

Detailed Specifications & Technical Data



7851A 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>
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Description:

4 Pair unshielded twisted pair (UTP), 600MHz Enhanced Category 6, riser rated, 23 AWG solid bare copper, polyolefin insulation, bonded pairs, E-Spline center member, PVC jacket, rip cord. Sequential marking at two foot intervals

SUITABLE APPLICATIONS:

Suitable Applications: Premise Horizontal Cable, Gigabit Ethernet, 100BaseTX, 100BaseVG ANYLAN, 155ATM, 622ATM, NTSC/PAL Component or Composite Video, AES/EBU Digital Video, 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
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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
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OUTER SHIELD:

Outer Shield Material	Unshielded
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OUTER JACKET:

Outer Jacket Material	PVC - Polyvinyl Chloride
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**Detailed Specifications &
Technical Data**



7851A Paired - DataTwist® Enhanced Category 6

Outer Jacket Ripcord	Yes
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OVERALL NOMINAL DIAMETER:

Overall Nominal Diameter	.225 x .310 in.
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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
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 :	
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**Detailed Specifications &
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7851A Paired - DataTwist® Enhanced Category 6

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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7851A Paired - DataTwist® Enhanced Category 6

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	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, Category 6.
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PUT-UPS AND COLORS:

Item	Description	Put-Up (ft.)	Ship Weight (lbs.)	Jacket Color	Notes
7851A 0021000	4 PR #23 PP FRPVC	1000	38	RED	
7851A 002A1000	4 PR #23 PP FRPVC	A1000	41	RED	
7851A 0031000	4 PR #23 PP FRPVC	1000	38	ORANGE	C
7851A 003A1000	4 PR #23 PP FRPVC	A1000	41	ORANGE	
7851A 0041000	4 PR #23 PP FRPVC	1000	38	YELLOW	C
7851A 004A1000	4 PR #23 PP FRPVC	A1000	41	YELLOW	
7851A 0051000	4 PR #23 PP FRPVC	1000	38	GREEN, DARK	C
7851A 005A1000	4 PR #23 PP FRPVC	A1000	41	GREEN, DARK	

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7851A 0061000	4 PR #23 PP FRPVC	1000	38	BLUE, LIGHT	C
7851A 006A1000	4 PR #23 PP FRPVC	A1000	41	BLUE, LIGHT	
7851A 0091000	4 PR #23 PP FRPVC	1000	38	WHITE	C
7851A 009A1000	4 PR #23 PP FRPVC	A1000	41	WHITE	
7851A 0101000	4 PR #23 PP FRPVC	1000	38	BLACK	
7851A 010A1000	4 PR #23 PP FRPVC	A1000	41	BLACK	
7851A F6H1000	4 PR #23 PP FRPVC	1000	38	GRAY, DARK PEARL	C
7851A F6HA1000	4 PR #23 PP FRPVC	A1000	41	GRAY, DARK PEARL	

C = CRATE REEL PUT-UP.

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