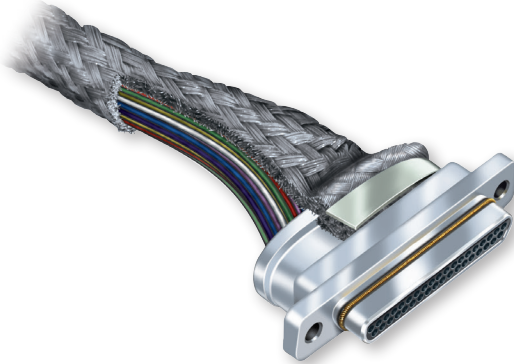




## MWDM Micro-D Shielded Cable Assembly



**Single-Ended or Double-Ended**—These easy-to-order cable assemblies eliminate the need for expensive assembly labor. 100% tested and ready for use.

**Now With Twisted Pairs**—No need to create a procurement specification for Micro-D cables with twisted pairs. Glenair 177-740 cables are furnished with a full complement of white/blue twisted pair wires.

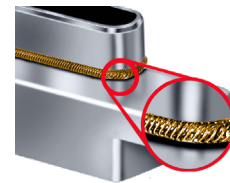
**Integral Shield Termination**—The connector shell has a platform to accept Band-It shield termination bands. The cable shield braid is attached directly to the connector.

## Save Labor, Reduce Weight and Improve EMI Shielding with Glenair's Micro-D Shielded Cable Assemblies

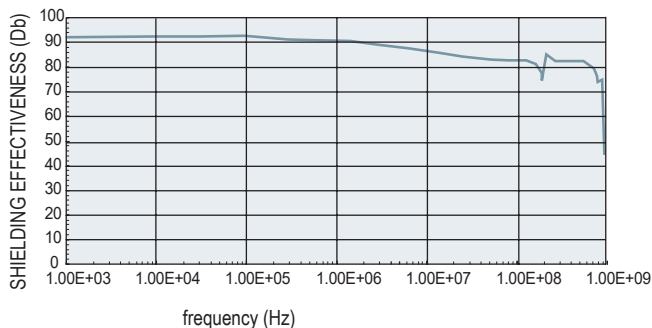
Aerospace electronics systems require higher and higher levels of protection from radiated emissions. Glenair's fully shielded Micro-D cable assemblies meet this need. The cable shield is attached directly onto the one-piece connector shell and secured with a stainless steel Band-Master™ ATS clamp. These pre-wired, 100% tested assemblies meet the requirements of MIL-DTL-83513. An optional ground spring on the pin connector assures low shell-to-shell resistance. Available with a variety of wire types and shields, Micro-D shielded assemblies can be ordered in any length, either single-ended or "back-to-back".

### Ground Spring and EMI Shielding Effectiveness

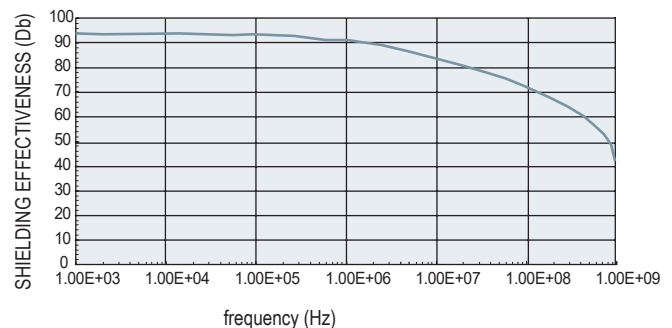
A gold-plated stainless steel ground spring on the pin connector mating face offers substantial improvement in EMI protection. The graphs compare identical connectors tested with and without ground springs.



EMI Performance with Ground Spring



EMI Performance without Ground Spring



# MWDM Micro-D Shielded Cable Assembly

177-710 (Untwisted Wire) and 177-740 (Twisted Wire Pairs)



Micro-D Harness

B

## How To Order Shielded Micro-D Cable Assemblies

| Sample Part Number        | 177-710                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | -2 | -25 | P | 4 | K | 1 | -18 | M | A | G |
|---------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|-----|---|---|---|---|-----|---|---|---|
| Series                    | 177-710 - Untwisted Wire 177-740 - Twisted Pair Wire                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |    |     |   |   |   |   |     |   |   |   |
| Shell Material and Finish | Aluminum Shell<br>1 - Cadmium 2 - Electroless Nickel 5 - Gold 33 - Nickel-PTFE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |    |     |   |   |   |   |     |   |   |   |
| Contact Layout            | 9, 15, 21, 25, 31, 37, 51, 51-2, 67, 69, 75, 100, 130                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |    |     |   |   |   |   |     |   |   |   |
| Contact Type              | P - Pin (Single End Plug)<br>S - Socket (Single End Receptacle)<br>GP - Double End Cable, Pin Connectors Both Ends<br>GS - Double End Cable, Socket connectors Both Ends<br>CS - Double End Cable, Pin and Socket                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |    |     |   |   |   |   |     |   |   |   |
| Wire Gage (AWG)           | 4 - #24 6 - #26 8 - #28 0 - #30 (J wire type only)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |    |     |   |   |   |   |     |   |   |   |
| Wire Type                 | K - Fluoropolymer Wire Per MIL-W-22759/11 (Not available in #30 gage)<br>J - Cross-Linked Tefzel® Wire Per MIL-W-22759/33                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |    |     |   |   |   |   |     |   |   |   |
| Wire Color                | 1 - White (177-710 only) or White/Blue Twisted Pairs (177-740 Only)<br>5 - Color-Coded Per MIL-STD-681, #24 and #26 gage only with up to 51 colors (177-710 only)<br>White/Blue Twisted Pairs (177-740 only)<br>7 - Ten Color Repeating (177-710 only)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |    |     |   |   |   |   |     |   |   |   |
| Overall Length (In.)      | Example "18" = 18 inches 6 Inch (152 mm.) Minimum                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |    |     |   |   |   |   |     |   |   |   |
| Mounting Hardware         | B - No Mounting Hardware Installed<br>F - Float Mount, for Front Panel<br>L - Male Jackscrew, Allen Head, Non-Removable<br>M - Male Jackscrew, Allen Head, Low Profile Mounting<br>P - Female Jackpost<br>R - Float Mount, for Rear Panel Mounting<br>S - Male Jackscrew, Slot Head, Low Profile                                                                                                                                                                                                                                                                                                                                                                                                                                                             |    |     |   |   |   |   |     |   |   |   |
| Shield and Jacket Option  | N - No Shield, No Jacket<br>A - Braided Shield Installed (Nickel over Copper)<br>C - Braided Shield Installed (Nickel over Copper) With E-CTFE Halar "Expando" Jacket (+150° C.)<br>D - No Shield, With E-CTFE Halar "Expando" Jacket Installed (+150° C.)<br>S - 100% Braided AmberStrand® Shield Installed<br>T - 100% Braided AmberStrand® Shield Installed with E-CTFE Halar "Expando" Jacket (+150° C.)<br>V - 75% Braided AmberStrand® Shield Installed<br>Z - 75% Braided AmberStrand® Shield Installed with E-CTFE Halar "Expando" Jacket (+150° C.)<br>W - ArmorLite™ Braided Microfilament Stainless Steel Shield Installed<br>X - ArmorLite™ Braided Microfilament Stainless Steel Shield Installed with E-CTFE Halar "Expando" Jacket (+150° C.) |    |     |   |   |   |   |     |   |   |   |
| Ground Spring Option*     | N - No Ground Spring G - Ground Spring Installed (Pin Connectors Only)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |    |     |   |   |   |   |     |   |   |   |

\*Ground spring cannot be used with cadmium plating

Table I: Mounting Hardware

| B                                     | P               | M                     | S                      | L                                    | F                                          | R                                         |
|---------------------------------------|-----------------|-----------------------|------------------------|--------------------------------------|--------------------------------------------|-------------------------------------------|
|                                       |                 |                       |                        |                                      |                                            |                                           |
| Thru-Hole,<br>No Mounting<br>Hardware | Female Jackpost | Hex Head<br>Jackscrew | Slot Head<br>Jackscrew | Hex Head Jackscrew<br>Non- Removable | Float Mount for<br>Front Panel<br>Mounting | Float Mount<br>for Rear Panel<br>Mounting |

### Notes:

- Assembly to be identified with Glenair's name, part number, date code, and pin 1 identification as space permits
- Performance data per MIL-DTL-83513
- Interface dimensions per MIL-DTL-83513

## MWDM Micro-D Shielded Cable Assembly

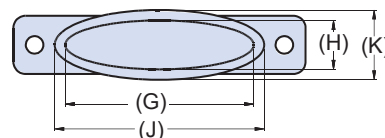
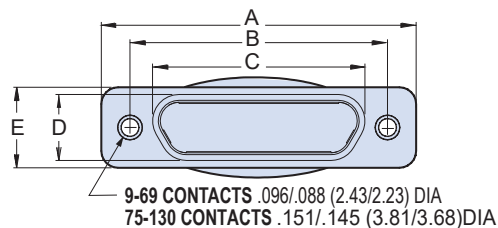
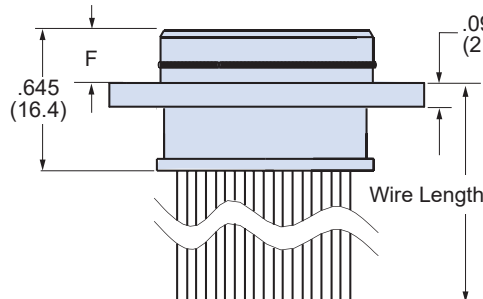
## 177-710 (Untwisted Wire) and 177-740 (Twisted Wire Pairs)

B

## Performance Specifications

|                                 |                                        |
|---------------------------------|----------------------------------------|
| Current Rating                  | 3 AMP                                  |
| Dielectric Withstanding Voltage | 600 VAC Sea Level                      |
| Voltage                         | 150 VAC 70,000 Feet                    |
| Insulation Resistance           | 5000 Megohms Minimum                   |
| Contact Resistance              | 8 Milliohms Maximum                    |
| Low Level Contact Resistance    | 32 Milliohms Maximum                   |
| Magnetic Permeability           | 2 $\mu$ Maximum                        |
| Operating Temperature           | -55° C. to +150° C.                    |
| Shock                           | 50 g.                                  |
| Vibration                       | 20 g.                                  |
| Outgassing                      | Meets NASA Outgassing Requirements     |
| Mating Force                    | (10 Ounces) X (# of Contacts)          |
| EMI Shielding Effectiveness     | 50 dB Attenuation, 100 MHz to 1000 MHz |

For additional performance requirements, please refer to MIL-DTL-83513



## Materials and Finishes

|                  |                                                                                                                                                                                                                                                                                                                       |
|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Connector Shell  | Plating Code 1: Cadmium With Yellow Chromate<br>Plating Code 2: Electroless Nickel, Plating Code 5: Gold                                                                                                                                                                                                              |
| Insulator        | Liquid Crystal Polymer (LCP)/Polyphenylene Sulfide (PPS)                                                                                                                                                                                                                                                              |
| Interfacial Seal | Fluorosilicone Rubber, Blue                                                                                                                                                                                                                                                                                           |
| Pin Contact      | Copper Alloy With 50 Microinches Gold over Nickel Plating                                                                                                                                                                                                                                                             |
| Socket Contact   | Copper Alloy With 50 Microinches Gold Over Nickel Plating                                                                                                                                                                                                                                                             |
| Shield Braid     | #36 AWG Nickel-Coated Copper per ASTM B355 Class 4 OFHC 100% AmberStrand® EMI/RFI Conductive Composite Thermoplastic Braided Shielding 75% AmberStrand® Conductive Composite Thermoplastic EMI/RFI Shielding Blended with 25% NiCu EMI/RFI Braided Shielding ArmorLite™ Lightweight Stainless Steel EMI/RFI Shielding |
| Wire             | Type K: per MIL-W-22759/11. Silver-Plated Copper Conductor, Extruded TFE fluoropolymer Insulation Type J: per MIL-W-22759/33. Silver-Plated Copper Conductor, Extruded Crosslinked Tefzel® Insulation                                                                                                                 |
| Hardware         | 300 Series Stainless Steel                                                                                                                                                                                                                                                                                            |
| Jacket           | Type B: PET Expando Braided Jacket, +125° C. Type C: E-CTFE (Ethylene-Chlorotrifluoroethylene) Halar Expando Braided Jacket, +150° C.                                                                                                                                                                                 |
| Encapsulant      | Epoxy Resin Hysol EE4215                                                                                                                                                                                                                                                                                              |

### Table II: Dimensions

| Layout | A Max. |       | B             |               | C Max. |       | D Max. |      | E Max. |       | F             |               | (G)   |       | (H)  |      | (J)   |       | (K)  |       |
|--------|--------|-------|---------------|---------------|--------|-------|--------|------|--------|-------|---------------|---------------|-------|-------|------|------|-------|-------|------|-------|
|        | In.    | mm.   | In.<br>± .003 | mm.<br>± 0.08 | In.    | mm.   | In.    | mm.  | In.    | mm.   | In.<br>± .003 | mm.<br>± 0.08 | In.   | mm.   | In.  | mm.  | In.   | mm.   | In.  | mm.   |
| 9P     | .785   | 19.93 | .565          | 14.35         | .333   | 8.46  | .184   | 4.67 | .310   | 7.87  | .183          | 4.65          | .340  | 8.64  | .214 | 5.44 | .450  | 11.43 | .324 | 8.23  |
| 9S     | .785   | 19.93 | .565          | 14.35         | .400   | 10.16 | .250   | 6.35 | .310   | 7.87  | .195          | 4.95          | .340  | 8.64  | .214 | 5.44 | .450  | 11.43 | .324 | 8.23  |
| 15P    | .935   | 23.70 | .715          | 18.16         | .483   | 12.27 | .184   | 4.67 | .310   | 7.87  | .183          | 4.65          | .490  | 12.45 | .214 | 5.44 | .600  | 15.24 | .324 | 8.23  |
| 15S    | .935   | 23.70 | .715          | 18.16         | .551   | 14.00 | .250   | 6.35 | .310   | 7.87  | .195          | 4.95          | .490  | 12.45 | .214 | 5.44 | .600  | 15.24 | .324 | 8.23  |
| 21P    | 1.085  | 27.56 | .865          | 21.97         | .633   | 16.08 | .184   | 4.67 | .310   | 7.87  | .183          | 4.65          | .640  | 16.26 | .214 | 5.44 | .750  | 19.05 | .324 | 8.23  |
| 21S    | 1.085  | 27.56 | .865          | 21.97         | .701   | 17.81 | .250   | 6.35 | .310   | 7.87  | .195          | 4.95          | .640  | 16.26 | .214 | 5.44 | .750  | 19.05 | .324 | 8.23  |
| 25P    | 1.185  | 30.10 | .965          | 24.51         | .733   | 18.62 | .184   | 4.67 | .310   | 7.87  | .183          | 4.65          | .740  | 18.80 | .214 | 5.44 | .850  | 21.59 | .324 | 8.23  |
| 25S    | 1.185  | 30.10 | .965          | 24.51         | .801   | 20.35 | .250   | 6.35 | .310   | 7.87  | .195          | 4.95          | .740  | 18.80 | .214 | 5.44 | .850  | 21.59 | .324 | 8.23  |
| 31P    | 1.335  | 33.91 | 1.115         | 28.32         | .883   | 22.43 | .184   | 4.67 | .310   | 7.87  | .183          | 4.65          | .890  | 22.61 | .214 | 5.44 | 1.000 | 25.40 | .324 | 8.23  |
| 31S    | 1.335  | 33.91 | 1.115         | 28.32         | .951   | 24.16 | .250   | 6.35 | .310   | 7.87  | .195          | 4.95          | .890  | 22.61 | .214 | 5.44 | 1.000 | 25.40 | .324 | 8.23  |
| 37P    | 1.485  | 37.72 | 1.265         | 32.13         | 1.033  | 26.24 | .184   | 4.67 | .310   | 7.87  | .183          | 4.65          | 1.040 | 26.42 | .214 | 5.44 | 1.150 | 29.21 | .324 | 8.23  |
| 37S    | 1.485  | 37.72 | 1.265         | 32.13         | 1.101  | 27.97 | .250   | 6.35 | .310   | 7.87  | .195          | 4.95          | 1.040 | 26.42 | .214 | 5.44 | 1.150 | 29.21 | .324 | 8.23  |
| 51P    | 1.435  | 36.45 | 1.215         | 30.86         | .983   | 24.97 | .228   | 5.79 | .351   | 8.92  | .183          | 4.65          | .990  | 25.15 | .257 | 6.53 | 1.100 | 27.94 | .367 | 9.32  |
| 51S    | 1.435  | 36.45 | 1.215         | 30.86         | 1.051  | 26.70 | .296   | 7.52 | .351   | 8.92  | .195          | 4.95          | .990  | 25.15 | .257 | 6.53 | 1.100 | 27.94 | .367 | 9.32  |
| 51-2P  | 1.835  | 46.61 | 1.615         | 41.02         | 1.384  | 35.15 | .184   | 4.67 | .310   | 7.87  | .183          | 4.65          | 1.390 | 35.31 | .214 | 5.44 | 1.460 | 37.08 | .324 | 8.23  |
| 51-2S  | 1.835  | 46.61 | 1.615         | 41.02         | 1.450  | 36.83 | .250   | 6.35 | .310   | 7.87  | .195          | 4.95          | 1.390 | 35.31 | .214 | 5.44 | 1.460 | 37.08 | .324 | 8.23  |
| 67P    | 2.235  | 56.77 | 2.015         | 51.18         | 1.784  | 45.31 | .184   | 4.67 | .310   | 7.87  | .183          | 4.65          | 1.790 | 45.47 | .214 | 5.44 | 1.900 | 48.26 | .324 | 8.23  |
| 67S    | 2.235  | 56.77 | 2.015         | 51.18         | 1.850  | 46.99 | .250   | 6.35 | .310   | 7.87  | .195          | 4.95          | 1.790 | 45.47 | .214 | 5.44 | 1.900 | 48.26 | .324 | 8.23  |
| 69P    | 1.735  | 44.07 | 1.515         | 38.48         | 1.284  | 32.61 | .228   | 5.79 | .351   | 8.92  | .183          | 4.65          | 1.290 | 32.77 | .257 | 6.53 | 1.400 | 35.56 | .367 | 9.32  |
| 69S    | 1.735  | 44.07 | 1.515         | 38.48         | 1.350  | 34.29 | .296   | 7.52 | .351   | 8.92  | .195          | 4.95          | 1.290 | 32.77 | .257 | 6.53 | 1.400 | 35.56 | .367 | 9.32  |
| 75P    | 2.080  | 52.83 | 1.705         | 43.30         | 1.384  | 35.15 | .224   | 5.69 | .351   | 8.92  | .183          | 4.65          | 1.390 | 35.31 | .257 | 6.53 | 1.500 | 38.10 | .367 | 9.32  |
| 75S    | 2.080  | 52.83 | 1.705         | 43.30         | 1.450  | 36.83 | .293   | 7.44 | .351   | 8.92  | .195          | 4.95          | 1.390 | 35.31 | .257 | 6.53 | 1.500 | 38.10 | .367 | 9.32  |
| 100P   | 2.170  | 54.86 | 1.800         | 45.72         | 1.383  | 35.13 | .270   | 6.86 | .394   | 10.01 | .183          | 4.65          | 1.385 | 35.18 | .307 | 7.80 | 1.495 | 38.00 | .417 | 10.59 |
| 100S   | 2.170  | 54.86 | 1.800         | 45.72         | 1.451  | 36.86 | .333   | 8.46 | .394   | 10.01 | .195          | 4.95          | 1.385 | 35.18 | .307 | 7.80 | 1.495 | 38.00 | .417 | 10.59 |
| 130P   | 2.520  | 64.00 | 2.150         | 54.86         | 1.735  | 45.59 | .270   | 6.86 | .394   | 10.00 | .183          | 4.65          | 1.712 | 43.48 | .307 | 7.80 | 1.822 | 46.28 | .417 | 10.59 |
| 130S   | 2.520  | 64.00 | 2.150         | 54.86         | 1.795  | 45.59 | .333   | 8.46 | .394   | 10.00 | .195          | 4.95          | 1.712 | 43.48 | .307 | 7.80 | 1.822 | 46.28 | .417 | 10.59 |

# MWDM Micro-D Shielded Cable Assembly

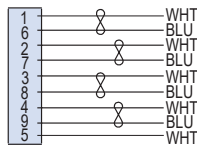
177-710 (Untwisted Wire) and 177-740 (Twisted Wire Pairs)



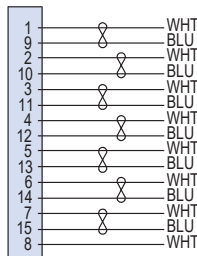
Micro-D Harness

B

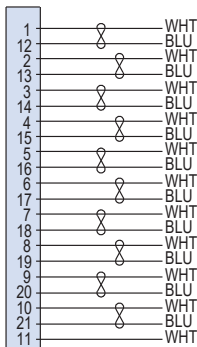
## 177-740 9 THRU 51 CONTACT TWISTED PAIR WIRING DIAGRAM



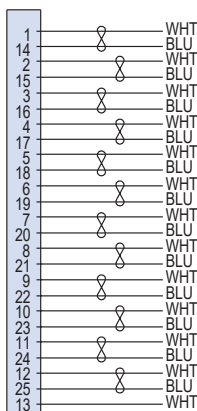
9 Contacts



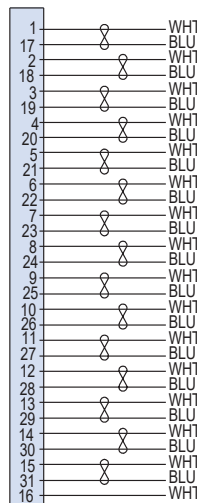
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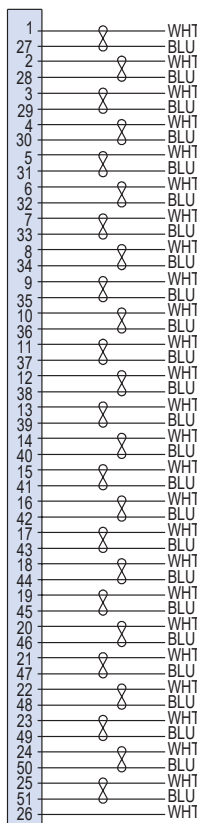
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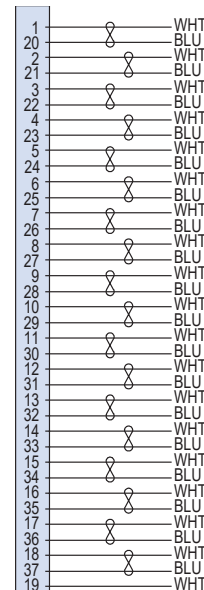
25 Contacts



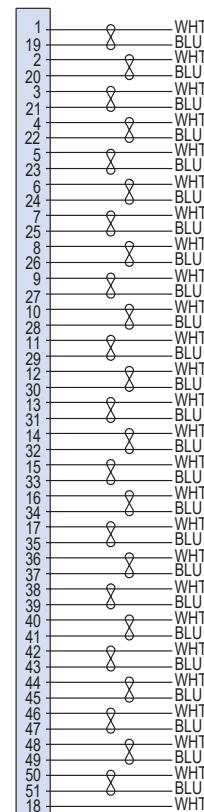
31 Contacts



51 Contacts  
2 Row special



37 Contacts



51 Contacts

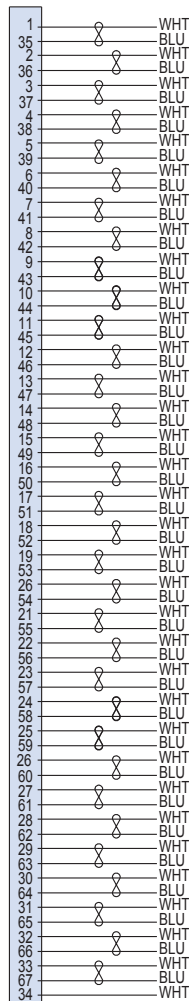


# MWDM Micro-D Shielded Cable Assembly

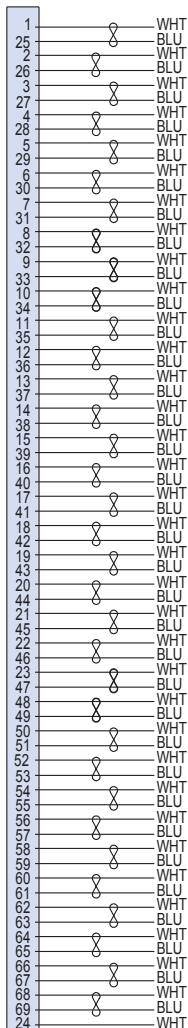
177-710 (Untwisted Wire) and 177-740 (Twisted Wire Pairs)

## 177-740 67 THRU 130 CONTACT TWISTED PAIR WIRING DIAGRAM

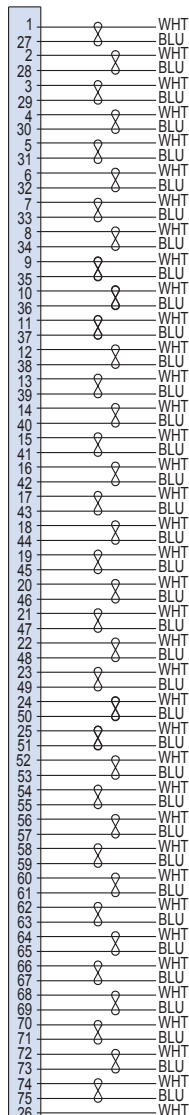
B



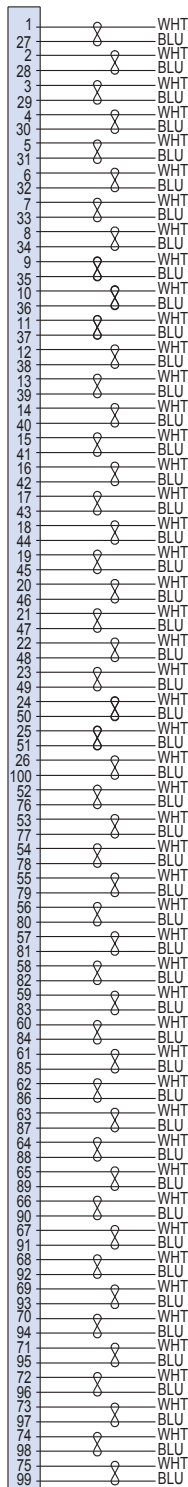
67 Contacts



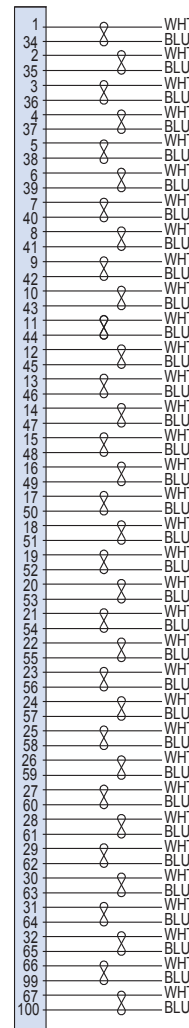
69 Contacts



75 Contacts



100 Contacts



130 Contacts