

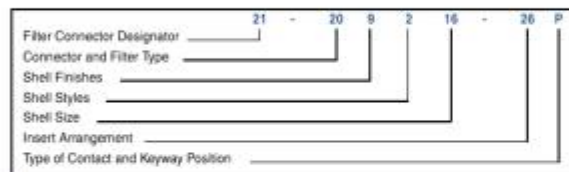
Amphenol Aerospace Operations Filter Connectors

Customs are the Norm

2001 Statistics

- We shipped 72,000 filter connectors
 - 2% (or 1600) were catalog P/N's
 - (P/N could be developed via the “How to Order” page of the catalog, 21-529715-35P, VHF-1 filtering on all lines and with Solder Cup contacts)

How to Order



Standard voltage for diode is ± 8 volts. Any deviation requires a -200 suffix.
 Standard voltage for a MOV is 47 volts. Any deviation requires a -200 suffix.
 Standard diode/filter combination is ± 8 volt/VHF-1 filter. Any deviation requires a -200 suffix.
 Standard MOV/filter combination is 47 volt/VHF-1 filter. Any deviation requires a -200 suffix.
 HF filters in size 16 and 20 contacts only.
 Any mixture of filters and non-filters requires a -200 suffix.

21 Filter Connector Designator

- 21 - Filter Connector
- 36 - MOV Connector*
- 47 - Diode Connector*

20 Connector/Filter Type

- 20 - FPT with VHF-1 filter (short shell)
- 22 - FPTE with VHF-1 filter (short shell)
- 24 - FJT with VHF-1 filter (short shell)
- 25 - FJT with ± 8 volt diode/VHF-1 filter combination
- 26 - AN with VHF-1 filter
- 29 - FLJT with VHF-1 filter (short shell)
- 31 - FPT with MF filter (short shell)
- 32 - FJT with MF filter (short shell)
- 33 - FPT with HF filter (long shell)
- 34 - FJTP with VHF-1 filter (short shell)
- 36 - FLJT with HF filter (long shell)
- 37 - FJT with HF filter (long shell-min. penetration also available)
- 38 - FJTP with HF filter (long shell)
- 39 - FJTP with MF filter (short shell)
- 40 - FLJT with MF filter (short shell)
- 41 - FJT (UTS) with VHF-1 filter (short shell)
- 42 - FLB with VHF-1 filter
- 46 - FPT (UTS) with VHF-1 filter
- 47 - FLJTP with VHF-1 filter (short shell)
- 48 - FLJTPO (UTS) with VHF-1 filter (short shell)
- 50 - FTV (UTS) with VHF-1 filter (short shell)
- 51 - FTV (UTS) with HF filter (long shell)
- 52 - FTV with VHF-1 filter (short shell)
- 53 - FTV with HF-1 filter (long shell)
- 54 - FAN with HF-1 filter (long shell)
- 56 - FJTP (UTS) with VHF-1 filter
- 57 - FLJT with VHF-1 filter (printed circuit mount)
- 58 - FJTPO (UTS) with VHF-1 filter (short shell)
- 60 - FTV with VHF-1 filter (printed circuit board mount, mod. flange)
- 61 - FBL with VHF-1 filter (short shell)
- 63 - FSJT with VHF-1 filter (short shell)
- 64 - FBL (UTS) with VHF-1 filter
- 65 - FSJT (UTS) with VHF-1 filter
- 66 - FBL programmable filter

- 67 - FTV with VHF-1 filter (printed circuit board mount, Std. flange)
- 68 - FTV (UTS) with ± 8 volt diode/VHF-1 filter combination
- 69 - FLJT with programmable filter
- 70 - FJT with programmable filter
- 71 - FTV with programmable filter
- 73 - M83723 beyond coupling with VHF-1 filter
- 75 - FSJT with programmable filter
- 76 - FTV with VHF-1 filter composite shell
- 77 - FLJT with ± 8 volt diode/VHF-1 filter combination
- 82 - FTV with ± 8 volt diode/VHF-1 filter combination
- 83 - FSJT with ± 8 volt diode/VHF-1 filter combination
- 84 - FTV (UTS) with ± 8 volt diode only
- 85 - FBL with ± 8 volt/VHF-1 filter combination
- 87 - FLJT (UTS) with ± 8 volt diode/VHF-1 filter combination
- 96 - FPTE (UTS) with VHF-1 1500V filter

9 Shell Finishes

- 0 - chrome
- 1 - bright cadmium
- 2 - stainless steel
- 4 - electroless nickel, MS (F)
- 5 - gold plate over nickel
- 7 - cadmium plate over nickel, MS (A)
- 8 - bright nickel
- 9 - cadmium plate, nickel base, OD, MS(B), (500 hr. salt spray test)

2 Shell Styles

- 0 - wall mount receptacle
- 2 - box mount receptacle
- 3 - jam nut receptacle with rear thread (PT only)
- 4 - minimum penetration jam nut receptacle
- 7 - jam nut receptacle

16 Shell Size

- 8 through 24 - FJT and FPT shell sizes available
- 9 through 25 - FLJT and FTV shell sizes available

26 Insert Arrangement

See insert availability chart, page 9.

P Type of Contact and Insert Arrangement

- P - pins in a normal rotation
- S - sockets in a normal rotation

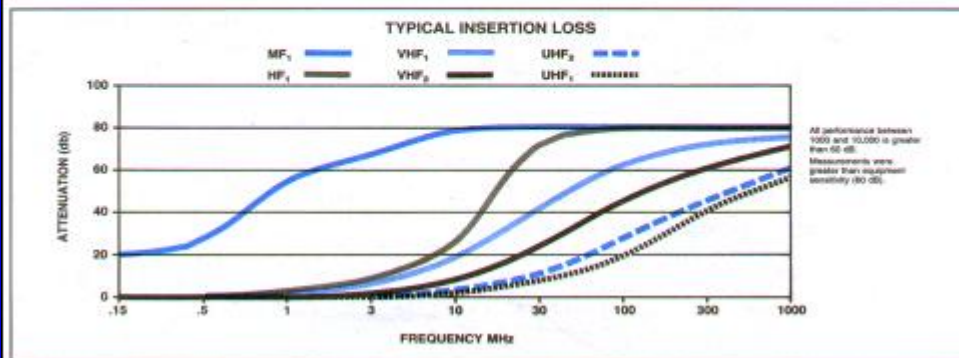
For alternate rotations, choose the suffix letter from table below.

*Please consult Amphenol, Sidney, NY to set up part numbers.
 For adapter part numbers, see adapter section (Pages 54 and 55).

ALTERNATE ROTATION SUFFIX LETTERS

FJT, FLJT or FSJT			FTV			FPT			FBL Series IV		
Alternate Position	Suffix Letter		Alternate Position	Suffix Letter		Alternate Position	Suffix Letter		Alternate Position	Suffix Letter	
	Pins	Sockets		Pins	Sockets		Pins	Sockets		Pins	Sockets
Normal	P	S	Normal	P	S	Normal	P	S	N	P	S
A	E	F	A	G	H		G	H	A	E	F
B	R	T	B	I	J		I	J	B	G	H
C	W	X	C	K	L		K	L	C	J	L
D	Y	Z	D	M	N		M	N	D	R	T
			E	R	T				K	W	X

Effect of Temperature on EMI Filter Attenuation



TYPICAL INSERTION LOSS (dB)
PER MIL-STD-220, 5 ADC, 25°C

Capacitance	1MHz	3MHz	10MHz	30MHz	100MHz	300MHz	1000MHz
375 pf UHF ₂	0	0	1	8	16	—	—
750 pf UHF ₂	0	0	3	10	19	—	—
2900 pf VHF ₂	0	2	8	20	28	—	—
7000 pf VHF ₁	6	9	17	23	40	—	—
16000 pf HF ₁	6	14	20	24	80	—	—

MF₁*

Typical Capacitance = 1,000,000 pf Min. 800,000 pf Max. 1,600,000 pf
Type PI

Temp.	F _{CO}	1MHz	3MHz	10MHz	30MHz	100MHz	300MHz	1000MHz
-55°C	—	18	—	64	80	80	80	80
Room	7.94K	55	—	80	80	80	80	80
+125°C	—	22	—	70	80	80	80	80

HF₁

Typical Capacitance = 16,000 pf Min. 9,800 pf Max. 24,000 pf
Type Cased Pi

Temp.	F _{CO}	1MHz	3MHz	10MHz	30MHz	100MHz	300MHz	1000MHz
-55°C	—	2	6	24	62	80	80	80
Room	648K	3	9	50	80	80	80	80
+125°C	—	0	6	30	62	80	80	80

VHF₁

Typical Capacitance = 7,000 pf Min. 4,900 pf Max. 12,000 pf
Band G, Type PI

Temp.	F _{CO}	1MHz	3MHz	10MHz	30MHz	100MHz	300MHz	1000MHz
-55°C	—	1	2	8	21	44	61	65
Room	1.27M	1	6	15	42	62	72	75
+125°C	—	0	2	9	24	45	62	64

Note: F_{CO} = Cut-off Frequency
* Consult Amphenol, Sidney, NY for availability.

VHF₂

Typical Capacitance = 2,500 pf Min. 1,300 pf Max. 4,000 pf
Band E, Type PI

Temp.	F _{CO}	1MHz	3MHz	10MHz	30MHz	100MHz	300MHz	1000MHz
-55°C	—	0	2	7	17	40	58	71
Room	3.3M	0	2	8	24	46	61	71
+125°C	—	0	3	10	26	46	63	69

UHF₁

Typical Capacitance = 750 pf Min. 500 pf Max. 1,100 pf
Band C, Type PI

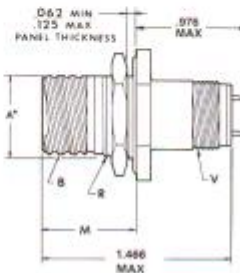
Temp.	F _{CO}	1MHz	3MHz	10MHz	30MHz	100MHz	300MHz	1000MHz
-55°C	—	0	0	3	9	25	46	61
Room	12.7M	0	0	3	10	28	46	61
+125°C	—	0	0	3	10	24	42	60

UHF₂

Typical Capacitance = 375 pf Min. 290 pf Max. 450 pf
Band B, Type PI

Temp.	F _{CO}	1MHz	3MHz	10MHz	30MHz	100MHz	300MHz	1000MHz
-55°C	—	0	0	1	6	21	43	58
Room	21.9M	0	0	1	8	18	42	56
+125°C	—	0	0	1	8	17	38	50

FTV jam nut receptacle



21-52X7XX-XXX

* "D" shaped mounting hole dimensions
For ordering information, see how to order page 52.
Plug movement required to clear FTV receptacles: .025 min.

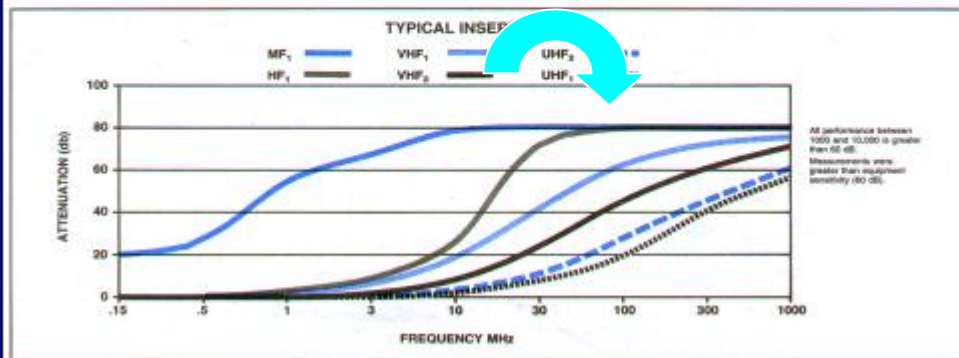
Shell Size	A* +.000 -.010	B Thread Class 2A 0.1P-0.3L-T8 (Plated)	C Max	H Hex +.017 -.016	M +.011 -.019	R Thread (Plated)	S +.011 -.010	T* +.010 -.000	V Thread Metric (Plated)
9	.669	.6250	1.199	.875	.871	M17X1-6g0.100R	1.062	.897	M12X1-6g0.100R
11	.789	.7500	1.386	1.000	.871	M20X1-6g0.100R	1.250	.822	M15X1-6g0.100R
13	.895	.8750	1.511	1.188	.878	M25X1-6g0.100R	1.375	1.007	M18X1-6g0.100R
15	1.084	1.0000	1.636	1.312	.878	M28X1-6g0.100R	1.500	1.134	M22X1-6g0.100R
17	1.208	1.1875	1.761	1.438	.878	M32X1-6g0.100R	1.625	1.259	M25X1-6g0.100R
19	1.333	1.2500	1.949	1.562	.878	M35X1-6g0.100R	1.812	1.384	M28X1-6g0.100R
21	1.459	1.3750	2.073	1.688	.878	M38X1-6g0.100R	1.938	1.507	M31X1-6g0.100R
23	1.575	1.5000	2.198	1.812	.878	M41X1-6g0.100R	2.062	1.634	M34X1-6g0.100R
25	1.709	1.6250	2.323	2.000	.878	M44X1-6g0.100R	2.188	1.759	M37X1-6g0.100R

All dimensions for reference only

2001 Statistics

- We shipped 72,000 filter connectors
 - 2% (or 1,600) were catalog P/N's
 - (P/N could be developed via the “How to Order” page of the catalog, 21-529715-35P, VHF-1 filtering on all lines and with Solder Cup contacts)
 - 23% (or 17,000) were a catalog base P/N but with either PCB tails and/or something other than VHF-1 on all lines, 21-529715-2XX

Effect of Temperature on EMI Filter Attenuation



**TYPICAL INSERTION LOSS (dB)
PER MIL-STD-220, 5 ADC, 25°C**

Capacitance	1MHz	3MHz	10MHz	30MHz	100MHz	300MHz	1000MHz
375 pf UHF ₁	0	0	1	8	16	-	-
750 pf UHF ₂	0	0	3	10	19	-	-
2900 pf VHF ₂	0	2	8	20	28	-	-
7000 pf VHF ₁	6	9	17	23	40	-	-
16000 pf HF ₁	6	14	20	24	80	-	-

MF₁*
Typical Capacitance = 1,000,000 pf Min. 800,000 pf Max. 1,600,000 pf
Type PI

Temp.	F _{CO}	1MHz	3MHz	10MHz	30MHz	100MHz	300MHz	1000MHz
-55°C	-	18	-	64	80	80	80	80
Room	7.04K	55	-	80	80	80	80	80
+125°C	-	22	-	70	80	80	80	80

HF₁
Typical Capacitance = 9,800 pf Min. 9,800 pf Max. 24,000 pf
Decoded PI

Temp.	F _{CO}	1MHz	3MHz	10MHz	30MHz	100MHz	300MHz	1000MHz
-55°C	-	2	6	16	22	40	40	40
Room	648K	3	9	20	28	48	48	48
+125°C	-	0	6	30	42	80	80	80

VHF₁
Typical Capacitance = 7,000 pf Min. 4,900 pf Max. 12,000 pf
Band G, Type PI

Temp.	F _{CO}	1MHz	3MHz	10MHz	30MHz	100MHz	300MHz	1000MHz
-55°C	-	1	2	8	21	44	61	65
Room	1.27M	1	6	15	42	62	72	75
+125°C	-	0	2	9	24	45	62	64

Note: F_{CO} = Cut-off Frequency
* Consult Amphenol, Sidney, NY for availability.

Most filter attenuation curves and capacitance values are expressed at 25°C. However, temperature can affect the capacitance of a titanate filter element, affecting the insertion loss that the element will cause.

In order to assist the user in anticipating the effect of various temperatures, the following charts applicable to Amphenol® filter connectors utilizing MF₁, HF₁, VHF₁, VHF₂, UHF₁, and UHF₂ filters are provided. Please note that all insertion loss (attenuation) values given were measured with no load applied. The band designations refer to MIL-STD-2120.

VHF₂
Typical Capacitance = 2,500 pf Min. 1,300 pf Max. 4,000 pf
Band E, Type PI

Temp.	F _{CO}	1MHz	3MHz	10MHz	30MHz	100MHz	300MHz	1000MHz
-55°C	-	0	2	7	17	40	58	71
Room	3.3M	0	2	8	24	46	61	71
+125°C	-	0	3	10	26	46	63	69

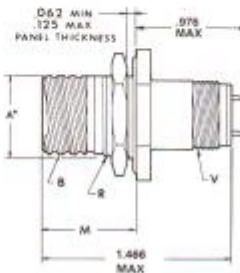
UHF₂
Typical Capacitance = 750 pf Min. 500 pf Max. 1,100 pf
Band C, Type PI

Temp.	F _{CO}	1MHz	3MHz	10MHz	30MHz	100MHz	300MHz	1000MHz
-55°C	-	0	0	3	9	25	48	61
Room	12.7M	0	0	3	10	28	46	61
+125°C	-	0	0	3	10	24	42	60

UHF₁
Typical Capacitance = 375 pf Min. 290 pf Max. 450 pf
Band B, Type PI

Temp.	F _{CO}	1MHz	3MHz	10MHz	30MHz	100MHz	300MHz	1000MHz
-55°C	-	0	0	1	6	21	43	58
Room	21.5M	0	0	1	8	18	42	56
+125°C	-	0	0	1	8	17	38	50

FTV jam nut receptacle



21-52X7XX-XXX

* "D" shaped mounting hole dimensions
For ordering information, see how to order page 52.
Plug movement required to clear FTV receptacles: .025 min.

Shell Size	A* +.000 -.010	B Thread Class 2A 0.1P-0.3L-TS (Plated)	C Max	H Hex +.017 -.016	M +.011 -.019	R Thread (Plated)	S +.011 -.010	T* +.010 -.000	V Thread Metric (Plated)
9	.669	.6250	1.199	.875	.871	M17X1-6g0.100R	1.062	.897	M12X1-6g0.100R
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 - 23% (or 17,000) were a catalog base P/N but with either PCB tails and/or something other than VHF-1 on all lines, 21-529715-2XX
 - **75%** (or 53,400) were unique P/N's because of “non-catalog” mechanical configuration requirements, 21-90XXXX-XXX

Typical "Non-Catalog"



“Non-Catalog” Categories

- Shell modifications
- Configurations Derived from Industry Demands
- Application Specific

Shell Modifications

- Shifted Flange
- Clinch Nuts and helicoils
- Stand-off's
- Other unique requirements

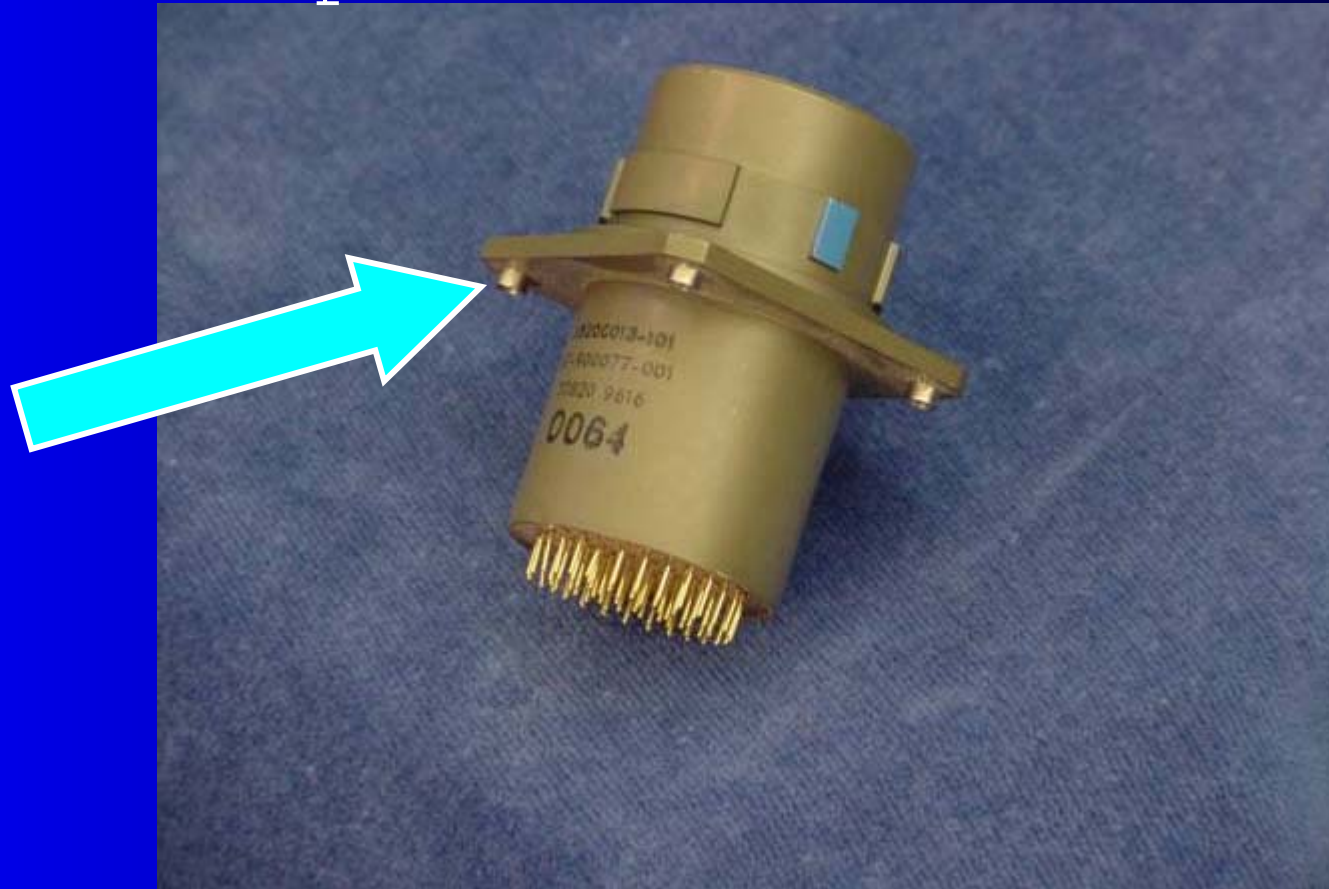
Receptacle Shell with



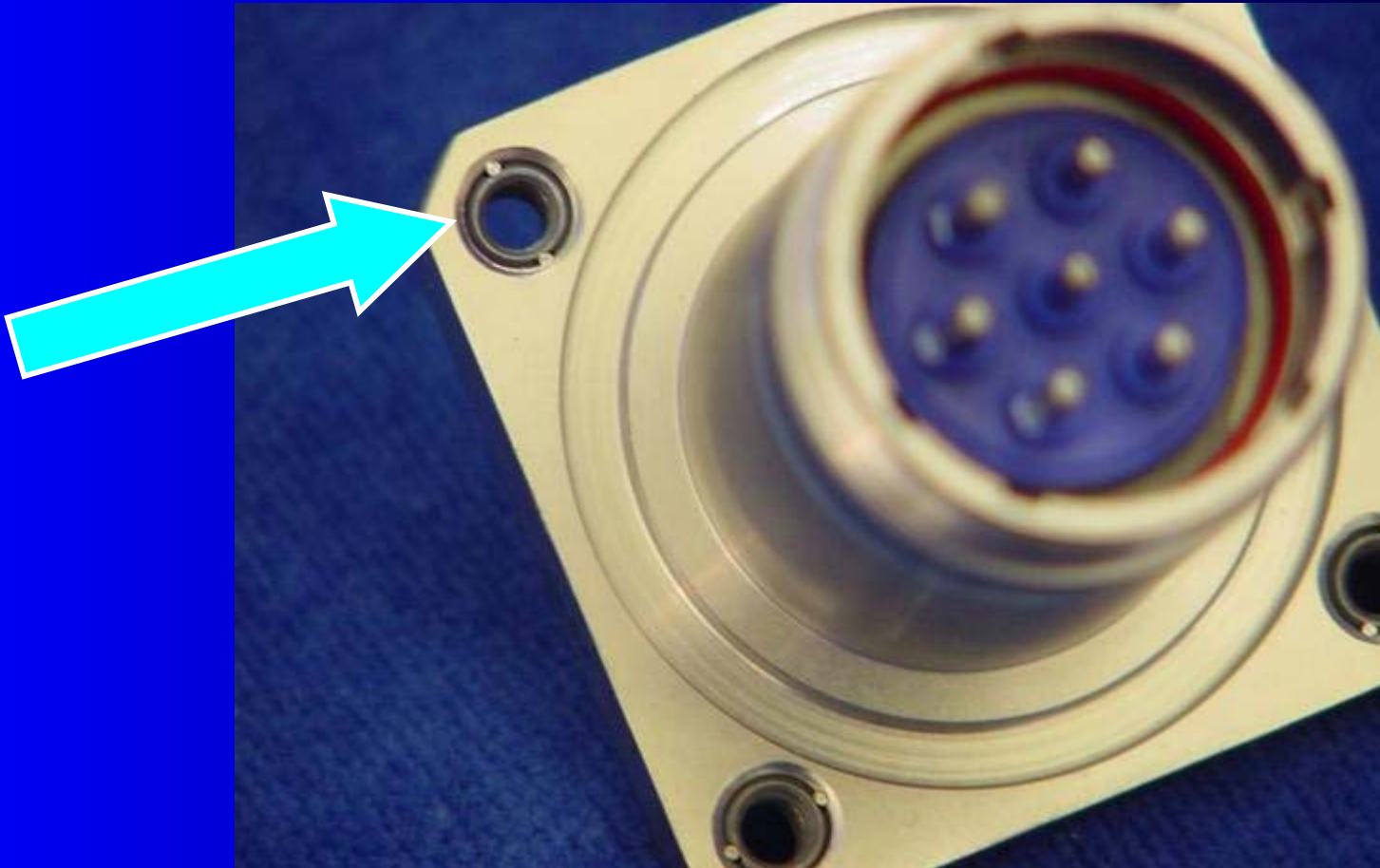
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Receptacle Shell with



Receptacle Shell with



Shell Modifications

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Receptacle Shell with



Shell Modifications

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Other unique Shell



Virtually anything is

“Non-Catalog” Categories

- Shell modifications
- Configurations Derived from Industry Demands
- Application Specific

Configurations Derived from Industry Demands

- Filtered Plug Connectors
- Filtered Hermetic Connectors
- Filtered Connectors with ESD Cans
- Header Assemblies
- Filtered Adapter Connectors
- Filtered Composite Connectors
- Filtered Industrial 5015 Connectors



Filtered Plug Assembly

Amphenol® EMI/Transient Protection specials



The Hermetic Filter Connector, while only approximately 1/2 inch longer than standard series connectors, provides all the benefits of a hermetic connector, as well as EMI protection for sensitive circuits. The filter assembly is protected by a fused glass insert within a unique steel housing. This design accounts for the connector's capability in tolerating high level static pressure, while maintaining a low level leakage rate. Applications include pressurized test equipment, environmental and toxic gas chambers, and moisture sealing on industrial equipment and missiles.



The Filtered Plug is designed for applications where EMI protection is essential, but access to the receptacle is denied. The filtered plug presents an alternative for the electrical engineer. The filter plug is designed with the same components as a standard filter receptacle, but offers the option of being mounted on the cable harness. This device is a cost effective method of achieving EMI protection when length restrictions prohibit inclusion of an adapter to the system. Consult Amphenol Aerospace, Sidney, NY for availability.



The "AN" Filter Connector is designed in configurations interchangeable and intermountable with MIL-C-5015 connectors and provides electromagnetic interference protection for critical circuits. The filter connector has the same dimensions as the non-filtered standard MIL-spec connectors with the exception of back shell length. It uses non-removable solder cup terminated contacts. The shells are impact extruded or machined bar stock aluminum and are available in several conductive platings. Applications include power transmission, medical communications, and ground support equipment.



The Front-Repairable Transient Protection Connector
The front repairable concept originates from specialized customer requirements demanding a method of repairing and/or replacing an inoperable contact due to either over-testing or a desire to have a different transient protection device on a circuit. The capability to replace a device within the connector will allow system maintenance, and makes design changes a matter of replacing a contact rather than replacing a connector.

Filtered Plug Connectors

Features and Benefits

- Utilized When Access To Receptacle Is Denied
- Utilized Components As Standard EMI/EMP Receptacles
- Can Be Assembled To Electrical Harness
- Alternative To Connector Adapter When Length Restrictions Exist!





Hermetic Filter Connector

Amphenol® EMI/Transient Protection specials



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Hermetic Filter Connectors

- **Features and Benefits**
 - Provides Hermeticity As Well As EMI Filtering And Transient Protection
 - Utilizes Fused Glass Insert In A Steel Housing
- **Applications Include:**
 - Pressurized Test Equipment
 - Sealed Equipment
 - Environmental And Toxic Gas Chambers
 - Moisture Sealing For Industrial Equipment And Missiles



Electrostatic Discharge (ESD) Connectors

Features And Benefits

- Utilizes The Faraday Cage Principle To Shunt ESD Events Through Conductive Enclosures
- Maintains Same Physical Envelopes As Standard Counterparts
- Eliminates Need for Discrete Components
- Infinite Pulse Life

See AAO Product Data Sheet No. 171 for more information





Header Assembly with EMI/EMP Connector

Amphenol Aerospace

Universal "Header Assembly" for Flex Print/PC Board mounting to all Mil-DTL-38999 & Mil-C-26482 connectors

The use of connectors with printed circuit contact termination is rapidly gaining popularity due to the use of high volume, vapor phase or wave solder manufacturing processes. Termination of this style of connector to flex print or a printed circuit board represents a major cost in the manufacturing process for users. When adding flex or printed circuit board assemblies to an expensive filter or filter/transient protection connector, the total cost of a failed solder joint, a bent pin, or an unanticipated electrical failure becomes prohibitive. The universal header assembly from Amphenol will provide for easy separation of the connector from the board on these occasions.

Incorporation of the header assembly provides the user with time and cost saving potentials. These header assemblies can be vapor phase or wave soldered to flex or printed circuit boards prior to the receipt of the EMI/EMP connector. Headers can be installed to standard connectors, allowing for electrical testing that would adversely affect the sensitive diodes, MOV's or capacitors in the EMI/EMP connectors. Expensive connector assemblies can be easily removed from and reattached to the header assembly as the manufacturing process dictates.

Shell modifications are recommended, but are not necessary. The header assembly can be attached to connectors with standard flange placement or directly to the circuit board. The ideal application would involve either a single flange moved all the way to the rear of the connector or a double flange. Cinch nuts can be installed in either flange to allow easier mounting to the panel or the header assembly. The forward flange would mount the connector to the panel; the rear flange would be used to mount the header assembly.

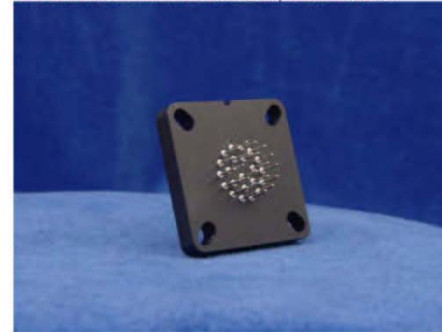
The heart of the header assembly is a short pin/socket contact. The tail of the contact would accommodate standard through-hole diameters and thickness of the flex or printed circuit board materials. The socket is imbedded in the molded material, making electrical engagement with the printed circuit tail of the connector.

This new header is slotted to allow mounting to all series of Mil-DTL-38999 or Mil-C-26482 connectors without special alterations. They are of a similar dimension as the flange of the mounting connector and would be approximately .185 inches (4.70 mm) thick. Electrical engagement areas of the header contact would be plated with .00003 inches minimum of gold over .00005 inches minimum of nickel. The body of the header itself is molded from Torton or PPS (Polyphenylene Sulfide). Headers are configured to accommodate up to 128 pins for a cylindrical pattern and 150 pins in an ARINC arrangement. Various types of captivated or loose attaching screws can be utilized for unique applications. Header assemblies are available to fit all major cylindrical Mil-Spec and ARINC connectors. Contact Amphenol, Sidney, N.Y. for Arinc configurations and detailed dimensions.

Cylindrical Configuration

3 PCB stickout dimensions available. Size 22D contacts, .175 thick header. Size 16 to 20 contacts, .195 thick header. Consult Amphenol, Sidney, N.Y. for additional configurations. Note: 14/15-97 insert arrangements excluded. Consult Amphenol, Sidney, N.Y. for mating connector PCB stickout range and detailed drawings.

FOR STANDARD HEADER CONTACTS, SEE DRAWING



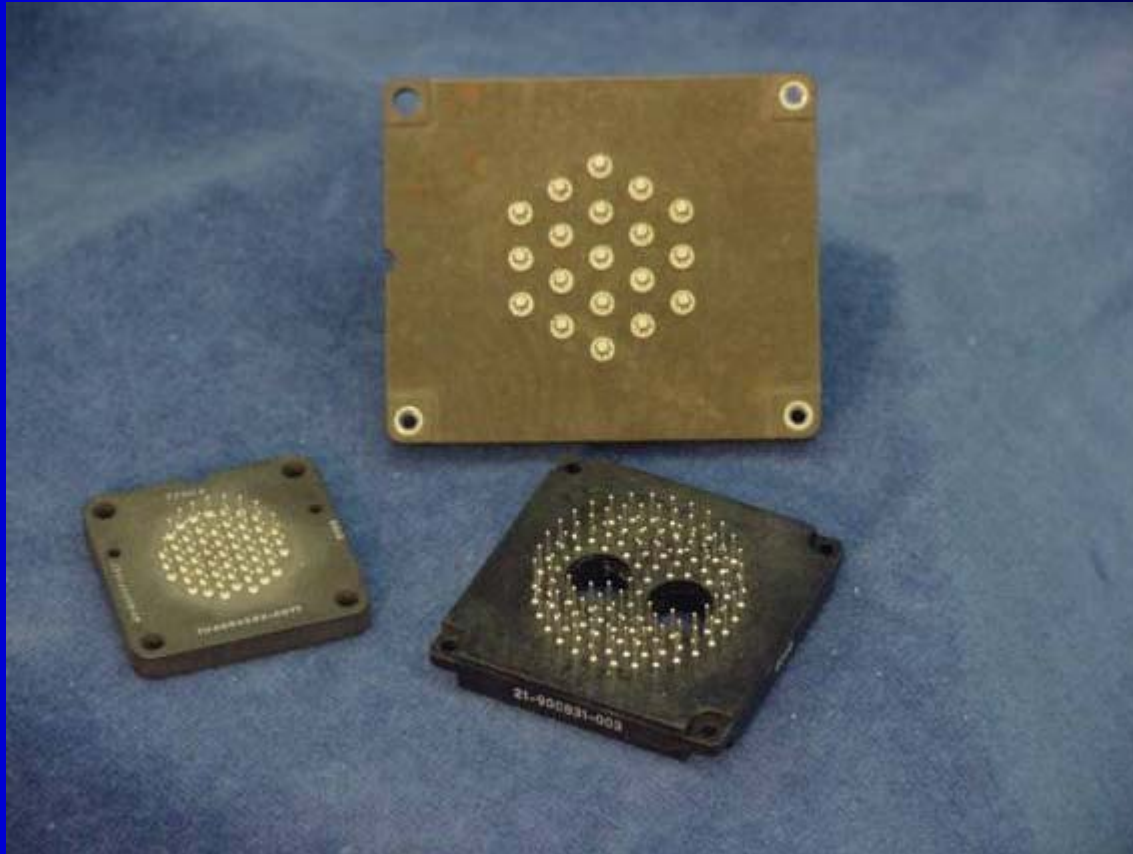
Header Assemblies

Features And Benefits

- Gaining Popularity Due To The Use Of High Volume, Vapor Phase or Wave Solder Manufacturing Process
- Eliminates Costly Connector Replacements In The Event Of A Failed Solder Joint, A Bent Pin, Or An Unanticipated Electrical Failure
- Provides For Easy Separation Of The Connector From The Board



Additional Header

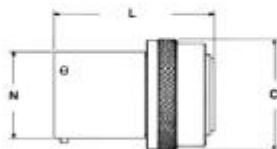




Filter Adapters

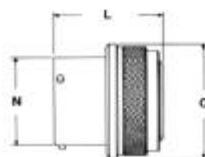
FPT, FJT, FLJT, FTV adapters

FPT Adapter
21-900075-XX



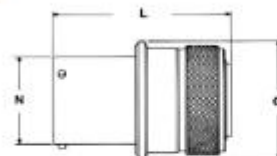
FPT Shell Size	C Dia. Ref.	N Dia. +.001 - .006	L Max.
12	1.035	.750	1.626
14	1.158	.875	1.626
16	1.280	1.000	1.626
18	1.403	1.125	1.626
20	1.525	1.250	1.688
22	1.648	1.375	1.688
24	1.770	1.500	1.688

FJT Adapter
21-900393-XX



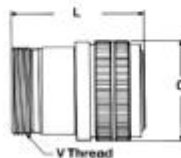
FJT Shell Size	C Dia. +.011 -.010	N Dia. +.001 -.006	L Max.
12	1.143	.750	1.397
14	1.255	.875	1.397
16	1.368	1.000	1.397
18	1.510	1.125	1.397
20	1.633	1.250	1.397
22	1.756	1.375	1.397
24	1.878	1.500	1.397

FLJT Adapter
21-900423-XX



FLJT Shell Size	C Dia. +.011 -.010	N Dia. +.001 -.006	L Max.
11	1.045	.700	2.038
13	1.246	.850	2.038
15	1.371	.975	2.038
17	1.496	1.100	2.038
19	1.616	1.207	2.038
21	1.743	1.332	2.038
23	1.866	1.457	2.038
25	1.991	1.582	2.038

FTV Adapter
21-900529-XX



FTV Shell Size	C Dia. Ref.	V Thread 0.1P-0.3L-T5 Class 2A	L Max.
13	1.121	.8750	2.257
17	1.386	1.1875	2.257
25	1.864	1.6250	2.257

All dimensions for reference only.
Consult Amphenol, Sidney, NY for ordering information.

Filter Adapters

Features And Benefits

- Effective And Economical Method Of Introducing EMI Filtering And Transient Protection To An Installed System
- Intermateable With All Popular MIL-SPEC Connectors
- Provide Transient Protection Utilizing Diodes And MOVs
- Space Qualified Components
- Quick And Efficient Installation



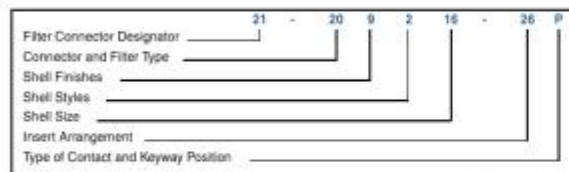
Composite Filter Connector

Features And Benefits

- Light-Weight, Corrosion Resistant, Durable Connector
- Same Performance Features As Metal Counterpart
- Meets All Dimensional Characteristics Of MIL-C-38999, Series III Receptacles
- Utilizes Planar Technology



How to Order



Standard voltage for diode is 48 volts. Any deviation requires a -200 suffix.
 Standard voltage for a MOV is 47 volts. Any deviation requires a -200 suffix.
 Standard diode/filter combination is ± 6 volt/VHF-1 filter. Any deviation requires a -200 suffix.
 Standard MOV/filter combination is 47 volt/VHF-1 filter. Any deviation requires a -200 suffix.
 HF filters in size 16 and 20 contacts only.
 Any mixture of filters and non-filters requires a -200 suffix.

- 21 Filter Connector Designator**
 21 - Filter Connector
 36 - MOV Connector*
 47 - Diode Connector*
- 20 Connector/Filter Type**
 20 - FPT with VHF-1 filter (short shell)
 22 - FPTE with VHF-1 filter (short shell)
 24 - FJT with VHF-1 filter (short shell)
 25 - FJT with ± 8 volt diode/VHF-1 filter combination
 26 - AN with VHF-1 filter
 29 - FLJT with VHF-1 filter (short shell)
 31 - FPT with MF filter (short shell)
 32 - FJT with MF filter (short shell)
 33 - FPT with HF filter (long shell)
 34 - FJTP with VHF-1 filter (short shell)
 36 - FLJT with HF filter (long shell)
 37 - FJT with HF filter (long shell-min. penetration also available)
 38 - FJTP with HF filter (long shell)
 39 - FJTP with MF filter (short shell)
 40 - FLJT with MF filter (short shell)
 41 - FJT (UTS) with VHF-1 filter (short shell)
 42 - FLB with VHF-1 filter
 46 - FPT (UTS) with VHF-1 filter
 47 - FLJTP with VHF-1 filter (short shell)
 48 - FLJTPO (UTS) with VHF-1 filter (short shell)
 50 - FTV (UTS) with VHF-1 filter (short shell)
 51 - FTV (UTS) with HF filter (long shell)
 52 - FTV with VHF-1 filter (short shell)
 53 - FTV with HF-1 filter (long shell)
 54 - FAN with HF-1 filter (long shell)
 56 - FJTP (UTS) with VHF-1 filter
 57 - FLJT with VHF-1 filter (printed circuit mount)
 58 - FJTPO (UTS) with VHF-1 filter (short shell)
 60 - FTV with VHF-1 filter (printed circuit board mount, mod. flange)
 61 - FBL with VHF-1 filter (short shell)
 63 - FSJT with VHF-1 filter (short shell)
 64 - FBL (UTS) with VHF-1 filter
 65 - FSJT (UTS) with VHF-1 filter
 66 - FBL programmable filter
- 67 - FBL (UTS) with VHF-1 filter (printed circuit board mount, Std. flange)**
68 - FSJT with ± 8 volt diode/VHF-1 filter combination
69 - FSJT with programmable filter
70 - FJTP with programmable filter
71 - FTV with programmable filter
73 - M83723 beyond coupling with VHF-1 filter
75 - FSJT with programmable filter
76 - FTV with VHF-1 filter composite shell
77 - FLJT with ± 8 volt diode/VHF-1 filter combination
82 - FTV with ± 8 volt diode/VHF-1 filter combination
83 - FSJT with ± 8 volt diode/VHF-1 filter combination
84 - FTV (UTS) with ± 8 volt diode only
85 - FBL with ± 8 volt/VHF-1 filter combination
87 - FLJT (UTS) with ± 8 volt diode/VHF-1 filter combination
96 - FPTE (UTS) with VHF-1 1500V filter
- 9 Shell Finishes**
 0 - chrome
 1 - bright cadmium
 2 - stainless steel
 4 - electroless nickel, MS (F)
 5 - gold plate over nickel
 7 - cadmium plate over nickel, MS (A)
 8 - bright nickel
 9 - cadmium plate, nickel base, OD, MS(B), (500 hr. salt spray test)
- 2 Shell Styles**
 0 - wall mount receptacle
 2 - box mount receptacle
 3 - jam nut receptacle with rear thread (PT only)
 4 - minimum penetration jam nut receptacle
 7 - jam nut receptacle
- 16 Shell Size**
 8 through 24 - FJT and FPT shell sizes available
 9 through 25 - FLJT and FTV shell sizes available
- 26 Insert Arrangement**
 See insert availability chart, page 9.
- P Type of Contact and Insert Arrangement**
 P - pins in a normal rotation
 S - sockets in a normal rotation
 For alternate rotations, choose the suffix letter from table below.

* Please consult Amphenol, Sidney, NY to set up part numbers.
 For adapter part numbers, see adapter section (Pages 54 and 55).

ALTERNATE ROTATION SUFFIX LETTERS

FJT, FLJT or FSJT			FJV			FPT			FBL Series IV		
Alternate Position	Suffix Letter		Alternate Position	Suffix Letter		Alternate Position	Suffix Letter		Alternate Position	Suffix Letter	
	Pins	Sockets		Pins	Sockets		Pins	Sockets		Pins	Sockets
Normal	P	S	Normal	P	S	Normal	P	S	Normal	P	S
A	E	F	A	G	H	W	G	H	A	E	F
B	R	T	B	I	J	X	I	J	B	G	H
C	W	X	C	K	L	Y	K	L	C	J	L
D	Y	Z	D	M	N	Z	M	N	D	R	T
			E	R	T				K	W	X

Picture of 5015 Filter



HEAVY EQUIPMENT EMI FILTER PIN CONNECTOR

Feature		Benefit
Neoprene Inserts	—————>	Front Environmental Seal
Standard Length Shell	—————>	Reduced Component Costs
Nickel or Cad Plating	—————>	Excellent Conductivity
One Piece Contact	—————>	Contact Standardization
18 Gage Solder Cup for 16 Gage Contacts	—————>	Snap In Assembly
C Style Capacitor	—————>	Satisfies Most Industrial Attenuation needs
1000 pc Min Lots Sizes	—————>	Creates Generic Need for lowest cost

Select Insert Patterns: 10SL-3, 14S-5, 16S-5, 18-1, 20-27, 20-29,

Price Target is 3X the Standard solder 5015 price

Part Number Series To Be Determined

INDUSTRIAL (Mil-C-5015) FILTER CONNECTORS

Features and Benefits

- ◆ Utilizes Standard Neoprene Inserts.
- ◆ Utilizes Standard Assembly For Installation Of Contacts.
- ◆ Can Provide Relatively Low Cost Unit For Industrial User Who Requires Filtering.
- ◆ Available In “PI” Or Lower Cost “C” Filtering.

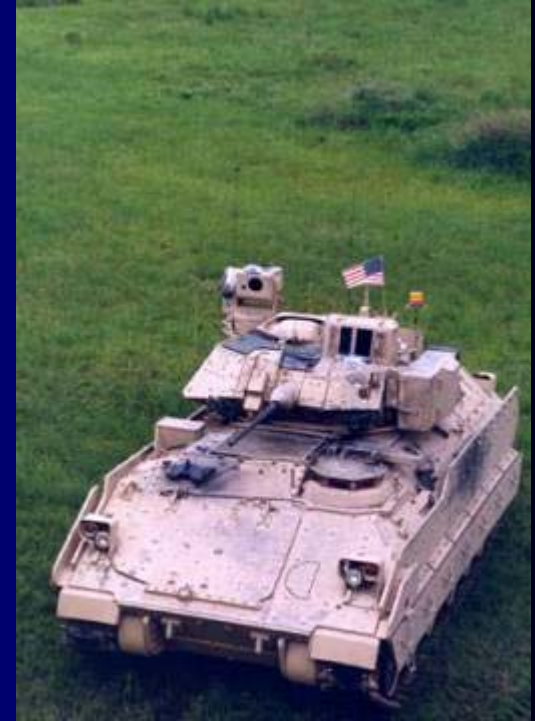


“Non-Catalog” Categories

- Shell modifications
- Configurations Derived from Industry Demands
- Application Specific

Filtered Adapter/Pigtail

- Customer:
LaBarge/United Defense
- Platform: Bradley
- Description: EMI filtered
KJT adapter



EMP Connector

- Customer: Boeing
- Platform: Minuteman ICBM Missiles
- Description: EMP Series IV Connectors



EMP Connector

- Customer: Boeing
- Platform: Satellites
- Description: EMI filtered D-Sub Connectors



EMP Connector

- Customer: Boeing
- Platform: B-52
- Description: EMP filtered 5015 Connector



EMI/EMP Connector

- Customer: BAE Rochester, England
- Program: C130-J
- Description: EMI/EMP Filtered 38999 Connector(s)



EMI/EMP Connector

- Customer: Elettronica - Italy, and BAE - Rochester
- Program: EFA
- Description: EMI/EMP Filtered 83733 Connector(s)



EMI/EMP Connector

- Customer: BAE - Rochester, England
- Platform: EFA HUD
- Description: EMI EMP SJT Connector



EMI Connector

- Customer: Rockwell
- Platform: P-3
- Description: EMI filtered 5015 connector(s)



EMI/EMP Connector

- Customer: SAAB Avionics, Sweden
- Description: EMI/EMP Filtered SJT connector
- Platform: EFA



Customs are the Norm!!!

If the potential is worth it,

We' ll Do It!