D-Subminiature connectors with metal face and EMI/RFI shield

The Problem:

Stray Electromagnetic Interference (EMI) and Radio Frequency Interference (RFI) emitted from unshielded cables, connectors, and assemblies can affect the performance of electronic devices within the range of these emissions. The Federal Communications Commission requires EMI/RFI shielding to standards defined in F.C.C. Docket 20780, Part 15 on all newly manufactured equipment. Connectors, cable, and assemblies, if an integral part of this equipment, are within the scope of the F.C.C. decree and must be appropriately shielded.

The CW Solution:

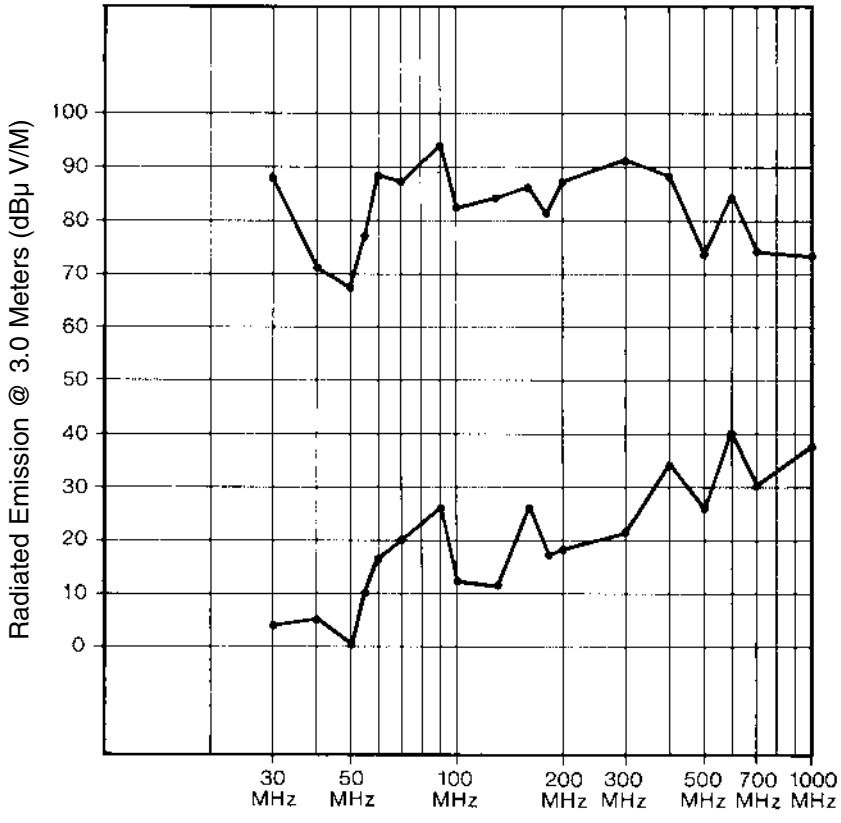
CW makes available a choice of two solutions. Select the system that best solves your EMI/RFI emission problem.

METAL-FACED D-SUBMINIATURE– A metal face forms the front of your D-Subminiature connector and shields high-frequency radiation that eminates principally from the point of external interconnection. These connectors also mate with traditional metal-faced D connectors.

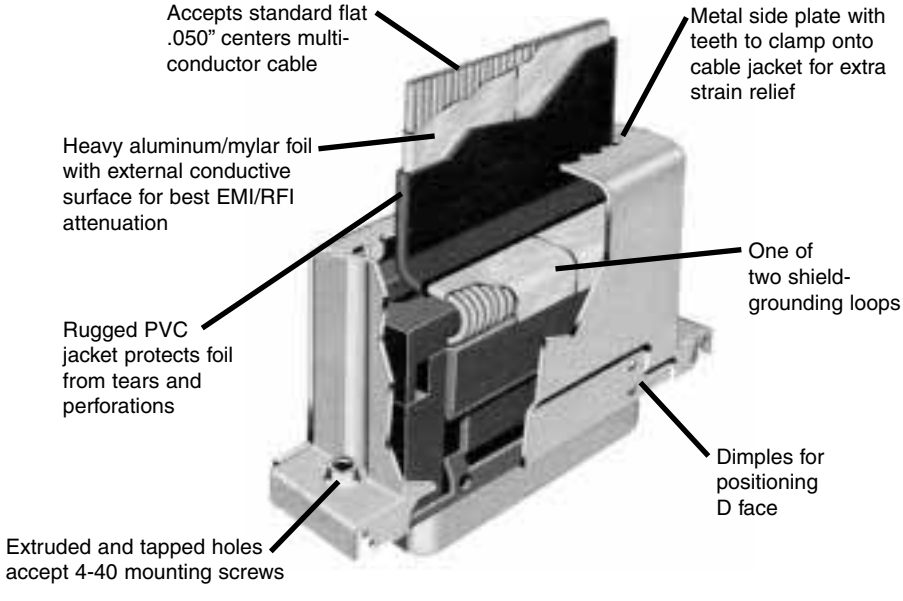
EMI/RFI SHIELD–A bright tin-plated metal shield can be added to the METAL-FACED connector to form a complete metal enclosure. Laboratory tests show that our Subminiature D connector enclosed in our assembled shield can reduce strays by up to 80dB. Performance comparison and test results are indicated graphically in the chart at right. When terminated to jacketed-and-shielded flat cable, properly stripped to expose an external conductive surface, the shielding interfaces redundantly with CW's conductive shield placing the entire assembly at "ground". CW's shield can be used on either cable end terminations or in "daisy chain" terminations along the cable. METAL SHIELDS are available to cover 9, 15, 25, and 37 pin or socket Subminiature D connectors. CW's METAL SHIELDS are designed for easy and rapid assembly to our METAL-FACED Subminiature D-connectors. No supplemental fasteners or assembly tools are required.

Test Results

Radiated Emission Comparison
Unshielded vs. CW Shielded D-Subminiatures Assemblies

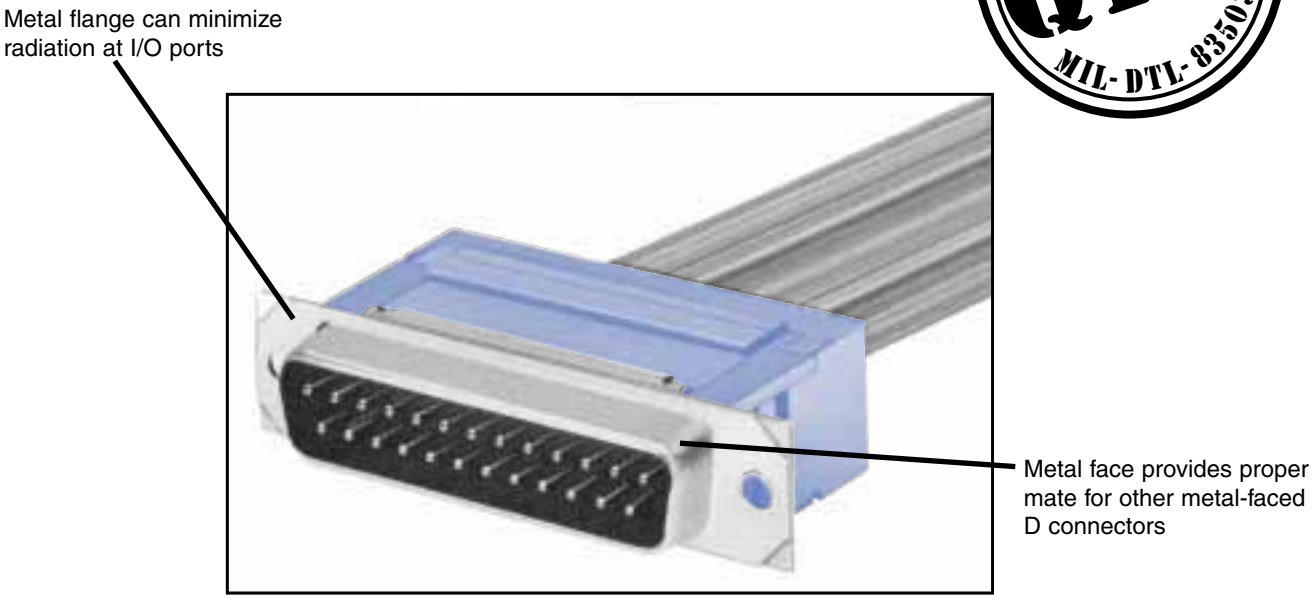


CW metal-faced D-Subminiature connector with assembled EMI/RFI shield



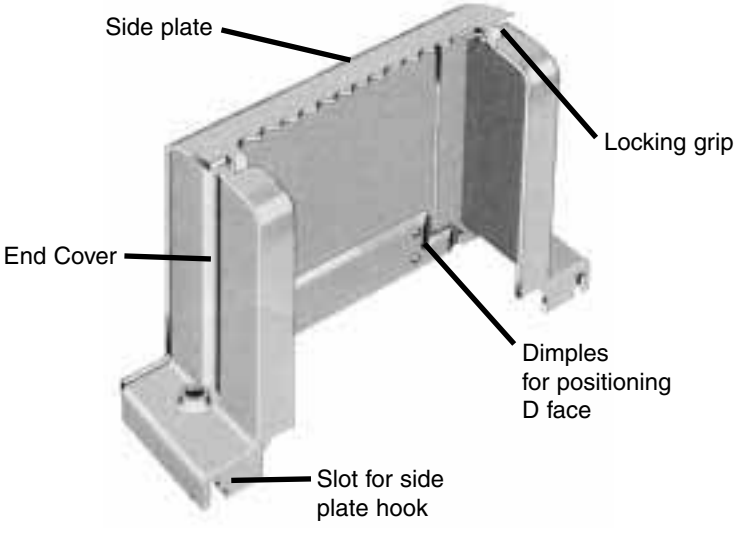
D-Subminiature connector with metal face

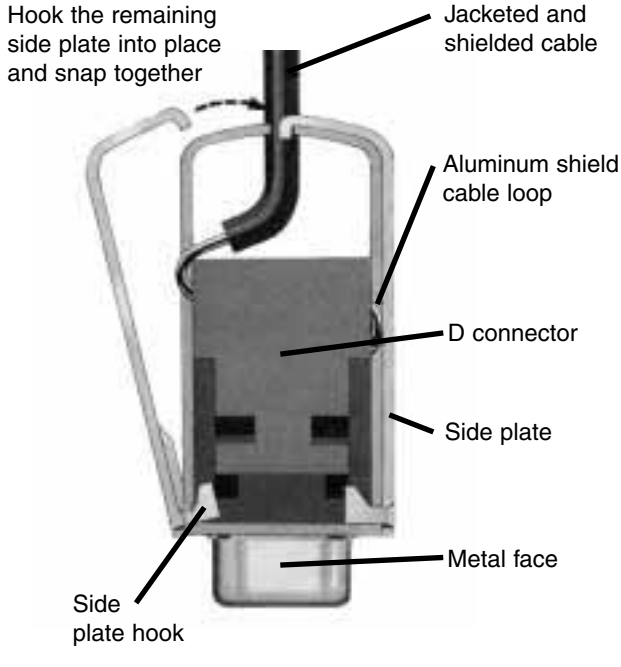
CW metal faced D-Subminiature connectors are ideal for input/output applications and interconnecting electronic equipment. These connectors are designed to the applicable standards of Mil-DTL-24308 and are interchangeable and mateable with other connectors so designed.



Assemble an EMI/RFI shield to our D-Subminiature connector in a snap

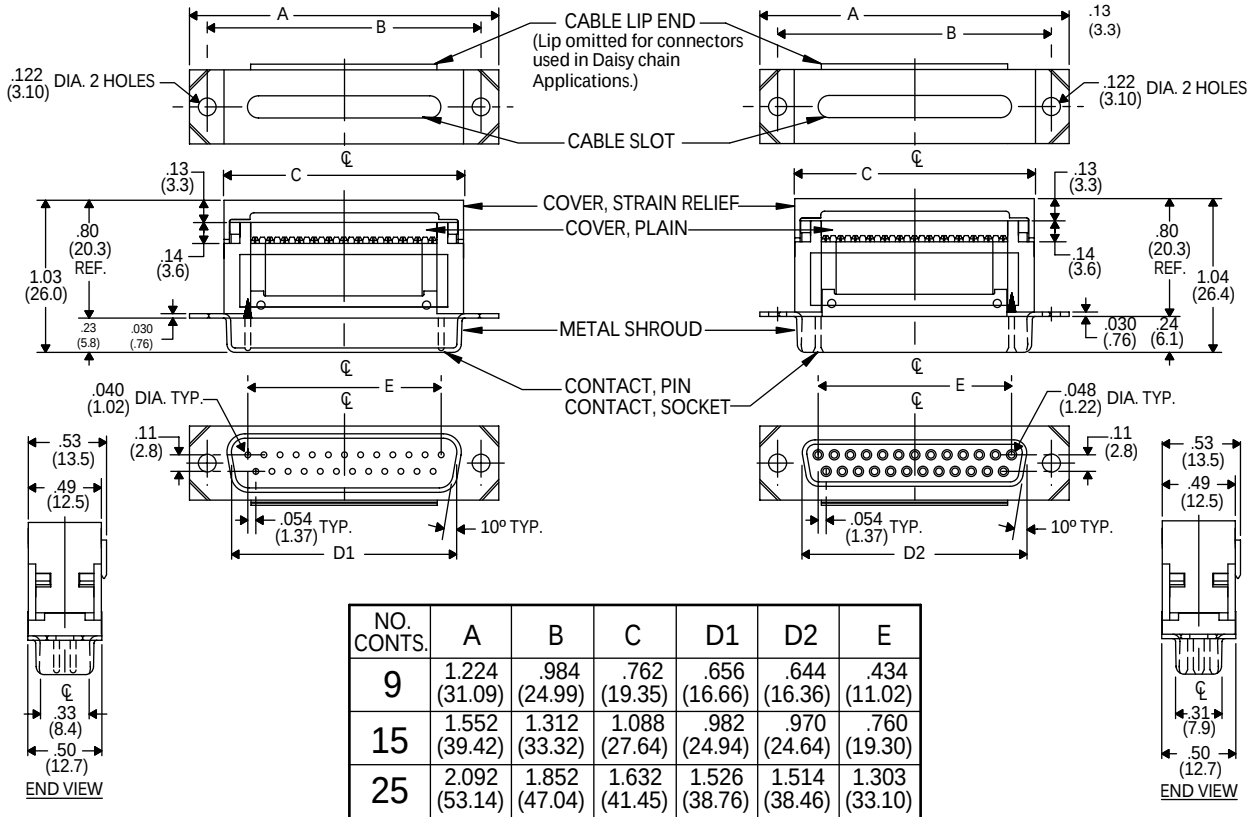
After terminating the connector to C-03-021 or C-03-031 style jacketed and shielded flat cable, slide the D-Subminiature connector with metal face into the preassembled shield.





D-Subminiature connectors with metal face

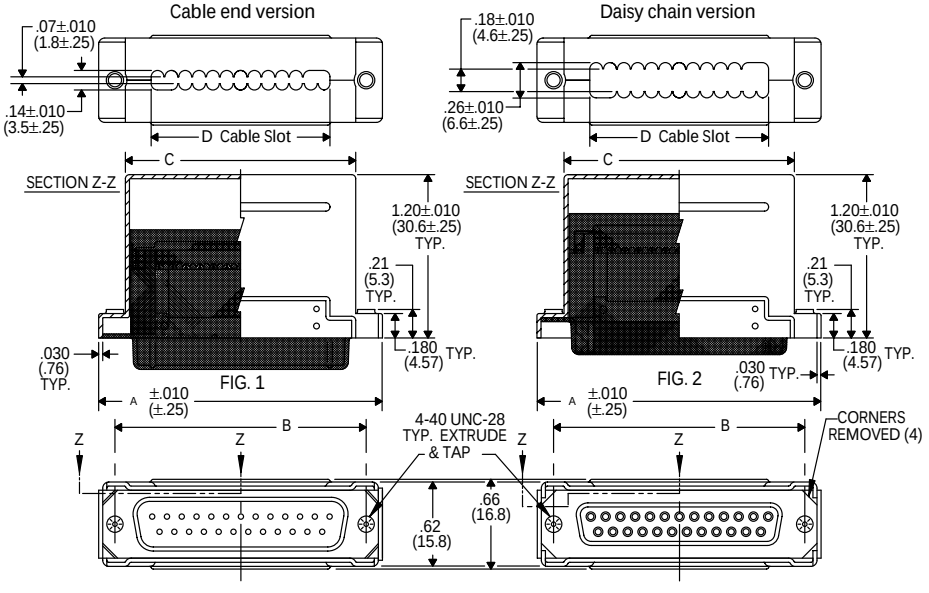
(Bright tin-plated C.R.S.)



NO. CONTS.	A	B	C	D1	D2	E
9	1.224 (31.09)	.984 (24.99)	.762 (19.35)	.656 (16.66)	.644 (16.36)	.434 (11.02)
15	1.552 (39.42)	1.312 (33.32)	1.088 (27.64)	.982 (24.94)	.970 (24.64)	.760 (19.30)
25	2.092 (53.14)	1.852 (47.04)	1.632 (41.45)	1.526 (38.76)	1.514 (38.46)	1.303 (33.10)
37	2.740 (69.60)	2.500 (63.50)	2.284 (58.01)	2.178 (55.32)	2.166 (55.02)	1.955 (49.66)

25 CONTACT CONNECTOR (SHOWN)

EMI/RFI Shielded (Bright tin-plated C.R.S.)



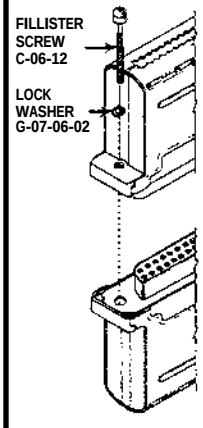
NO. CONTS.	A	B	C	D
9	1.284 (32.61)	.984 (24.99)	.830 (21.08)	.550 (13.97)
15	1.612 (40.94)	1.312 (33.32)	1.158 (29.41)	.856 (21.74)
25	2.152 (54.66)	1.852 (47.04)	1.698 (43.13)	1.366 (34.70)
37	2.800 (71.12)	2.500 (63.50)	2.346 (59.59)	1.978 (50.24)

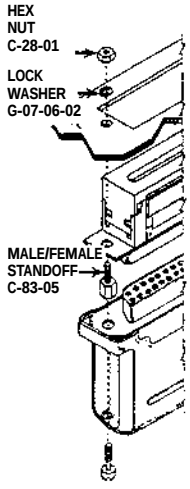
Note: EMI/RFI shield will accept either pin or socket connector in standard (Fig. 1) or recessed (Fig. 2) mounting configurations, as shown.

Hardware Mounting Kits for Metal Faced D-Connectors

To order, specify CWN-HK-XX.

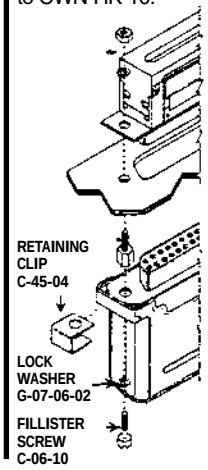
CWN-HK-07
Two 4-40 screws and washers for midspan splices of two CW D-Subminiature connectors with the CW EMI/RFI shield.

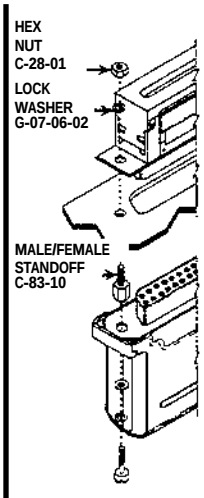




CWN-HK-08
Two 4-40 standoffs with lock washers and hex nuts for front panel mounting of D-Subminiature connector with metal face.

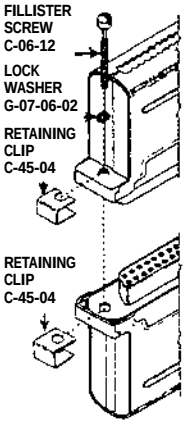
CWN-HK-09
Two 4-40 screws, lock washers and retaining clips for mounting other manufacturers' D-Subminiatures in the CW shield and mating to CWN-HK-10.

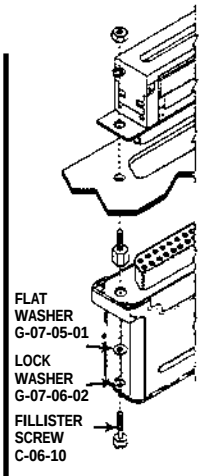




CWN-HK-10
Two 4-40 standoffs with lock washers and nuts for rear panel mounting of D-Subminiature connector with metal face.

CWN-HK-11
Two 4-40 screws, lock washers and four retaining clips for mid span splices of other manufacturers' D-Subminiature connectors in the CW shield.





CWN-HK-12
Two 4-40 screws with four washers for mating CW D-Subminiature connectors with the CW EMI/RFI shield to front or rear panel mounted connector. *Flat washer not used when mated with front panel mounted connector.

How to Order D-Subminiature Connectors with Metal Face

CWR-XXX-XX-00XX

Type of Connector
282=D-Subminiature with metal face for cable end terminations, pin contact (Standard)
283=D-Subminiature with metal face for cable end terminations, socket contact (Standard)
280=D-Subminiature connector with metal face for daisy chain applications, pin contact
281=D-Subminiature connector with metal face for daisy chain applications, socket contact

Number of Contacts (9, 15, 25 or 37)

Plating
0021=30µ in. gold (in mating area) over 50µ in. nickel (standard)
0000=10µ in. gold (in mating area) over 50µ in. nickel
0022=50µ in. gold (in mating area) over 50µ in. nickel **Mil-DTL-24308 approved.**
0003=100µ in. tin-lead

How to Order EMI/RFI Shield

CWN-XXX-XX-8901

Type of Shield
292=Shield for cable end terminations
290=Shield for daisy chain terminations

Size (09, 15, 25, 37)

Note: For information on 100% tested, ready-to-use cable assemblies, contact the factory or your local value-added distributor.

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

CW Industries:

CWNHK03