

SERIES 80

# Mighty Mouse Connectors



## Size #8 Differential Twinax Contacts

### SIZE #8 DIFFERENTIAL TWINAX CONTACTS



**Fig. 1**  
Pin Contact  
853-014



**Fig. 2**  
Socket Contact  
853-013

Differential twinax contacts accept shielded twisted pair databus cable. These snap-in, rear release contacts fit Glenair Series 80 Mighty Mouse connectors. Crimp termination. Gold-plated copper alloy, FEP insulator. Supplied unassembled with optional sealing boot.

Fig.	Description	Cable	Part Number		
			Basic No.	Dash No	Grommet Follower (Omit for None)
Fig. 1	Pin	See Cable Accommodation Table	853-014	-01 thru -13	F
			853-018	-01	
			853-025	-01 and -02	
Fig. 2	Socket		853-013	-01 thru -13	
			853-017	-01	
			853-024	-01 and -02	

Cable Accommodation					
Dash No	Cable Accommodation	Conductor AWG	Ref. Cable Impedance	Assembly Instructions	
-01	Gore RCN 8945	24	100 Ohms	A185007	
-02	Gore GSC-03-83971-00	24			
-03	TE (Raychem) 10612	24			
-04	TE (Raychem) 0024A0024	24	100 Ohms		
	Tensolite 24463/9P025X-2 (LD) S280W502-1	24			
-05	M17/176-00002	24	77 Ohms		
	5 M2022-003	24	75 Ohms		
-07	TE 2525B0524	24	125 Ohms		A185050
-09	Gore DXN2603 / TE 0028S2664	26/28	100 Ohms		A185007
-10	PIC E10222	22			A185138
-11	963-102-30	30			A185142
-12	Gore GSC-05-84308-00	26			A185143
-13	Gore DXN2602	24			A185007

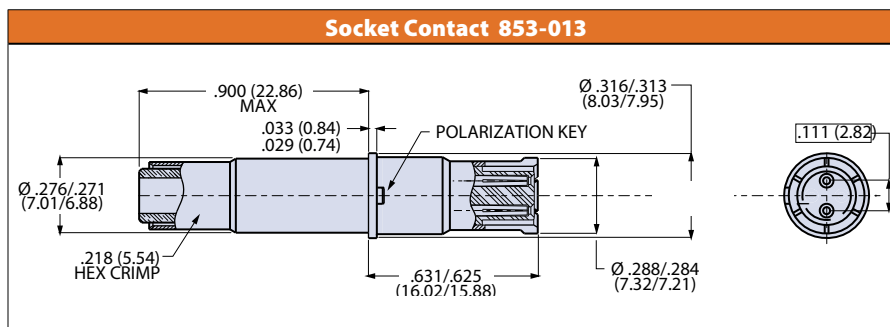
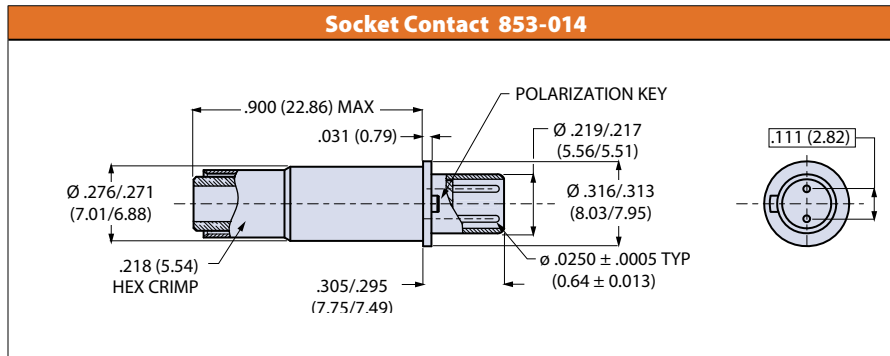
Contact Crimp and Removal Tools		
Description	Glenair P/N	Military P/N
Inner Contact Crimp Tool	809-015	M22520/2-01
Inner Contact Positioner	809-072	M22520/2-37
Outer Contact Crimp Tool	809-129	M22520/5-01
Outer Contact Hex Die	859-047	M22520/5-45
Contact Removal Tool	859-049	M81969/14-12

Material and Finish	
Contact Body and Center Contact	Copper alloy / Gold Plated
Crimp Sleeve	Brass or Equivalent / Gold Plated
Insulator, Sealing Boot	High Grade Rigid Dielectric
Sealing Boot Grommet	Fluorosilicone
Grommet Follower	Polyetherimide

Contact Specifications	
Characteristic Impedance (Ohms)	100 ± 10
Frequency Range	DC – 3 GHz
Insulation Resistance, Ambient Temperature	5000 megOhms minimum
Contact Resistance – Inner Contact*	15.0 milliOhms maximum initial @ 1 ampere
Contact Resistance – Outer Contact*	3.0 milliOhms maximum initial @ 12 amperes
Dielectric Withstanding Voltage	1000 VAC RMS between contacts, 500 VAC RMS between contacts and shell
Temperature Range	-65°C to +200°C
Durability	500 mating cycles
Corrosion (salt Fog)	EIA-364-26, condition B, 48 hours
Vibration	EIA-364-28, condition VI, letter J, 43g's
Shock	EIA-364-27, condition D, 300g's

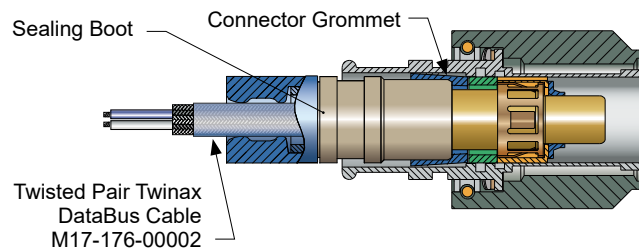
\* Contacts are tested in mated condition at their extremities.

**SIZE #8 DIFFERENTIAL TWINAX CONTACTS**



**About Differential Twinax Contacts**

Differential twinax contacts are multi-pin contacts with two signal pins and an outer contact body. These contacts are used for 77 Ohm MIL-STD-1553 databus and 100 Ohm serial data transmission. The outer contact body provides a 360-degree EMI shield around the signal contacts. A raised boss on the contact body aligns the contact for proper mating. This boss fits into a slot inside the connector. All size 8 Mighty Mouse connector inserts have this alignment slot.



**Sealing Boot Information**

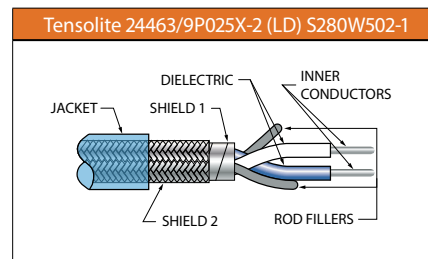
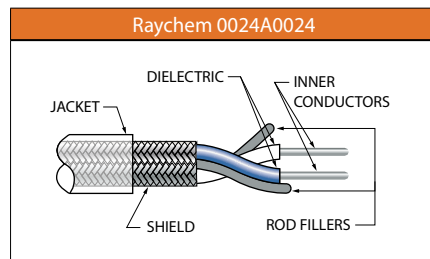
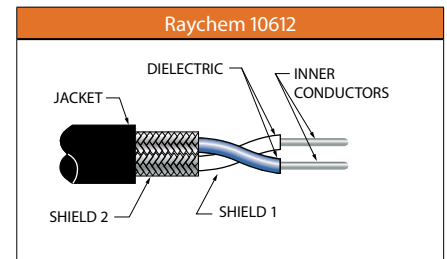
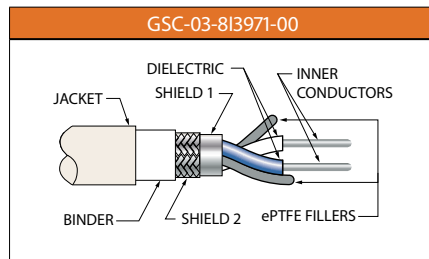
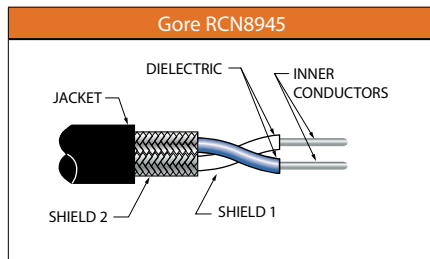
The sealing boot is necessary to prevent moisture and contamination from penetrating the connector. The sealing boot is ordered separately. **DO NOT USE HEATSHRINK BOOT IF USING SEALING BOOT.** The boot consists of a rigid dielectric sleeve and a fluorosilicone rubber grommet. After contact is installed slide boot forward into connector grommet to seal the contact cavity. "F" suffix on contact part number specifies contact supplied with sealing



# SERIES 80 Mighty Mouse Connectors Size #8 Differential Twinax Contacts



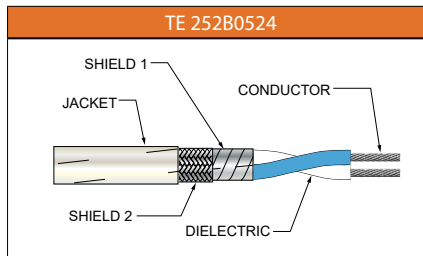
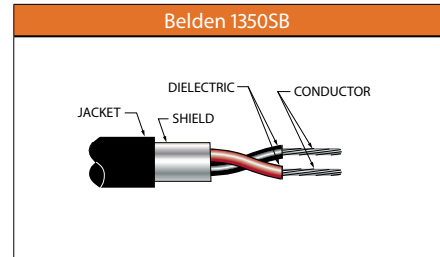
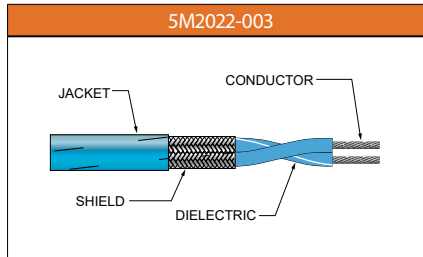
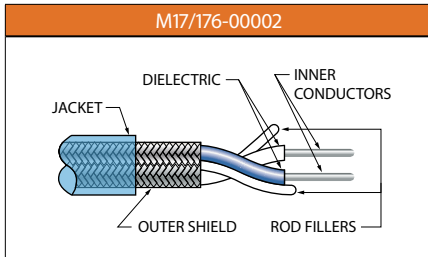
## 8 DIFFERENTIAL TWINAX CONTACT 100 OHM CABLE



Cable Part Number	Gore RCN8945	Gore GSC-03-83971-00	Raychem 10612-24	Raychem 0024A0024	Tensolite 24463/9P025X-2 (LD) S280W502-1			
Impedance	100 ± 10	100 ± 7	77 ± 5	100	100 ± 5.5 %			
Velocity of Propagation %	--	78	61	76	75			
Capacitance (pF/ft)	--	45 pF/ft.	30.0 pF/ft.	13.5 pF/ft.	13 pF/ft.			
Conductor Wire Size	AWG 24 (19/36) SPC <sup>3</sup>	AWG 24 (19/36) SCCA <sup>1</sup>	AWG 24 (19/36) SCCA <sup>1</sup>	AWG 24 (19/36) High-Strength SCCA <sup>1</sup>	AWG 24 (19/36) High-Strength SCCA <sup>1</sup>			
Dielectric	PTFE over ePTFE	FEP over expanded PTFE	Radiation-Crosslinked, Modified ETFE	Rayfoam H	PTFE over ePTFE			
Fillers	none	ePTFE	Radiation-Crosslinked Modified ETFE	Radiation-Crosslinked Modified ETFE	PTFE			
Shield	Shield 1: Aluminized Kapton Shield 2: AWG 40 SPC <sup>3</sup> Braid	Shield 1: Aluminized Polyimide Foil Shield 2: AWG 38 High Strength SCCA <sup>1</sup>	AWG 38 Tin-Coated Copper	38 AWG, Tin-Coated Copper	Shield 1: Flat Tin Coated Copper Braid Shield 2: AWG 38A SPC <sup>3</sup> Braid			
Binder	None	ePTFE	None	None	None			
Jacket	Natural HSTF	FEP Color: White	Radiation-Crosslinked Modified ETFE Color: White	Modified FEP Color: Transparent White	Extruded FEP Color: Transparent Blue			
Outer Diameter	.162 (4.11) Max	0.13 (3.2)	.129 in (3.28)	.149 (3.78)	.150 (3.81)			
Temperature Rating	-55° C to +200° C	-65° C to +200° C	150° C Max	-55° C to +135° C	-55° C to 150° C			
Weight	TBD	27 g/m nominal	15.9 lbs/1000 ft (max)	18.1 lbs/1000 ft	19 lbs/1000 ft			
Max. Attenuation	Freq. (MHz)	dB/100 ft	Freq. (MHz)	dB/100 m	Freq. (MHz)	dB/100 ft	Freq. (MHz)	dB/75 ft
	100	6.7	1	2.7	1	1.4	6	1.8
	200	9.2	10	8.0				
	1000	22.0	20	11.2				
			100	25.2				

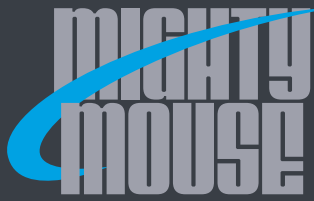
1. SCCA = silver-coated copper alloy 2. SPCA = silver-plated copper alloy 3. SPC = silver-plated copper

**SIZE #8 DIFFERENTIAL TWINAX CONTACT CABLE**



Cable Part Number	M17/176-00002	5M2022-003	Belden 1350SB	TE 252B0524				
Impedance	77 ± 3	75 ± 5	100	125 ± 10				
Velocity of Propagation %	71	55	79	78				
Capacitance	24 pF/ft.	24 pF/ft.	13.4 pF/ft.	11.0 pF/ft.				
Conductor Wire Size	AWG 24 (19/36) SCCA <sup>1</sup>	24 AWG (19/36) SPCA <sup>2</sup>	24 AWG (7/32) Tinned Copper	24 AWG, 19/36 High-Strength SCCA <sup>1</sup>				
Dielectric	PTFE	Extruded PTFE	PE	Rayfoam H				
Shield	Silver-Coated Copper Braid	38 AWG, SPC 90% Min. Coverage	Bi-Laminate Tape Beldfoil <sup>®</sup>	Aluminum Polyimide AWG 38, Silver Coated Copper				
Jacket	Type XIII: PFA Color: Blue	Extruded FEP Color: Blue	.179 (4.55) LSZH, Color: Black	UXL - Modified ETFE				
Outer Diameter	.129 (3.28) ± .005 (0.13)	.128 (3.25)	<b>.179 (4.55)</b>					
Temperature Rating	-55° to +200°C	-65° C to +200° C	-30°C to +75°C	--				
Weight	.018 lb/ft	15.7 lb/1000 ft	20 lbs/1000 ft	22.7 lbs/1000ft				
Max. Attenuation	Freq. (MHz)	dB/100 ft	Freq. (MHz)	dB/100 ft	Freq. (MHz)	dB/100 ft	Freq. (MHz)	dB/100 ft
	1	1.4	1	1.5	.768	.88	10	2.0
	3	2.1			1.4112	1.18		
	4	2.4			2.048	1.371		
	5	2.8			3.072	1.6		
	7	3.5			6.144	2.09		
	10	4.5			12.288	2.84		
				24.576	4.01			

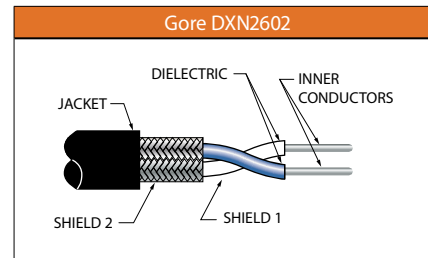
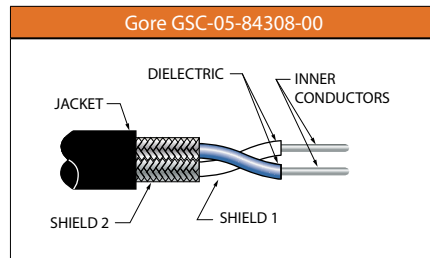
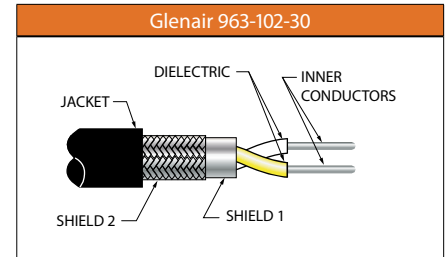
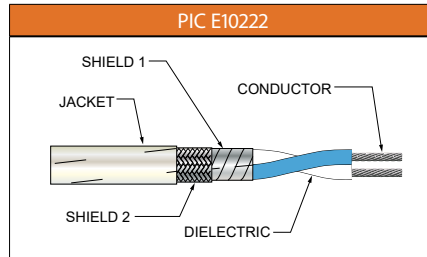
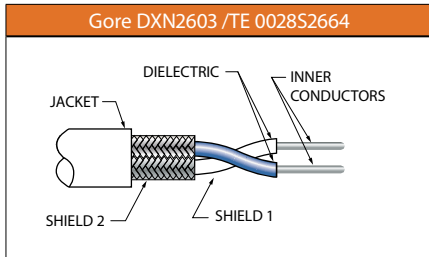
1. SCCA = silver-coated copper alloy 2. SPCA = silver-plated copper alloy



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## SIZE #8 DIFFERENTIAL TWINAX CONTACT CABLE



Cable Part Number	Gore DXN2603 / TE 0028S2664	PIC E10222	Glenair 963-102-30	Gore GSC-05-84308-00	Gore DXN2602					
Impedance	100 ± 10	100	100 ± 10	100 ± 4	100 ± 10					
Velocity of Propagation %	80	80.0	80.0	80.0	80					
Capacitance	13.0 pF/ft	13.0 pF/ft	15.0 pF/ft	45 (pF/m)	13.0 pF/ft					
SPCA Conductor Wire Size	AWG 24 (19/36) SPCA <sup>2</sup>	AWG 22 stranded tin plated copper	AWG 30 (19/42) High-Strength SPCA <sup>2</sup>	AWG 26 (7/34) High-Strength SPCA <sup>2</sup>	AWG 24 (19/36) SPCA <sup>2</sup>					
Dielectric	PTFE over ePTFE	Foamed Fluoropolymer Insulation	PFA	ePTFE	PTFE over ePTFE					
Shield	AWG 40 SPC Braid	Shield 1: Foil Shield Shield 2: Tin-Plated Copper Braid Shield	Shield 1: Aluminum/Polyester Tape Shield 2: AWG 40 High-Strength SPCA	AWG 40 Silver Plated copper 90% min	AWG 40 SPC Braid					
Jacket	EF100 PTFE Color: White	ETFE Color: White	PFA Color: Black	ETFE Color: Black	EF100 PTFE Color: White					
Outer Diameter		<b>0.19 (4.80)</b>	<b>.107 (2.72)</b>	0.12 (3.1)	.09 (2.29)					
Temperature Rating	-55°C to +200°C	-50°C to +150°C	105° C Max	-200°C to +180°C	-55°C to +200°C					
Weight	11.3 lbs/1000 ft	2.3 lbs/100 ft	N/A	18 g/m max.	11.3 lbs/1000 ft					
Max. Attenuation	Freq. (MHz)	dB/100 ft	Freq. (MHz)	dB/100 ft	Freq. (MHz)	dB/100 ft	Freq. (MHz)	dB/100 m	Freq. (MHz)	dB/100 ft
	100	7.6	10	1.5	500	40	20	17	100	7.6
	200	10.7	100	5.4	1000	56	35	22	200	10.7
	500	17.3					70	30	500	17.3
	1000	25.0					80	32	1000	25.0
						100	36			

1. SCC = silver-coated copper 2. SPCA = silver-plated copper alloy 3. SPC = silver-plated copper