	1000	40	BLUE, LIGHT	C

**7851A Paired - Enhanced Category 6 Bonded-Pair Cable**

7851A 006A1000	4 PR #23 PP FRPVC	A1000	41	BLUE, LIGHT	
7851A 0091000	4 PR #23 PP FRPVC	1000	40	WHITE	C
7851A 009A1000	4 PR #23 PP FRPVC	A1000	41	WHITE	
7851A 0101000	4 PR #23 PP FRPVC	1000	40	BLACK	
7851A 010A1000	4 PR #23 PP FRPVC	A1000	41	BLACK	
7851A F6H1000	4 PR #23 PP FRPVC	1000	40	GRAY, DARK PEARL	C
7851A F6HA1000	4 PR #23 PP FRPVC	A1000	41	GRAY, DARK PEARL	

C = CRATE REEL PUT-UP.

Revision Number: 1      Revision Date: 07-12-2006

© Copyright 2006 Belden, Inc  
All Rights Reserved.

Although Belden ("Belden") makes every reasonable effort to ensure their accuracy at the time of this publication, information and specifications described herein are subject to error or omission and to change without notice, and the listing of such information and specifications does not ensure product availability.

Belden provides the information and specifications herein on an "AS IS" basis, with no representations or warranties, whether express, statutory or implied. In no event will Belden be liable for any damages (including consequential, indirect, incidental, special, punitive, or exemplary damages) whatsoever, even if Belden has been advised of the possibility of such damages, whether in an action under contract, negligence or any other theory, arising out of or in connection with the use, or inability to use, the information or specifications described herein.

All sales of Belden products are subject to Belden's standard terms and conditions of sale.

Belden believes this product to be in compliance with the following environmental regulations: California Proposition 65 Consent Judgment For Wire & Cable Mfgs.(San Francisco Superior Court Nos. 312962 And 320342); EU RoHS (Directive 2002/95/EC, 27-Jan-2003);Material manufactured prior to the compliance date may still be in stock at Belden facilities and in our Distributor's inventory. EU ELV (Directive 2000/53/EC, 18-Sept-2000); EU WEEE (Directive 2002/96/EC, 27-Jan-2003); And EU BFR (Directive 2003/11/EC, 6-Feb-2003). The information provided in this Product Disclosure, and the identification of materials listed as reportable or restricted within the Product Disclosure, is correct to the best of Belden's knowledge, information and belief at the date of its publication. The information provided in the Product Disclosure is designed only as a general guide for the safe handling, storage, and any other operation of the product itself or the one that it becomes a part of. This Product Disclosure is not to be considered a warranty or quality specification. Regulatory information is for guidance purposes only. Product users are responsible for determining the applicability of legislation and regulations based on their individual usage of the product.

Belden declares this product to be in compliance with EU LVD (Low Voltage Directive 73/23/EEC), as amended by directive 93/68/EEC.