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With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

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CONNECTORS

# Switchcraft®

ENGINEERING DESIGN GUIDE  
4th Edition



JACKS & PLUGS



JACK PANELS



PATCH CORDS & MOLDED CABLE ASSEMBLIES



SWITCHES

\* Please visit the product pages on our website for the most up-to-date product information

# Switchcraft®

## ABOUT SWITCHCRAFT, INC.

Switchcraft, Inc. was established in 1946 to manufacture jacks, plugs and switches, from its original plant located on West Diversey Street in Chicago. The company moved to a larger facility at 1328 North Halsted Street in 1948, and in 1958, the operation moved to 5555 North Elston Avenue, which is still the headquarters of the corporation.

Switchcraft is a leading supplier of a broad line of components for the audio/video, broadcast, telecommunication, computer, medical, military, appliance, transportation and instrumentation industries.

In the 185,000-square-foot Chicago facility, Switchcraft manufactures electronic and electromechanical components, including:

- Jacks
- Connectors
- Patch Panels
- Switches
- Molded Cable Assemblies
- Plugs
- Jackfields
- Patch Cords
- EAC Power Receptacles

With a basic line of over 5,000 standard products and thousands of variations, Switchcraft is proud to offer a limited lifetime warranty on all products.

Switchcraft markets products both domestically and internationally through a network of manufacturers' representatives and independent distributors.

In 1999, Switchcraft acquired the Conxall Corporation located in Villa Park, Illinois. Conxall was founded in 1971 as a manufacturer of sealed connectors for the marine industry. Today, the company offers a broad line of custom cable assemblies and connectors used in marine, industrial, sensor, communications and transportation applications. For more information contact Conxall at (630) 834-7504, or visit their website at [www.conxall.com](http://www.conxall.com).

## LIMITED LIFETIME WARRANTY

Switchcraft warrants all of its products to be of sound design, good materials and workmanship at the time of manufacture.

Switchcraft will repair or replace at its discretion any product proven to be defective under normal use.

Switchcraft's liability under the terms of this warranty is limited to the repair or replacement of defective products which have not been damaged through accident, abuse, misuse or unauthorized repair. Switchcraft shall in no case be liable for special or consequential damages of any nature.

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ABOUT SWITCHCRAFT®

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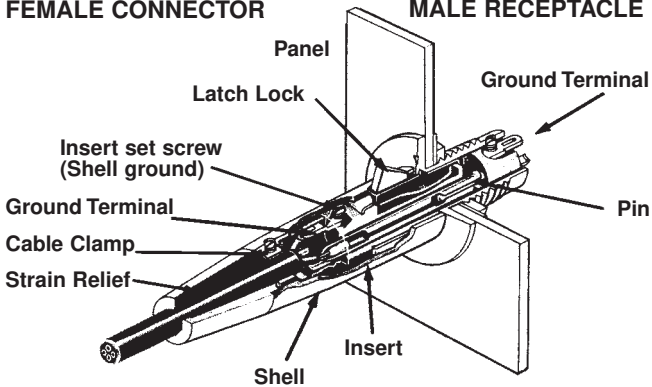
Q-G® CONNECTORS



SECTIONALIZED VIEW - A3F Plug to B3M Receptacle

FEMALE CONNECTOR

MALE RECEPTACLE



Field-proven Switchcraft Q-G® (Quick-Ground) 3- through 7-contact audio connectors with ground terminal and ground contactors are available in a wide range of plugs and receptacles for microphones, test equipment, instrumentation, computers, video cameras, mixing consoles, tape recorders, PA and sound reinforcement, stereo systems and many more applications.

Switchcraft Q-G® connectors feature a separate ground-terminal electrically integral with connector shell. Ground continuity between mating plugs is automatically accomplished through exclusive "Dual Point" grounding system. Socket and pin assemblies utilize "wedge-action" to insure firm, reliable positioning in connector shell. Inserts are easily removable for wiring and soldering. High-impact thermoplastic insures long reliable insert assembly life. Female connectors have latch lock feature to hold connectors firmly together. Plugs and receptacles are mechanically keyed for proper mating. Q-G (\*) Series 3-, 4-, 5-, 6-, and 7-pin/contact connectors offer 4-, 5-, 6-, 7-, and 8-pin contact versatility when ground-terminal is used. Switchcraft QGP connectors; are compatible with 3- and 4-contact (Neutrik, Amphenol 91-850 and Excellite 91-450 Series, and Cannon XLR-3, XLR-4); 5-contact (Neutrik, Cannon XLR-5 and Amphenol Excellite 91-450 Series).

DESIGN FEATURES

**CONSTRUCTION:** Sturdy, die-cast zinc with satin nickel finish or Black-Velvet® finish to withstand hard use – even abuse. Vel-Tone non-reflective finish on QGP connectors only.

**INSERT INSULATION:** High-impact, molded thermoplastic provides high dielectric strength, and superior insulation resistance.

**LOCKING:** Latchlock on female plugs and receptacles locks into groove in mating male connector to prevent accidental disconnect. Manual release of latchlock is required to separate connectors. Q-G connectors are also available with FAS-DISCONNECT detent in place of latchlock. QGP has die-cast latchlock.

**FAS-DISCONNECT:** FAS-DISCONNECT detent permits immediate disconnect of locked connectors with a 4-pound (1.8 kg) force. FAS-DISCONNECT connectors are not recommended for use in situations where strong or violent pulls on cable may occur and cause accidental disconnect. Available on Q-G connectors only.

**DUAL PRESSURE PLATES:** A\*F and A\*M Series provides secure cable lock and strain relief for all standard size cables.

**FLEX RELIEF:** TPR cable flex relief bushings on cord plugs are keyed to shell. Standard bushing opening accepts cables from .21" to .3" diameter Bushings with other openings accommodate cables from .105" to .205" diameter and from .3" to .328" diameter.

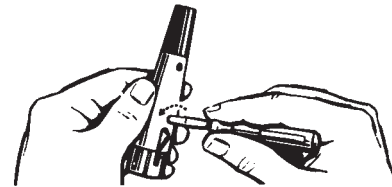
**CONTACTS:** Q-G female connectors are copper alloy, silver-plated, tarnish-resistant; male contacts are copper alloy, silver-plated, tarnish-resistant. Gold-plated female contacts are copper alloy. Male contacts are gold-plated.

**WIRING:** Large, unique design solder cups make wiring fast and easy. Certain receptacles are also available with PC terminals for use with printed circuit boards.

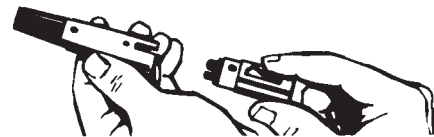
Grounding and Shielding

Tightening the insert screw establishes continuity between ground terminal, ground contactors and connector housing. Upon engagement with a mating plug or receptacle, the ground circuit is automatically connected to the mating shell through the ground contactor. Any pin or contact can be grounded by "jumping" it to the ground terminal. Contact 1 engages before all other contacts and disengages after all other contacts.

Captive Design® Insert Screws



Insert screw engages as any conventional screw, except it is lefthand threaded. To disassemble the connector, turn screw counterclockwise down into insert (see illustration).



Insert assembly is now readily removed from shell. Note "Ground Terminal" area – large soldering cups make cable installation fast and easy. Unitized 1-piece insert eliminates possible loss of latchlock and spring.



To reassemble, replace insert assembly into shell, align insert screw under hole in shell and secure insert by turning insert screw clockwise. This "wedges" insert against interior of shell providing a rigid connector assembly and positive electrical continuity between ground terminal and shell (see illustration).

DIMENSIONS ARE FOR REFERENCE ONLY Inch  
(mm)

\* Please visit the product pages on our website for the most up-to-date product information

## Q-G® CONNECTOR PART NUMBERING

Series	Number of Contacts	Gender	Options
A CORD PLUG WITH SCREW CABLE CLAMP	3-7	M MALE	D FAS-DISCONNECT (FEMALE CONNECTORS)
AA CORD PLUG WITH CRIMP CABLE CLAMP		F FEMALE	B BLACK EPOXY FINISH
AAA CORD PLUG WITH TWIST ON HANDLE			
B FRONT PANEL MOUNT USING NUT		FM BOTH (S SERIES)	ST STRAIGHT PC TAILS
C FRONT PANEL MOUNT - CIRCULAR			RA RIGHT ANGLE PC TAILS
D FRONT PANEL MOUNT - RECTANGULAR			M MOMENTARY SWITCH ACTION (T SERIES ONLY)
E MODULAR FRONT PANEL MOUNT			PC PC TERMINALS (Y SERIES ONLY)
G WALL PLATE - 1 B SERIES MALE			N KNURLED COUPLING NUT (L SERIES ONLY)
H WALL PLATE - 2 B SERIES MALES			L FLEX RELIEF FOR .250" TO .328" CABLE O.D.
J WALL PLATE - 1 D SERIES FEMALE			S SEE NOTE 1.
K WALL PLATE - 2 D SERIES FEMALE			AU GOLD CONTACTS
L MICROPHONE ADAPTER - INTERNAL THREAD			H HOUSING ONLY
M MICROPHONE ADAPTER - EXTERNAL THREAD			OPTIONS SHOWN IN ORDER OF APPEARANCE
N CAP PLUG			Z SCREWLESS STRAIN RELIEF
P GOOSENECK MOUNT			
QG CONNECTOR INSERT			
R RIGHT-ANGLE CORD PLUG			
S MALE/FEMALE BARREL ADAPTER			
T CORD PLUG WITH ON-OFF SWITCH			
W RIGHT-ANGLE PANEL MOUNT			
Y REAR PANEL MOUNT			

NOTE 1: S HAS DIFFERENT DESIGNATIONS DEPENDING ON THE SERIES.  
 FOR A, AA, AND T SERIES: SMALL FLEX RELIEF FOR .105" TO .205" CABLE OUTSIDE DIAMETER  
 FOR B, C, AND D SERIES: SANDED FRONT FACE FINISH  
 FOR G, H, J, AND K SERIES: STAINLESS STEEL WALL PLATE (STANDARD)  
 FOR N SERIES: SHORTING WIRING INSTALLED

NOTE 2: J, K AND T SERIES AVAILABLE IN FEMALE GENDER ONLY.  
 G, H, L, M, N, AND W SERIES AVAILABLE IN MALE GENDER ONLY.

## PROFESSIONAL SERIES Q-G® CONNECTOR PART NUMBERING SYSTEM

Series	Number Of Contacts	Model
PROFESSIONAL SERIES	3	22 FEMALE CORD PLUGS
QGP PROFESSIONAL SERIES CORD PLUG WITH CRIMP CABLE CLAMP		23 MALE CORD PLUGS
AQGP		62 RECTANGULAR FEMALE PANEL MOUNT
		63 RECTANGULAR MALE PANEL MOUNT

DIMENSIONS ARE FOR REFERENCE ONLY  $\frac{\text{Inch}}{\text{(mm)}}$

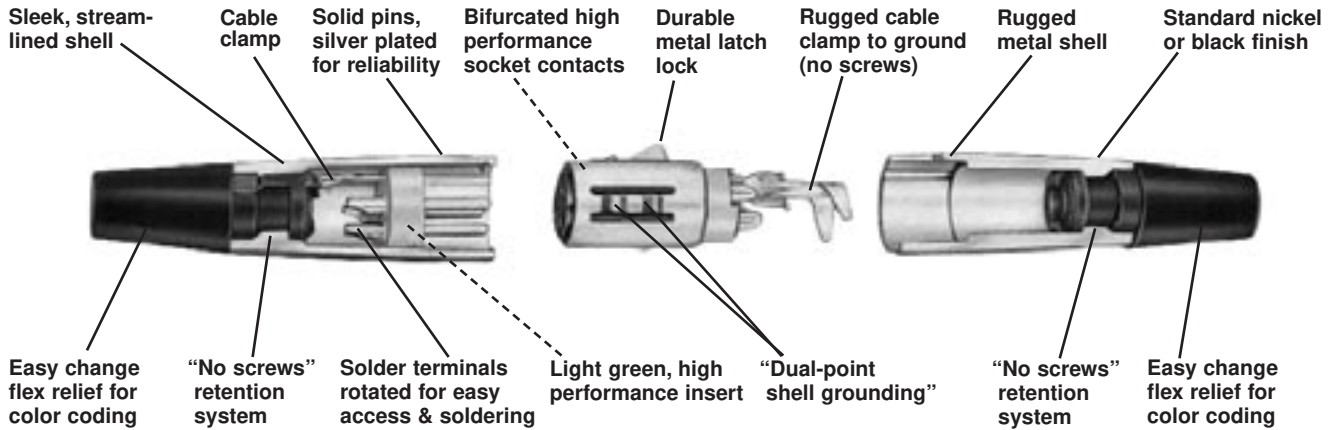


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Q-G® CORD PLUG CONNECTORS (continued)



Q-G® AUDIO CONNECTORS A, AA, AND QGP SERIES



QGP connectors (3 contacts only) feature Vel-Tone® non-reflective finish, gray TPR flex relief and plated pins/contacts for the most demanding applications.

Preferred for audio professionals the world over, Switchcraft® QG® connectors feature unsurpassed durability and a choice of finishes and contact platings. Features include:

- High performance inserts in traditional Switchcraft® green or black.
- Solder terminals rotated for easier access and soldering.
- All metal housing.

**AA Series Only**

- Rugged 1-piece cable clamp to relieve pulling and twisting stresses on terminations.
- No Screws flex relief retention system.
- Integral bump shell grounding system.

**SPECIFICATIONS**

**ELECTRICAL**

**Contact Resistance:** 50 milliohm maximum, per pole.

**Current Rating:** 3 pole – 15A, 4 pole - 10A, 5 and 6 pole – 7.5A, 7 pole – 5A @ 125VAC.

**Insulation Resistance:** 1,000 MΩ, minimum.

**Dielectric Withstanding Voltage:** 1,000 V (rms).

**Capacitance:** 2 pF between pins and 4 pF between pins and shell, maximum (AA3M and AA3F).

**MECHANICAL**

**Insertion/Withdrawal Forces:** 7 pound maximum, 5 pound nominal, insertion; 7 pound maximum, 5 pound nominal, withdrawal.

**Wire Size:** #12 wire gauge solid; #14 wire gauge stranded (3 contact). #14 wire gauge solid; #16 wire gauge stranded (4 contact). #16 wire gauge solid; #18 wire gauge stranded (5 and 6 contact). #18 wire gauge solid; #20 stranded (7 contact). (Q-G and QGP).

**MATERIAL**  
**Q-G CONNECTORS (A AND AA SERIES)**

**Shell:** Die-cast zinc. Satin nickel finish, black velvet.

**Insert Insulation:** Molded thermoplastic.

**Socket Contacts:** Silver-plated copper alloy tarnish-resistant; bifurcated on 3-contact type. Gold is available

**Pin Contacts:** Silver-plated copper alloy. Resists tarnishing, and provide excellent electrical conductivity. Gold is available.

**Latchlock:** High-strength die-cast zinc.

**Latch Release:** Steel, nickel-plated.

**Latch Detent:** Formed stainless steel.

**Insert Screw:** Stainless steel.

**Flex Relief:** TPR (thermoplastic rubber).

**QGP CONNECTORS**

**Shell:** Die-cast zinc, non-reflective gray Vel-Tone® finish.

**Socket Contacts:** Gold-plated copper alloy

**Pin Contact:** Gold-plated copper alloy



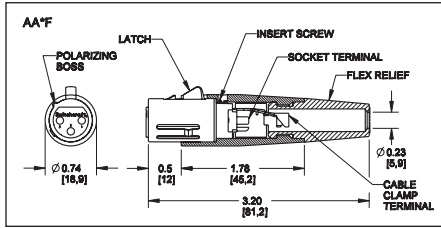
DIMENSIONS ARE FOR REFERENCE ONLY Inch  
(mm)

\* Please visit the product pages on our website for the most up-to-date product information

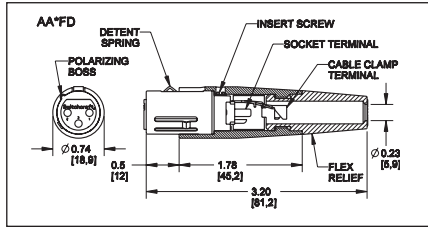
Q-G® CORD PLUG CONNECTORS (continued)



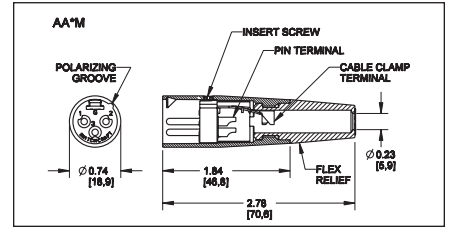
AA(\*)F CORD PLUG



AA(\*)FD CORD PLUG



AA(\*)M CORD PLUG



PART NUMBERS - FEMALE CORD PLUGS

Advanced Q-G® Cord Plugs, Series AA(*)F and AQGP						
AA3F	AA3FB	AA3FBAU	AA3FD	AA3FL	AQGP322	3
—	—	—	AA3FLD	—	—	3
AA4F	AA4FB	—	AA4FD	AA4FL	—	4
AA5F	AA5FB	—	AA5FD	AA5FL	—	5
AA6F	AA6FB	—	AA6FD	AA6FL	—	6
AA7F	AA7FB	—	AA7FD	AA7FL	—	7

◇ Available on special order only; contact Switchcraft for price and delivery.

PART NUMBERS - MALE CORD PLUGS

Advanced Q-G® Cord Plugs, Series AA(*)M and AQGP					
AA3M	AA3MB	AA3MBAU	AA3ML	AQGP323	3
AA4M	—	—	AA4ML	—	4
AA5M	AA5MB	—	AA5ML	—	5
AA6M	—	—	AA6ML	—	6
AA7M	—	—	AA7ML	—	7

All above part numbers have black flex relief installed. Contact Switchcraft for color flex relief.

A(\*)F CORD PLUG



Straight female cord plug with standard latchlock. Available in 3-7 pin versions.

A(\*)FD CORD PLUG



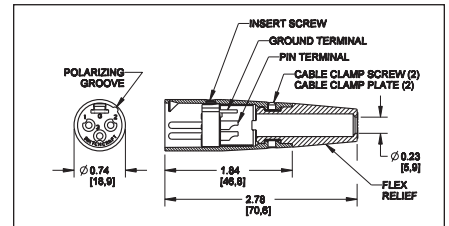
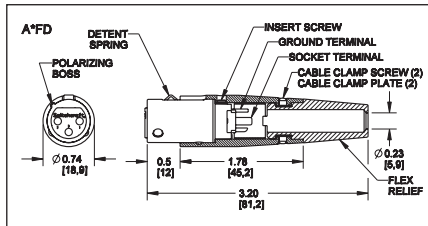
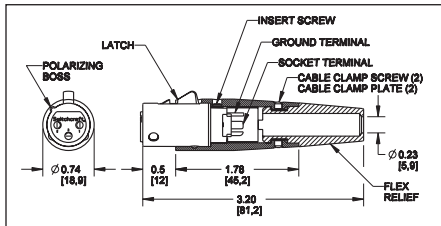
Straight female cord plug with FAS-DIS-CONNECT detent.

A(\*)M CORD PLUG



Straight male cord plug.

\*Number of insert contacts or pins must be specified to complete part number.



PART NUMBERS - FEMALE CORD PLUGS

Standard Q-G® Cord Plugs, Series A(*)F and QGP						
Satin Nickel Finish	Black Finish		Fas-Dis-Connect	Large Flex Relief <sup>2</sup>	QGP Series	Insert Contacts
	Silver <sup>1</sup>	Gold <sup>1</sup>				
A3F	A3FB	A3FBAU	AA3FD	A3FL	QGP322	3
A3FS <sup>3</sup>	—	—	—	—	—	3
A4F	A4FB	A4FBAU	AA4FD	A4FL	—	4
A5F	A5FB	A5FBAU	AA5FD	AA5FL	—	5
A6F	A6FB	A6FBAU	—	—	—	6
A7F	A7FB	A7FBAU	—	—	—	7

- Contact plating.
  - Accepts cables from .25" (6.35 mm) to .328" (8.33 mm) diameter
  - Accepts cables from .105" (2.7 mm) to .205" (5.2 mm)
- ◇ Available on special order only; contact Switchcraft for price and delivery.

PART NUMBERS - MALE CORD PLUGS

Standard Q-G® Cord Plugs, Series A(*)M and QGP					
Satin Nickel Finish	Black Finish		Large Flex Relief <sup>2</sup>	QGP Series	Insert Contacts
	Silver <sup>1</sup>	Gold <sup>1</sup>			
A3M	A3MB	A3MBAU	A3ML	QGP323	3
A3MS <sup>3</sup>	—	—	—	—	3
A4M	A4MB	A4MBAU	A4ML	—	4
A5M	A5MB	A5MBAU	AA5ML	—	5
A6M	—	A6MBAU	—	—	6
A7M	—	A7MBAU	—	—	7

All above part numbers have black flex relief installed. Contact Switchcraft for color flex relief.

◇ Available on special order only; contact Switchcraft for price and delivery.

DIMENSIONS ARE FOR REFERENCE ONLY  $\frac{\text{Inch}}{\text{(mm)}}$

FAX: 773 792-2129

\* Please visit the product pages on our website for the most up-to-date product information

## Q-G® CONNECTORS (continued)

### Q-G® COLOR FLEX RELIEFS

Rainbow color cable strain relief bushings can be specified to match or complement equipment decors or code individual or grouped connections for quick recognition. On special order, tan, pink and dark blue are available. Bushings accommodate cables from .21" to .30" diameter. Prepackaged, 25 per bag.

Part Numbers		Flex Relief Color	Flex Relief Only
3 Pins/Contacts			
Female	Male		
A3F	A3M	Black	SR00
◇A3F01	◇A3M01	Brown	SR01
◇A3F02	◇A3M02	Red	SR02
◇A3F03	◇A3M03	Orange	SR03
◇A3F04	◇A3M04	Yellow	SR04
◇A3F05	◇A3M05	Green	SR05
◇A3F06	◇A3M06	Blue	SR06
◇A3F07	◇A3M07	Violet	SR07
◇A3F08	◇A3M08	Gray	SR08
◇A3F09	◇A3M09	White	SR09

◇ Special order only; contact Switchcraft for price and delivery.

### Q-G® FLEX RELIEF

Flex relief bushing with small opening accommodates cables from .105" (2.7 mm) to .205" (5.2 mm). Standard size bushing accepts cables from .210" (5.3 mm) to .300" (7.6 mm) outside diameter. Bushing with large opening accommodates cables from .300" (7.6 mm) to .328" (8.3 mm). Larger cables are often needed for multiple-conductor instrumentation. Code letter "L" in last or second to last digit in part number indicates plug with large bushing. Code letter "S" in last or second to last digit in part number indicates plug with smaller bushing.

#### SWITCHCRAFT PART NUMBER ◇K255

Package of 100 cable clamp screws.

◇ Special order only; contact Switchcraft for price and delivery.



#### Small Cables

.105 to .205  
(2.7) (5.2)



#### Standard Cables

.210 to .300  
(5.3) (7.6)

#### Large Cables

.300 to .328  
(7.6) (8.3)

DIMENSIONS ARE FOR REFERENCE ONLY Inch  
(mm)



\* Please visit the product pages on our website for the most up-to-date product information

## AAA CONNECTORS



### AAA SERIES Q-G® TWIST CONNECTOR

Switchcraft introduces the AAA Series or Q-G® Twist XLR connectors. The Q-G® Twist Series is available in male or female cord plug, 3 through 7 pins or contacts. The unique features are the easy twist on combination handle/strain relief, and the reduced number of parts to assemble. With the insert built into the front shell, and the strain relief preloaded into the handle, the end user has only two parts to assemble – slide the handle onto the cable, solder the terminations, and twist on the handle. As the handle is tightened, the strain relief tightens around the outer jacket of the cable. A ramp on the strain relief keeps it from rotating around the cable jacket and twisting the cable. The strain relief was designed to accommodate the most popular cable sizes. A rugged die-cast metal handle insures optimum protection, and increases signal shielding. Popular options include black and gold finishes, as well as a lower cost plastic handle version.

### SPECIFICATIONS

#### ELECTRICAL

**Contact Resistance:** 50 milliohm maximum, per pole.

**Current Rating @ 125VAC:**

3 pole – 15A

4 pole – 10A

5 & 6 pole – 7.5A

7 pole – 5A

**Insulation Resistance:** 1,000 MΩ, minimum.

**Dielectric Withstanding Voltage:** 1,000 V (rms)

**Capacitance:** ≤3 pF between pins and ≤6 pF between pins and shell, maximum

#### MECHANICAL

**Insertion/Withdrawal Forces:** 10 lbs. maximum, 8 lbs. nominal / 7 lbs. maximum, 5 pounds nominal.

**Wire Size:**

**3 Contact**

#12 wire gauge solid      #14 wire gauge stranded

### FEATURES AND BENEFITS

- Only two pieces to assemble
- Easy twist on handle reduces assembly time
- Rugged die-cast metal handle
- Accepts cable OD's (.100" – .285")
- Black finish available
- Gold-plated pins/contacts available
- Lower cost plastic handle version available

### APPLICATIONS

- Audio
- Medical
- Instrumentation
- Process Controls

#### 4 Contact

#14 wire gauge solid

#16 wire gauge stranded

#### 5 & 6 Contact

#16 wire gauge solid

#18 wire gauge stranded

#### 7 Contact

#18 wire gauge solid

#20 wire gauge stranded

### MATERIAL

**Shell:** Die-Cast zinc with nickel finish or black chrome.

**Handle:** Die cast with nickel finish or black chrome.

Also black thermoplastic handle available.

**O Ring:** TPR (Thermoplastic rubber).

**Insert Insulation:** Molded thermoplastic.

**Socket Contacts:** Silver plated copper alloy tarnish resistant; bifurcated on 3 and 4 contact types. Gold is available.

**Pin Contacts:** Silver plated copper alloy. Resists tarnishing, and provides excellent electrical conductivity. Gold is available.

**Latch lock:** High strength die cast zinc.

**Strain Relief:** TPR

**Flex Relief:** TPR (Thermoplastic rubber)

### CONNECTOR PART NUMBER SCHEME

Series	Pins/Contacts	Gender	Handle Material	Housing Finish	Terminal Finish	Z
AAA	3-7 pins	F: Female	P: Plastic	B: Black	AU: Gold	New Strain Relief
	3-7 pins	M: Male	Blank: Metal	Blank: Nickel	Blank: Silver	

DIMENSIONS ARE FOR REFERENCE ONLY  $\frac{\text{Inch}}{\text{(mm)}}$

FAX: 773 792-2129

\* Please visit the product pages on our website for the most up-to-date product information

AAA CONNECTORS (continued)

CONNECTORS & RECEPTACLES Switchcraft



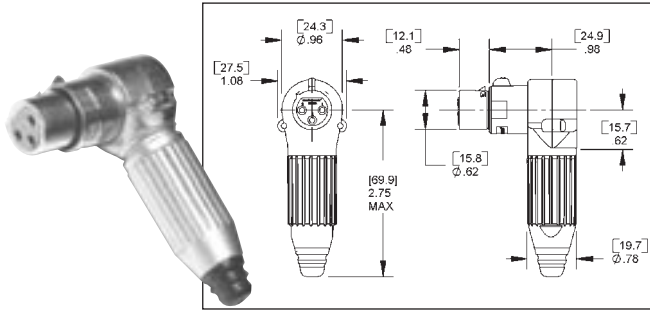
DIMENSIONS ARE FOR REFERENCE ONLY Inch  
(mm)

\* Please visit the product pages on our website for the most up-to-date product information

## Q-G® CONNECTORS (continued)

### R(\*)FZ CORD PLUG

Right angle, female cord mount plug, latching. New style incorporates an insert that can rotate every 45° for added flexibility in tight applications. Also utilizes the new strain relief system with twist-on handle.



Part Number	Insert Contacts
R3FZ	3
R4FZ	4
R5FZ	5
R6FZ	6
R7FZ	7

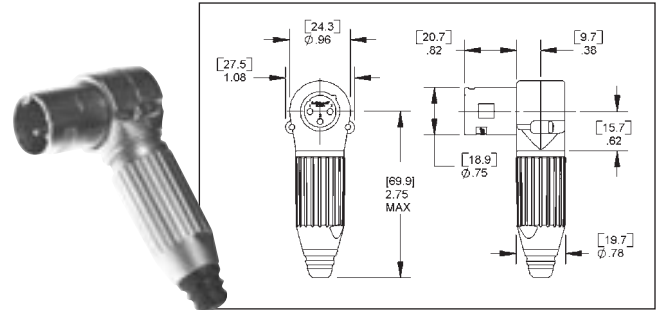
Accepts cable O.D.'s .100"-.285"

For black finish, add "B" suffix.

For black/gold finish, add "BAU" suffix.

### R(\*)MZ CORD PLUG

Right angle, male cord mount plug, latching. New style incorporates an insert that can be rotated every 45° for added flexibility in tight applications. Also utilizes the new strain relief system with twist-on handle.



Part Number	Insert Pins
R3MZ	3
R4MZ	4
R5MZ	5
R6MZ	6
R7MZ	7

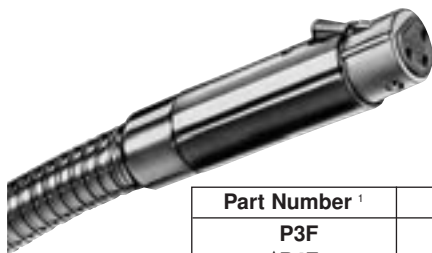
Accepts cable O.D.'s .100"-.285"

For black finish, add "B" suffix.

For black/gold finish, add "BAU" suffix.

### P(\*)F MICROPHONE PLUG

Female microphone plug for gooseneck mount. Fits standard gooseneck with external 5/8-27 thread. Microphone plugs directly into connector. (Gooseneck not supplied.)



Part Number <sup>1</sup>	Insert Contacts
P3F	3
◇P4F	4
◇P5F	5



1. Satin Nickel Finish. (standard)
  2. Large flex relief accepts cable from .25" to .328" diameter. (optional)
  3. Gold-plated contacts. (optional)
- ◇ Available on special order only; contact Switchcraft for price and delivery.

### P(\*)M GOOSENECK PLUG

Male plug for gooseneck mount. Fits standard gooseneck with internal 5/8-27 thread. Use on gooseneck with microphone plug on opposite end. Plugs directly into female receptacle. (Gooseneck not supplied.)



Part Number <sup>1</sup>	Insert Pins
P3M	3
◇P4M	4
◇P5M	5

DIMENSIONS ARE FOR REFERENCE ONLY  $\frac{\text{Inch}}{\text{(mm)}}$



\* Please visit the product pages on our website for the most up-to-date product information

Q-G® CORD PLUG CONNECTORS AND RECEPTACLES

T(\*)F AND T(\*)FM CORD PLUG WITH ON-OFF SWITCH



Part Number	Part Number	Insert Contacts
T3F	◇T3FL	3
◇T3FM	◇T3FLM	3
◇T4F	◇T4FL	4
◇T4FM	◇T4FLM	4

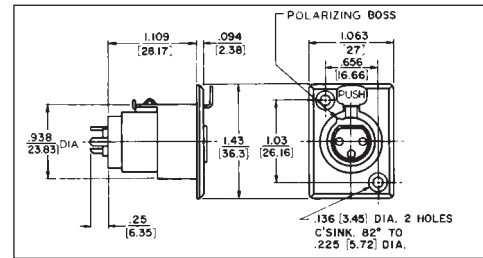
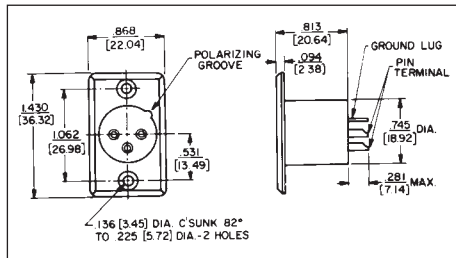
T(\*)F Straight female cord plug with DPDT (2-C) locking on-off switch; standard latchlock.

T(\*)FM Straight female cord plug with SPDT (1-C) momentary on-off switch; standard latchlock.

Slide switches rated 500 mA, 125V (AC or DC). Mounting screws are supplied.



D(\*)M, D(\*)F AND D(\*)FD RECEPTACLES



Studio quality black and gold Q-G® receptacle with black housing and gold contacts is designed for low/stable contact resistance and withstands corrosion where highest quality is required for recording and broadcast studio equipment, consoles, and other applications.

**D(\*)M SERIES** – Male receptacle for panel or chassis mounting. Special rectangular flange permits close spacing on crowded panels, has two .136" (3.45mm) diameter countersunk holes for #5-40 flat head mounting screws (not supplied). Mounts from front of panel or chassis in .766" (19.45) diameter hole. Satin nickel finish (Series D\*M) or black finish (Series D\*MB, or D\*MBAU).

**D(\*)F SERIES** – Female receptacle for panel or chassis mounting. Flange has two .136" (3.45 mm) diameter countersunk holes for #5-40 flat head mounting screws (not supplied). Mounts from front of panel or chassis in .953" (24.21 mm) diameter hole. Series D(\*)F has standard latchlock; Series D(\*)FD has FAS-DISCONNECT detent. Satin nickel finish (Series D\*F and D\*FD) and "Black-Velvet" finish (Series D\*FBAU).

Nickel Finish	Black Finish		Detent	QGP Series <sup>1</sup>	Pins
	Silver	Gold			
D3M	D3MB	D3MBAU	—	QGP363	3
D4M	D4MB	D4MBAU	—	—	4
D5M	D5MB	D5MBAU	—	—	5
D6M	D6MB	D6MBAU	—	—	6
D7M	D7MB	D7MBAU	—	—	7
D3F	D3FB	D3FBAU	D3FD	QGP362	3
D4F	D4FB	D4FBAU	◇D3FDB	—	4
D5F	D5FB	D5FBAU	—	—	5
D6F	D6FB	D6FBAU	◇D6FDB	—	6
D7F	D7FB	D7FBAU	—	—	7

\* Number of insert contact or pins must be specified to complete part number.  
◇ Available on special order only; contact Switchcraft for price and delivery.  
1 Non-reflective gray finish, gold-plated pins.

DIMENSIONS ARE FOR REFERENCE ONLY Inch  
(mm)

\* Please visit the product pages on our website for the most up-to-date product information

Q-G® RECEPTACLES (continued) 

**B(\*)F RECEPTACLE**

Panel-mount female receptacle. Mounts with spanner nut from front of panels up to .4375" (11.11 mm) thick. Slot in threaded part of housing permits non-turn mounting. Requires 1.25" (31.75 mm) diameter minimum mounting hole. Spanner nut is die-cast zinc with satin nickel finish (Series B\*F) or black finish (Series B\*FB).



Part No. <sup>1</sup>	Part No. <sup>2</sup>	Insert Contacts
B3F	B3FB	3
B4F	—	4
B5F	—	5
B6F	—	6
B7F	—	7



**B(\*)M RECEPTACLE**

Panel-mount male receptacle. Mounts with locknut from front of panels up to .250" (6.35 mm) thick. Requires .812" (20.64 mm) diameter mounting hole. For non-turning mounting, can be keyed to "D" shaped panel hole, or S3519 mounting adapter can be used. Satin nickel finish (Series B\*M) or black finish (Series B\*MB).



Part No. <sup>1</sup>	Part No. <sup>2</sup>	Insert Pins
B3M	B3MB	3
B4M	—	4
B5M	—	5
B6M	—	6
B7M	—	7



**C(\*)F RECEPTACLE**

Female receptacle for panel or chassis mounting. Flange has three .140" (3.57 mm) diameter holes for #5-40 mounting screws (not supplied). Mounts from front of panel or chassis in 0.953" (24.21 mm) diameter hole.



Part No. <sup>1</sup>	Part No. <sup>5</sup>	Insert Contacts
C3F	◇QGP326	3
C4F	—	4
C5F	—	5
C6F	—	6
C7F	—	7

◇ Special order only. Contact Switchcraft.



**C(\*)M RECEPTACLE**

Male receptacle for panel or chassis mounting. Flange has three .140" (3.57 mm) diameter holes for #5-40 mounting screws (not supplied). Mounts from front of panel or chassis in .766" (19.45 mm) diameter hole.



Part No. <sup>1</sup>	Part No. <sup>5</sup>	Insert Pins
C3M	◇QGP327	3
C4M	—	4
C5M	—	5
C6M	—	6
C7M	—	7

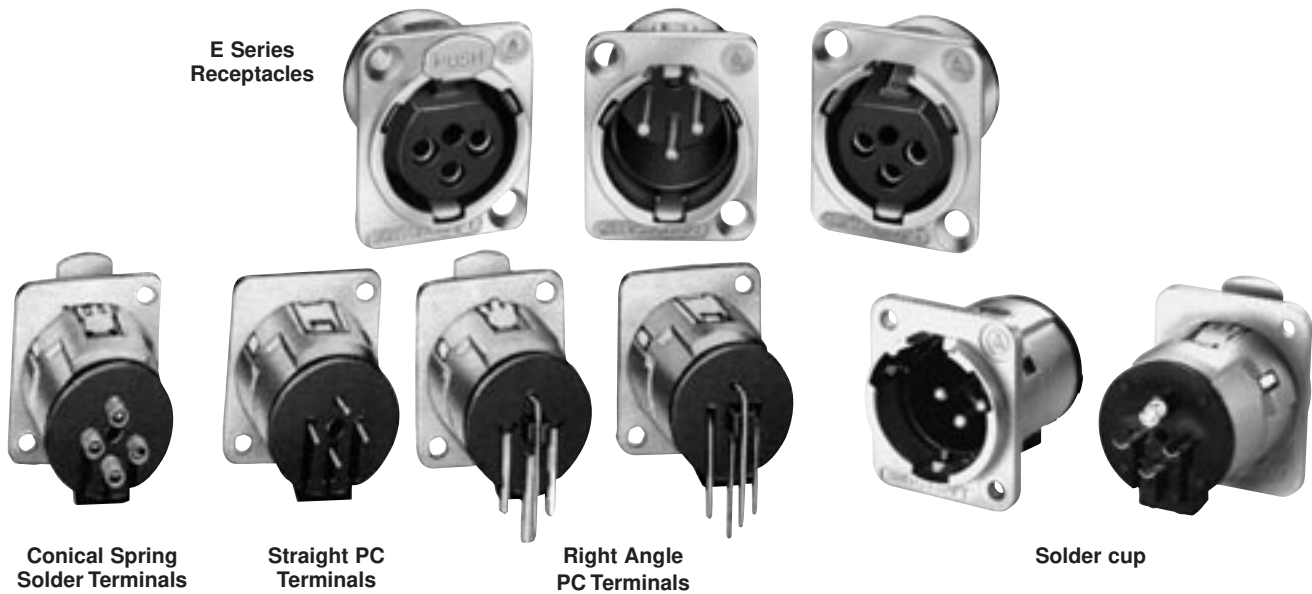


1. Satin nickel finish. (standard) 2. "Black-Velvet" finish. (optional) 3. Gold-plated contacts. (optional) 4. Fas-disconnect detent. (optional) 5. Non-reflective gray finish, gold-plated pins. (standard)

DIMENSIONS ARE FOR REFERENCE ONLY  $\frac{\text{Inch}}{\text{(mm)}}$

\* Please visit the product pages on our website for the most up-to-date product information

## E SERIES RECEPTACLES



E Series Q-G® Receptacles are available with quick release inserts. Quick insert release is accomplished by turning screw lock from front of insert. Insert can then be removed from the rear. For PC board applications, insert can be removed/assembled to the housing while soldered to the PC board.

### FEATURES

- Replaces Neutrik D Series
- 3-pin contact; male and female types
- Both male and female fit in same panel cutout
- Choice of 4 terminations; solder cups, conical springs, straight or right angle PC terminals.
- Inserts and housings can be specified separately
- Quick release inserts for ease of removal
- Locking receptacles
- Protected ground clip minimizes scooping damage
- Insert lock detent resists disassembly from shock or vibration during normal handling and transportation
- Silver and gold-plated contacts available
- Rugged metal shells; black or satin nickel finishes
- Through-the-shell ground connection and all-metal shells for greater shielding effectiveness
- Compatible with Switchcraft Q-G®, QGP and other connectors with similar configurations

### QUICK RELEASE INSERT

In two simple steps, inserts can be released while housing stays fastened to the panel.

1. With a small screwdriver, twist insert locking screw from front of insert.
2. Remove insert from the rear of the housing.

### TERMINALS

Four terminations are available on E Series receptacles:

1. **Conical Spring Solder terminals** – conical spring on each pin holds wire in place providing constant pressure during soldering process. This effectively acts as a third hand, assuring a high quality solder termination. Housing mounts to panel.
2. **Straight PC terminals** – direct termination to PC board. Housing mounts to panel.

E Series receptacles can be specified as complete assemblies, or as separate inserts and housings. Stocking separate inserts and housings offer considerable cost and time savings by minimizing inventory and maximizing configuration possibilities.

3. **Right-angle PC terminals** - direct termination to PC board at a right-angle. Housing mounts to panel.
4. **SC** - Solder cup

### SPECIFICATIONS

#### ELECTRICAL

- Contact Resistance:** 50 milliohms maximum, per pole.
- Current Rating:** 15A
- Insulation Resistance:** 2 X 10<sup>6</sup> MΩ
- Dielectric Resistance:** 1,000 V rms
- Capacitance:** 10 pF

#### MECHANICAL

- Insertion/Withdrawal Forces:** 7 pounds maximum/ 5 pounds nominal insertion; 7 pounds maximum/ 5 pounds nominal withdrawal.
- Life:** 10,000 operations (minimum).

#### ENVIRONMENTAL

- Thermal Range:** -55° C to +85° C
- Humidity:** Meets MIL-STD-202F, method 106E.
- Thermal Shock:** Meets MIL-STD-202F, method 107D.
- Salt Spray:** Meets MIL-STD-202F, method 101D.

#### MATERIAL

- Shells:** Die-cast; satin-nickel or Black Velvet.
- Inserts:** Glass-filled thermoplastic.
- Socket Contacts:** Copper alloy, silver- or gold-plated.
- Pin Contacts:** Copper alloy, silver- or gold-plated.
- Latch Release:** Steel, nickel-plated.
- Insert Locking Cam:** Die-cast zinc.

DIMENSIONS ARE FOR REFERENCE ONLY Inch  
(mm)



\* Please visit the product pages on our website for the most up-to-date product information

## E SERIES PART NUMBERING SYSTEM

## CONNECTOR PART NUMBER SCHEME

Series	Pins/ Contacts	Gender	Fas-disconnect Option	Termination Style	Housing Finish	Terminal Finish	Mounting Hole Options
E	3-5 pins	F: Female M: Male	D: Fas-disconnect Blank: Standard locking	ST: Straight PC terminals RA: Right angle PC terminals SC: Solder cups Blank: Conical springs*	B: Black Blank: Nickel	AU: Gold Blank: Silver	M3: M3 x 0.5 thread 440: #4-40 thread Blank: Counter- sunk hole

## HOUSING ONLY PART NUMBER SCHEME

Series	Pins/ Contacts	Housing Finish	Mounting Hole Options
E	F: Female M: Male	B: Black Blank: Nickel	M3: M3 x 0.5 thread 440: #4-40 thread Blank: Counter-sunk hole

## INSERT ONLY PART NUMBER SCHEME

Series	Pins/ Contacts	Gender	Fas-disconnect Option	Termination Style	Housing Finish	Terminal Finish
E	3-5 pins	F: Female M: Male	D: Fas-disconnect Blank: Standard locking	ST: Straight PC terminals RA: Right angle PC terminals SC: Solder cups Blank: Conical springs*		AU: Gold Blank: Silver

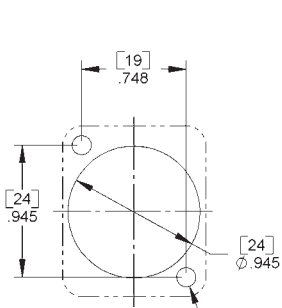
\*3-pin only

DIMENSIONS ARE FOR REFERENCE ONLY  $\frac{\text{Inch}}{(\text{mm})}$

\* Please visit the product pages on our website for the most up-to-date product information

E SERIES

CONNECTORS & RECEPTACLES SWITCHCRAFT



PANEL CUT-OUT  
FRONT OR REAR MOUNT



MALE SOLDER CUP  
OPTION "SC"



FEMALE SOLDER CUP  
OPTION "SC"

REAR MOUNT OPTIONS



MOUNTING  
HOLE TYP (2)

OPTION "M3"  
M3 x 0.5 THREADED HOLES

OPTION "440"  
#4-40 THREADED HOLES



E3M



E3F



E3MST



E3FST



E3MRA



E3FRA

DIMENSIONS ARE FOR REFERENCE ONLY  
Inch (mm)

\* Please visit the product pages on our website for the most up-to-date product information

E SERIES (continued)



MALE CONNECTOR  
GROUND TO PIN #1  
OPTION "G1"



FEMALE CONNECTOR  
GROUND TO PIN #1  
OPTION "G1"



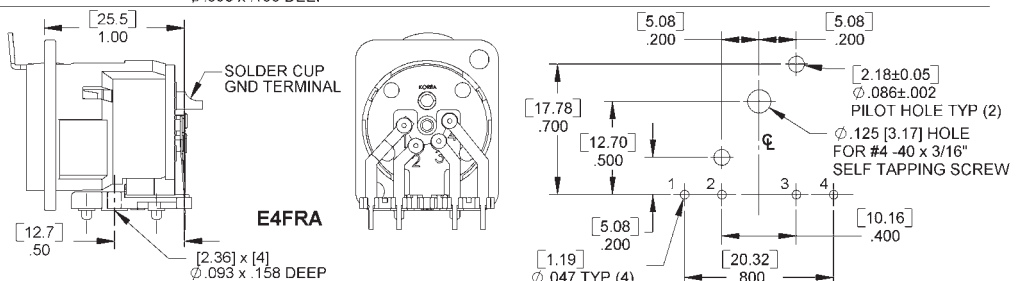
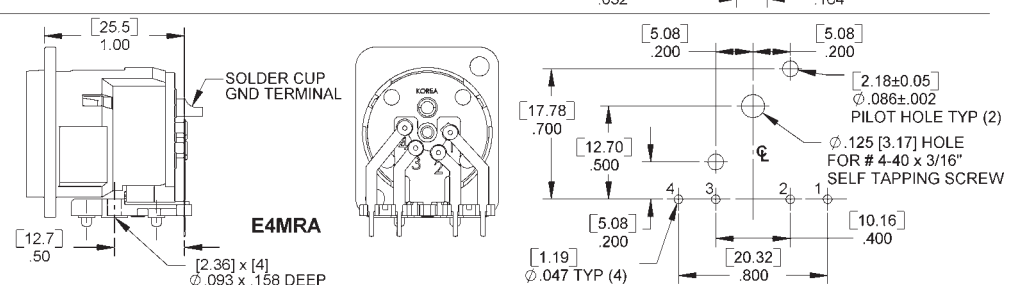
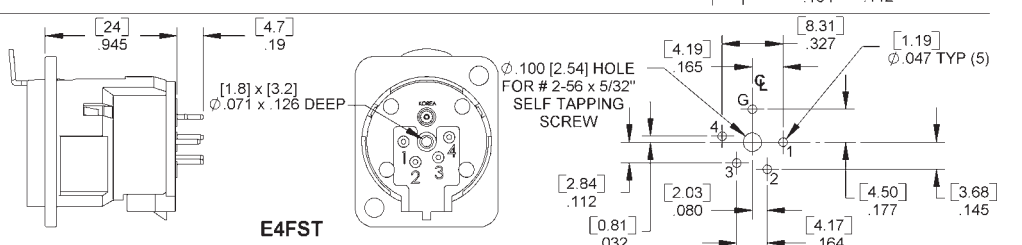
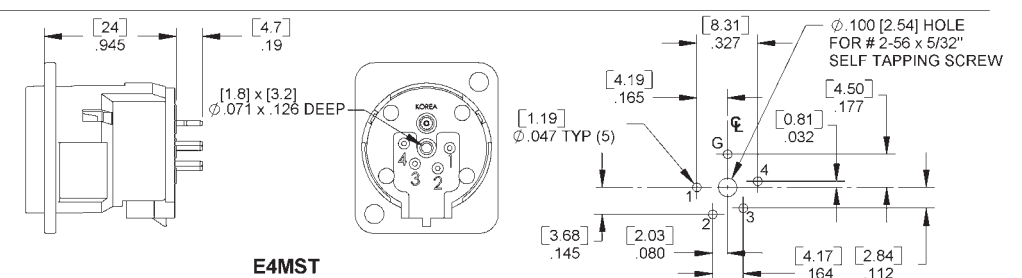
REAR MOUNT OPTIONS



MOUNTING  
HOLE TYP (2)

OPTION "M3"  
M3 x 0.5 THREADED HOLES

OPTION "440"  
#4-40 THREADED HOLES



DIMENSIONS ARE FOR REFERENCE ONLY  $\frac{\text{Inch}}{\text{(mm)}}$

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\* Please visit the product pages on our website for the most up-to-date product information

E SERIES (continued)

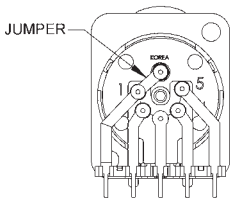
CONNECTORS & RECEPTACLES Switchcraft



MALE CONNECTOR  
GROUND TO PIN # 1  
OPTION "G1"



FEMALE CONNECTOR  
GROUND TO PIN # 1  
OPTION "G1"



REAR MOUNT OPTIONS

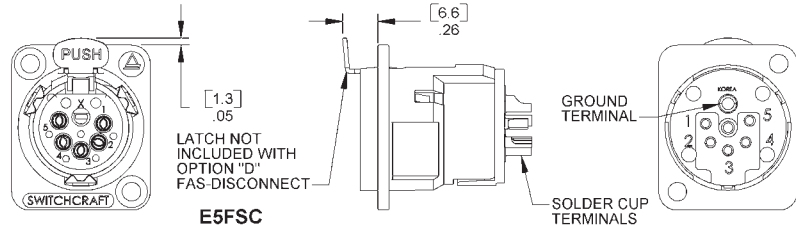


OPTION "M3"  
M3 x 0.5 THREADED HOLES

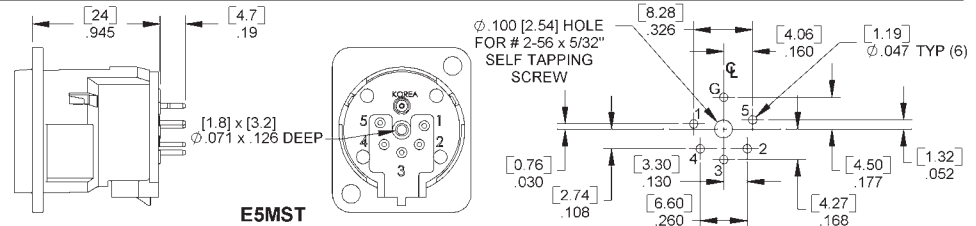
OPTION "440"  
#4-40 THREADED HOLES



E5MSC



E5FSC



E5MST



E5FST



E5MRA



E5FRA

DIMENSIONS ARE FOR REFERENCE ONLY Inch  
(mm)



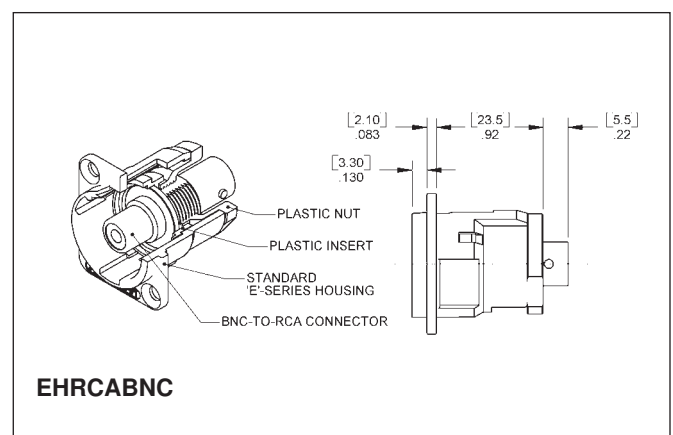
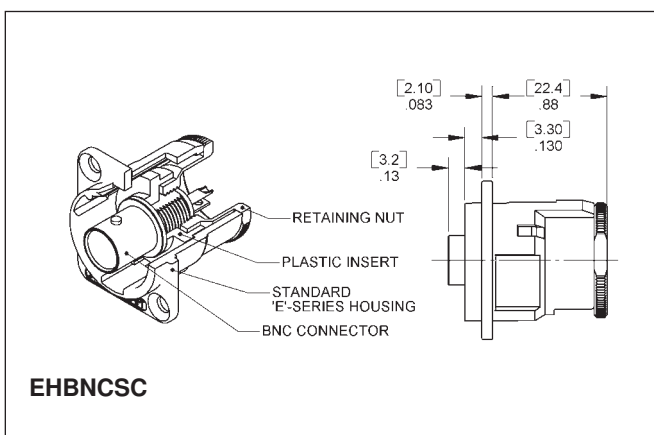
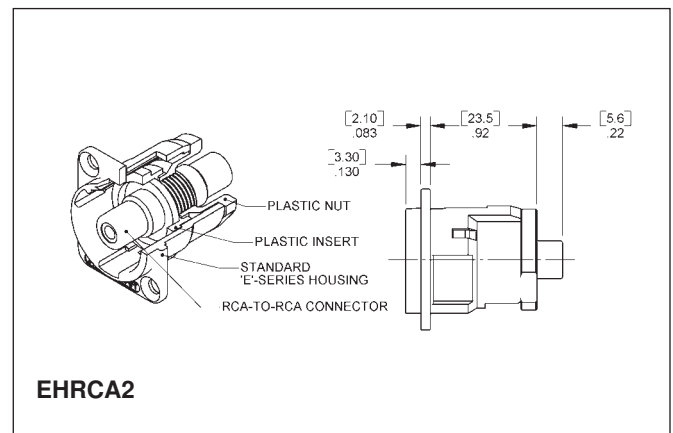
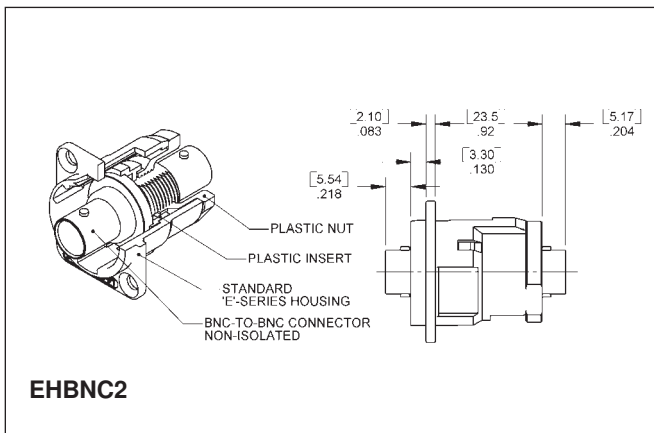
\* Please visit the product pages on our website for the most up-to-date product information

## EH SERIES RECEPTACLES

The EH Series consist of different styles of popular connectors in our E Series housing. This allows the end user to punch one single hole size and populate wall plates, gang assemblies with different types of connectors. Connector styles include BNC feed-throughs, RCA feed-throughs, USB feed-throughs, IEEE 1394 Firewire feed-throughs, BNC to solder cup, and RCA to BNC.

### FEATURES

- Utilizes same panel cut-out as E Series QG connectors
- Rugged metal shells
- Available with a wide variety of popular feed-through connectors



Part Number	Description
EHBNC2	BNC to BNC
EHBNCSC	BNC to solder cup
EHRCA2	RCA to RCA
EHRCABNC	RCA to BNC
EHUSB2	USB to USB
EH13942	IEEE1394 to IEEE1394
EHCAT62	Cat6 to Cat6

DIMENSIONS ARE FOR REFERENCE ONLY  $\frac{\text{Inch}}{(\text{mm})}$

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PQG® RECEPTACLES 



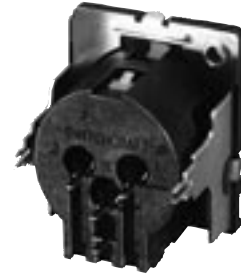
PQG3FRA112



PQG3MRA112



PQG3FST112



PQG3MST112

Q-G® 3 pin/contact PC receptacles offer economy, reliability and performance in amplifiers, audio mixing boards, and other outboard gear. Choose receptacles with just the right combination of standard and optional bonus features to tailor the PQG series to your exact needs.

**STANDARD FEATURES**

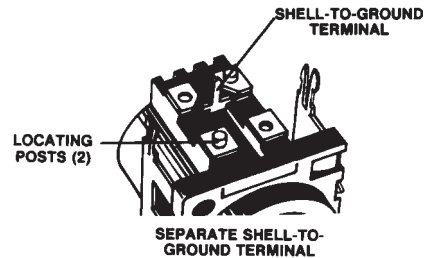
- UL 94V-0 plastic materials.
- Circuit #1 “makes” first and “breaks” last during connect/disconnect.
- Positive mechanical polarization.
- Minimum PC board space required.
- Integral PC board locating posts.
- Mating/unmating cycles in excess of 10,000.
- Mates with Switchcraft Q-G and other compatible connectors.

**OPTIONAL FEATURES**

- Positive latch lock or FasDisconnect (female only).
- Shell-to-ground terminal.
- Mounting Plates:
  - A. Backup Mounting Plate** with two, M3 x 0.5 threaded holes for faster, more rugged mounting to equipment panel/chassis.
  - B. “Tri-Mounting” Plate**...plus two bifurcated pcb retainers with snap-in terminals which perform three valuable functions:
    1. Provide ground connection from panel to PCB.
    2. Hold connector securely to PCB during wave-soldering.
    3. Add strength between panel/chassis and PCB during soldering by “wicking” solder through the PCB and up sides of retainers to assure continuity.
  - C.** Two panel grounds are integral with mounting plate.

**SPECIFICATIONS**

- Housing:** Black, glass-filled thermoplastic, UL 94V-0. Flange mounting holes are .128 inch diameter
- Socket Contacts:** Copper alloy, electroplated.
- Pin Contacts:** Copper alloy, electroplated.
- Latch Release:** Steel, nickel-plated.
- Mounting Plate:** Copper alloy.
- Shell-to-Ground Terminals:** Copper alloy, electroplated.
- Latches:** Copper alloy, nickel-plated.
- Insertion/Withdrawal Forces:** 2 pound (nominal).
- Contact Resistance:** .05 ohms per pole (maximum).
- Dielectric Withstanding Voltage:** 1,000 V rms for 1 minute.
- Insulation Resistance:** 10<sup>4</sup> MΩ @ 500 V DC.
- Current Capacity:** 10A maximum (carry only).
- Operating Temperature:** -30°F to 185°F (-34°C to 85°C).
- Mechanical Life:** 10,000 cycles @ 10 cpm.

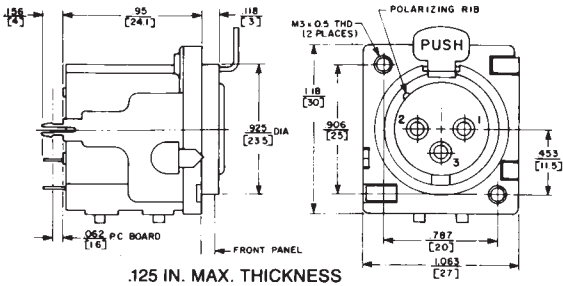


DIMENSIONS ARE FOR REFERENCE ONLY Inch  
(mm)

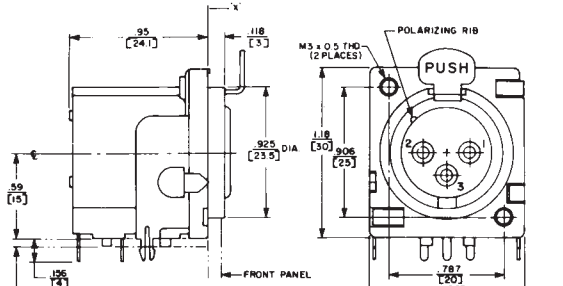
\* Please visit the product pages on our website for the most up-to-date product information

PQG® SERIES PART NUMBERING SYSTEM

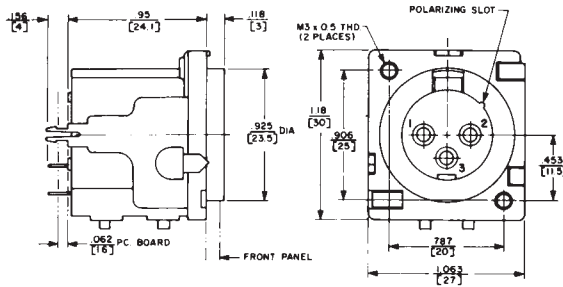
<b>P</b> <b>Q</b> <b>G</b>	<b>3</b>					
<b>SERIES PQG-</b>	<b>PINS/CONTACTS</b>	<b>GENDER</b>	<b>PC TERMINALS</b>	<b>LATCHING</b>	<b>GROUND TERMINAL</b>	<b>MOUNTING PLATE</b>
Composite QG	3	F - Female M - Male	RA - Right Angle, Bottom Exit  ST - Straight Rear Exit	0 - None 1 - Latch Lock 2 - Fas-Disconnect (female only)	0 - None 1 - Installed	0 - None 1 - Plate with two, M3 x 0.5 threaded holes 2 - Plate with two, M3 x 0.5 threaded holes, panel grounds and PCB retainers



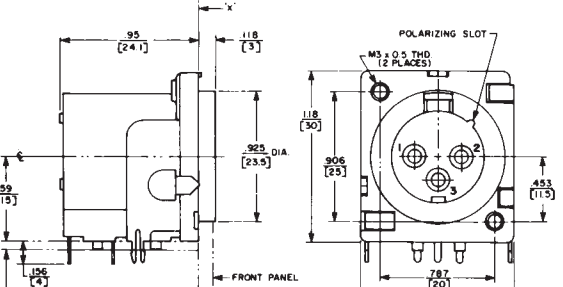
No. PQG3FSTXXX



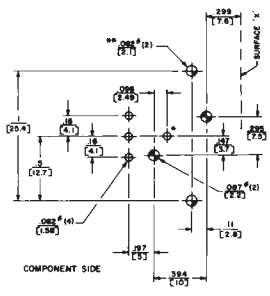
No. PQG3FRAXXX



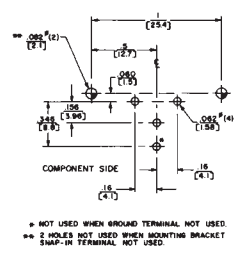
No. PQG3MSTXXX



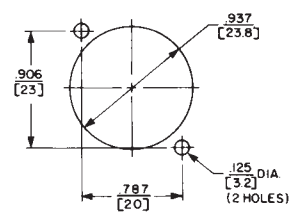
No. PQG3MRAXXX



RECOMMENDED PC BOARD LAYOUT (RIGHT ANGLE)



RECOMMENDED PC BOARD LAYOUT (STRAIGHT)



PANEL OPENING

DIMENSIONS ARE FOR REFERENCE ONLY  $\frac{\text{Inch}}{\text{(mm)}}$

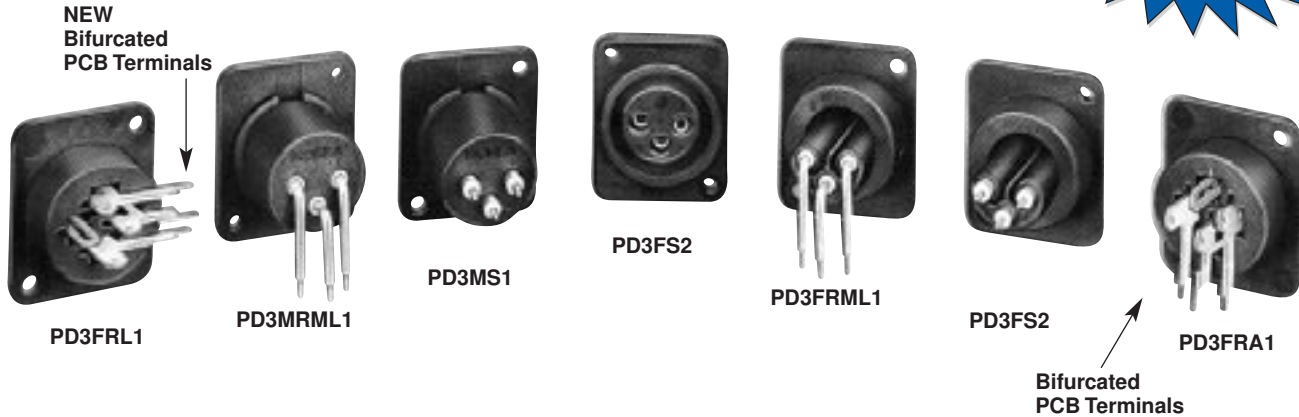
Switchcraft CONNECTORS & RECEPTACLES

\* Please visit the product pages on our website for the most up-to-date product information

Q-G® AUDIO RECEPTACLES FOR PC/PANEL MOUNT



PD SERIES - PLASTIC PANEL MOUNT



Switchcraft offers the PD Series (plastic panel mount) audio connectors with a wide variety of 3-pin/contact, male and female types and many terminals for combined PC/panel mount. Female types offer larger contact area for higher ratings and longer life. Panel mounting may be at users option, either front or rear. New PD series connectors mate with Switchcraft Q-G and other compatible types.

PD SERIES FEATURES

- 3 pins/contacts
- Male and female
- Straight and right-angle terminals
- PC or PC/panel mount
- Front or rear panel mount
- Special PC/solder terminal type with exits at 0° (down), 90° (right), 180° (top), and 270° (left)
- Rugged molded black glass-filled thermoplastic housings.

SPECIFICATIONS

- Housing:** Black molded thermoplastic, glass-filled.
- Ground Pin:** Copper alloy.
- Stamped Terminals/Contacts:** Copper alloy, electroplated.
- Screw Machine Terminals/Pins:** Copper alloy, silver-plated.

BIFURCATED PC TERMINALS

- Bifurcation configuration for PC terminals on selected connectors offers these advantages.
1. Provides convenient snap-in retention for mounting.
  2. Holds connector securely to PCB during wavesoldering.
  3. Adds strength to all terminal connections by solder "wicking" through PCB and up sides of terminals.



BIFURCATED HOLD-DOWN FEATURE FOR ALL PC TERMINALS

DIMENSIONS ARE FOR REFERENCE ONLY Inch  
(mm)



\* Please visit the product pages on our website for the most up-to-date product information

PD SERIES PART NUMBERING SYSTEM



SERIES  
PD



PINS/  
CONTACTS



GENDER  
F - Female  
M - Male



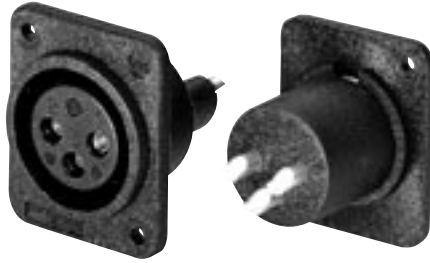
GENDER



HOUSING



TERMINALS



Note: New solder cup option shown.

FEMALE

- RA - Right-angle, Bottom Exit
- RL - Right-angle, Left exit
- RR - Right-angle, Right Exit
- RU - Right-angle, Top Exit
- RML - Right-angle, Bottom Exit, Long Screw Mach. Term.
- RMS - Right-angle, Bottom Exit, Short Screw Mach. Term.
- S - Straight, Rear Exit
- SC - Solder Cup

MALE

- RML - Right-angle, Bottom Exit, Long Screw Mach. Term.
- RMS - Right-angle, Bottom Exit, Short Screw Mach. Term.
- S - Straight, Rear Exit
- SC - Solder Cup

- 1 - Front Mount .11" (2.8 mm) diameter flange mounting holes
- 2 - Rear Mount .091" (2.3 mm) diameter flange mounting holes
- 3 - Front Mount .126" (3.2 mm) diameter flange mounting holes

Blank= Silver terminals

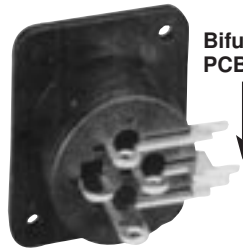
AU= Gold terminals



PD3MS1  
3-pin male, straight (rear exit)  
PC terminals.  
Front mount.



PD3MRML2  
3-pin male, right angle (bottom exit)  
long screw machine terminals. Panel mount holes not countersunk.



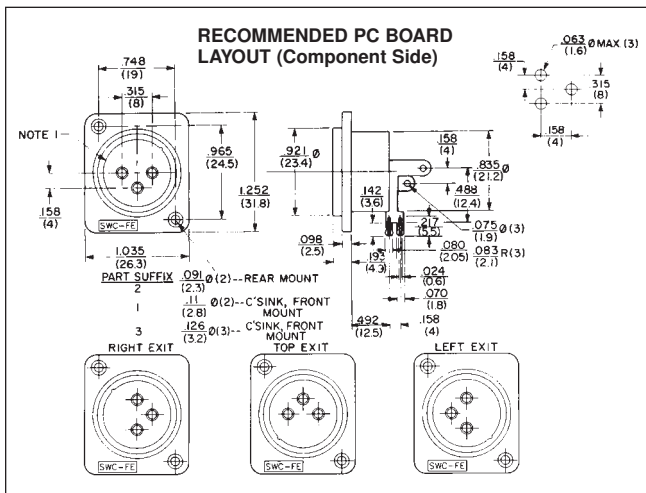
PD3FRL1  
3-contact female, right-angle (left exit)  
PC/solder terminals.  
Ground lug. Front panel mount.

Bifurcated PCB Terminals

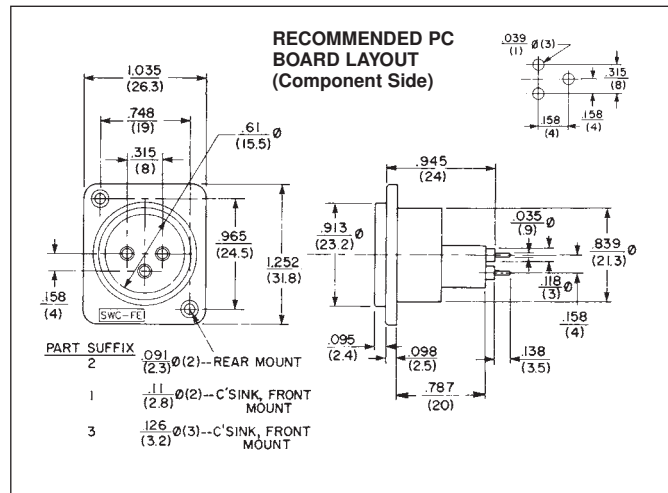


PD3FRA1  
3-contact female, right-angle (bottom exit)  
PC/solder terminals. Ground lug. Front panel mount.

Bifurcated PCB Terminals



Numbers PD3FRA1, 2, and 3; PD3FRL1, 2, and 3; PD3FRU1, 2 and 3 (Typical)



Numbers PD3FS1, 2, and 3 (Typical)

DIMENSIONS ARE FOR REFERENCE ONLY  $\frac{\text{Inch}}{\text{(mm)}}$