



Specifications for BNC Connectors

BNC style connectors are miniature, light-weight, weatherproof interconnecting devices characterized by their two-stud, quick disconnect bayonet lock coupling arrangement. Their design functions satisfactorily from DC to 11 GHz in static applications, or from DC to 4GHz in applications involving vibration. The connectors typically yield a low VSWR (reflected signal) to 4GHz. Primary applications include radio telecommunications, broadcast equipment, medical equipment, computer, Precision Video, High definition studio broadcast, video switching and test instrumentation where frequent coupling and de-coupling are necessary. Bomar's BNCs are available in an extensive variety of configurations and cable sizes and are impedance matched to either 50 ohm or 75 ohm.

MATERIALS

Connector Parts	Material	Equivalent Standard
Connector Body and Parts	Brass	ISOCuZn38Pb2 Body Part
Male Contact Pin	Brass	QQ-B-626
Commercial Grade	Zinc Alloy/Brass	-----
Outer Contact	Brass	QQ-B-750
Socket Contact	Beryllium Copper	QQ-C-530 / MIL-H-7199
-----	Phosphor Copper	CuBe2
Crimp Ferrule	Annealed Copper	QQ-C-576
Insulators, Standard Versions	Teflon	L-P403 / BS4271
-----	Delrin	Grade B
Rubber Gaskets	Silicone Rubber	ASTM-E1418PSI
Plating	Nickel (Silver Optional)	MIL-G-45204

ELECTRICAL

Requirement	Performance		Test † Specification
Impedance	50Ω	75Ω	-----
Frequency Range	0-4GHz	0-1 GHz	-----
VSWR	1.30 Max.		MIL-C-39012
RF Insertion Loss	0.2 db Min. at 3 GHz		MIL-C-39012
RF Leakage	-55 db Min. at 3 GHz		MIL-C-39012
Test Voltage (At Sea Level)	1500V rms		MIL-STD-202
Working Voltage (At Sea Level)	500V rms		MIL-STD-202
Insulation Resistance	5000 Meg ohms Min.		MIL-STD-202
Contact Resistance	3 Milli ohms Max.		MIL-C-39012

Mechanical & Environmental

Requirement	Performance	Test † Specification
Durability	500 Insertions & Extractions Min.	MIL-C-39012
Shock	50 G	MIL-STD-202
Vibration	20 G from 80-2000 Hz	MIL-STD-202
Cable Retention (Cable Types)	60 lbs. Minimum Pull Test	MIL-C-39012
Coupling Nut	60 lbs. Maximum	MIL-C-39012
Temperature Range	Teflon: -55 to +199 C	-----
	Delrin: -40 to +85 C	-----
Moisture Resistance	Continuous Test	MIL-STD-202
Salt Spray	48 Hours	MIL-STD-202

7794

†Products are made to conform to the Mil standard but are for commercial applications and are not QPL

FOR TECHNICAL SUPPORT: PHONE 973-347-4040 / FAX 973-347-2111

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3 Piece Crimp

BNC three piece crimp connectors feature semi-captive contacts that “click” into place assuring perfect installation. Each crimp pin has a vent hole for optional soldering. Soldering is recommended for all stranded conductors 26 AWG or smaller.

Part Number (Male)	“A” Dim. (I.D.)	Fig. No.	RG/U Cable
310A205A	.200 In.	Fig. 1	6, 21 AWG Center Conductor
310A205A18	.200 In.	Fig. 1	6 CATV, 18 AWG Center Conductor
310A205F	.124 In.	Fig. 1	58A/U, 58C/U Stranded, 141, Thin PVC
310A205FS	.124 In.	Fig. 1	58/U Solid Conductor
310A205FV	.125 In.	Fig. 2	58/U Thin-Net Plenum
310A205FV2	.125 In.	Fig. 2	Mini 59, RGB Cable (23 AWG)
310A205FV3	.125 In.	Fig. 2	Mini 59, RGB Cable (26 AWG)
310A204G	.150 In.	Fig. 1	59, 62, 210
310A205G20	.150 In.	Fig. 1	RG59 20 AWG Center Cond.



Fig.1



Fig.2



310A205G23	.150 In.	Fig. 1	Belden 8241
310A205MV	.125 In.	Fig. 3	174, 178, 196, Mini RGB Cable 50 Ω
310B205MV	.125 In.	Fig. 3	174, 178, 196, Mini RGB Cable 75 Ω
310A205N	.090 In.	Fig. 3	179, 187
310A205P	.125 In.	Fig. 1	223
310B205Q	.205 In.	Fig. 1	Belden 8281 True 75 Ohms
310A204T	.150 In.	Fig. 2	59, 62, Plenum
310A208W2	.103 In.	Fig.1	Mini 59, RGB Cable (26 AWG)

Fig.3



Fig.4



Fig.5

Twist-On and 2 Piece Crimp

BNC Twist-On connectors are field installable and require no tooling other than a stripping tool for the cable preparation. The center conductor is inserted into Bomar's unique Posi-Con™ contact, as the connector is twisted onto the cable's outer jacket.

BNC 2 Piece crimp connectors make use of a fully captivated pin. Just insert the center conductor into the connector body, slide the ferrule over the braid, and apply a single hex-crimp to the ferrule. These connectors are easy to install and reliable and are recommended only for the lower data transmission speeds.

Part Number	Gender	Fig. No.	RG/U Cable
310A405A	Male	Fig. 8	6, Thick net
310A405F	Male	Fig. 8	58A/U Solid Cond, 141, Thin PVC
310A405F1	Male	Fig. 8	58/U Solid Cond. -.172"- .178 "
310A405F2	Male	Fig. 8	58/U Thin Plenum - .158" - .162"
310A405F3	Male	Fig. 8	Thin Plenum .150"
310A405G	Male	Fig. 8	59, 62, 210 PVC
310A405T	Male	Fig. 8	59, 62, 210 Plenum
320A405F	Female	Fig. 8A	58 Solid (PVC)
320A405G	Female	Fig. 8A	59, 62, 210 (PVC)
310X205F	Male	Fig. 6	RG58 (PVC)
310X205G	Male	Fig. 6	RG59, 62 (PVC)



Fig.8A



Fig.8



Fig.6



Fig.7

320X205F	Female	Fig. 7	RG58 (PVC)
320X205G	Female	Fig. 7	RG59, 62 (PVC)

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BNC Connectors

Standard Clamp

BNC standard clamp style is a simplified version of the original military clamp style. It is required that the contact be soldered to the center conductor of the cable.

Part Number	Gender	Fig. No.	RG/U Cable
310A105A	Male	9	6
310A105D	Male	9	11A
310A105F	Male	9	58, 58A, 58C, 141
310A105G	Male	9	59, 62, 210
310A105M	Male	9	174, 188, 316
320A105F*	Female	10	58, 58A, 58C, 141
320A105G*	Female	10	59, 62, 214

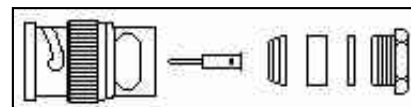


Figure 9

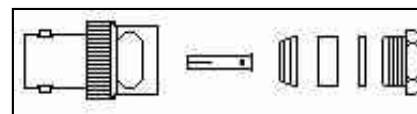


Figure 10



Specialty Broadcast Plugs

Broadcast grade BNC connectors are perfectly matched to 75 ohm impedance's. The superior plugs are for studio wiring and other broadcast uses. Solid precision machined brass, not die-cast, hold up under the toughest conditions. Here, we are showing the eight most popular but there are many more versions matched to the popular cable manufacturer's part number.



Part Number	Gender	Belden Cable
SBC1505A	Male	1505A
SBC1694A	Male	1694A
SBC1695A	Male	1695A
SBC1855A	Male	1855A
SBC7731A	Male	7731A
SBC8218	Male	8218
SBC8241	Male	8218
SBC8281	Male	8281

"See our Broadcast Catalog on -line for information on HD and many other broadcast products"

Bulkhead Jacks

Versions are available for front mounting, (F/M) rear mounting, (R/M) crimp types, bulkhead mount grounded, or bulkhead mount, isolated. (Color-coded available.) These jacks are held into the panel by a hex-nut and lock washer. All units feature nickel plated, brass bodies, and gold phosphor-bronze contacts

Part Number	Description	Fig No.	Hole ID
321A245A	R/M Crimp, RG6	13	.500
321A245F	R/M Crimp, RG58, Thin-net PVC	13	.500
321A245FV	R/M Crimp, Thin-Net Plenum	14	.500
321A245G	R/M Crimp, RG59, 62, 210	13	.500
321A245M	R/M Crimp, RG174, 188, 196, 316	14	.500
321B245M*	R/M Crimp, RG174, 188, 196, 316	14	.500
321B245N*	R/M Crimp, RG179, 187	15	.500
326A515	F/M Solder (Grounded)	16	.375
326R515	F/M Solder (Isolated) White Bushing	17	.375
326R515RD	F/M Solder (Isolated) Red Bushing	17	.375
326R515GN	F/M Solder (Isolated) Green Bushing	17	.375

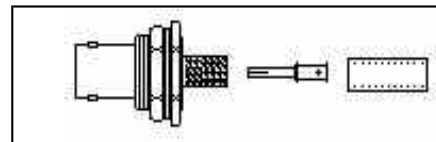


Figure 13

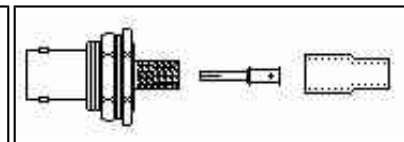


Figure 14

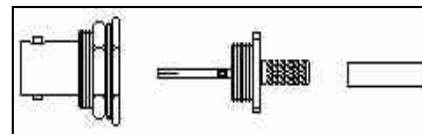


Figure 15

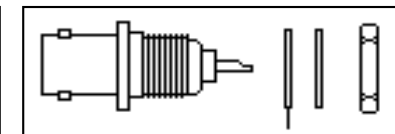


Figure 16

326R515BL	F/M Solder (Isolated) Blue Bushing	17	.375
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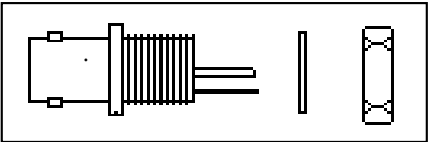


Fig. 17

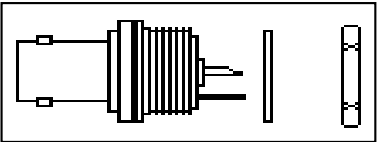


Fig. 18



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Panel Jacks and Plugs

BNC panel plugs and jacks are of machined brass construction for maximum reliability and quality. All contacts are plated with a minimum of five micro-inches of gold. The square panel types mount on .500 inch centers. The bulkhead type mounts into a .380 "D" shaped panel hole. All connector bodies are bright-nickel plated.

Part Number	Description	Notations	Fig. No.
316A524C	Male Bulkhead Panel Mount	.380" Mtg. Hole	19
317A507	Male Panel Mount	.500 Mtg. Hole Centers	20
321A205F	Female Panel Mount, Crimp	Fits RG58/U Cables	21
321A205G	Female Panel Mount, Crimp	Fits RG59, 62, 210 Cables	21
321A205M	Female Panel Mount, Crimp	Fits RG174, 178, 196	21
327A507	Female Panel Mount, Solder	.500 Mtg. Hole Centers	22

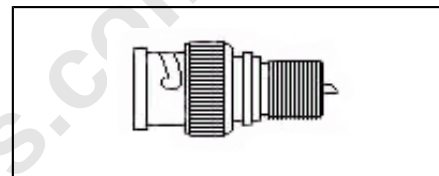


Figure 19

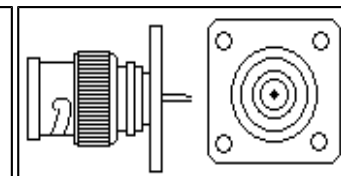


Figure 20

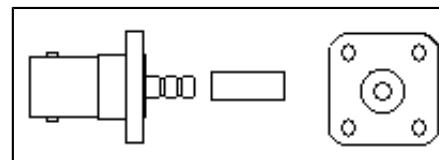


Figure 21

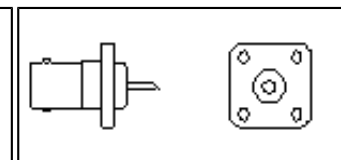


Figure 22

PC Board Vertical Jacks

BNC vertical mount jacks are available in straight PC mounts and "through-panel" styles. The "through-panel", 364 Series, is made in both isolated and grounded versions and are ideal for applications where multiple insertions will require a connector which can endure the stress of higher torque.

Part Number	Body Plating or Material	Description	Insul. Mat.	Con. Plating	"L" Dim	Fig. No.
361A514*	Nickel / Brass	Straight PC Mount 50Ω	Teflon	Gold	.717	26
361A505*	Nickel / Brass	Straight PC Mount 50 Ω	Delrin	Gold	.914	27
361A534*	Nickel / Brass	3 Post PC Mount 50 Ω	Delrin	Gold	.788	27A
361A505APF	Nickel/Zinc	4 Post W/ Press Fit Center Pin 50Ω	Delrin	Gold	.925	27B
361A705APF	Nickel/Zinc	4 Post W/ Press Fit Center Pin 75Ω	Delrin	Gold	.925	27B
364S595	White Valox	PC Mount, Thru-Panel, 50 Ω	Delrin	Gold	1.36	23
364S595B	Black Valox	PC Mount, Thru-Panel, 50 Ω	Delrin	Gold	1.36	24
364S599	White Valox	PC Mount, Thru-Panel, 50 Ω	Delrin	Tin	1.36	23
364S595M	Nickel/Zinc	PC Mount, Thru-Panel, 50 Ω	Delrin	Gold	1.36	25
364S599M	Nickel/Zinc	PC Mount, Thru-Panel, 50 Ω	Delrin	Tin	1.36	25
364S795*	White Valox	PC Mount, Thru-Panel, 75 Ω	Delrin	Gold	1.36	23



Fig. 23



Fig. 24



Fig. 25

364S795B*	Black Valox	PC Mount, Thru-Panel, 75 Ω	Delrin	Gold	1.36	24
364S795M*	Nickel/Zinc	PC Mount, Thru-Panel, 75 Ω	Delrin	Gold	1.3	25

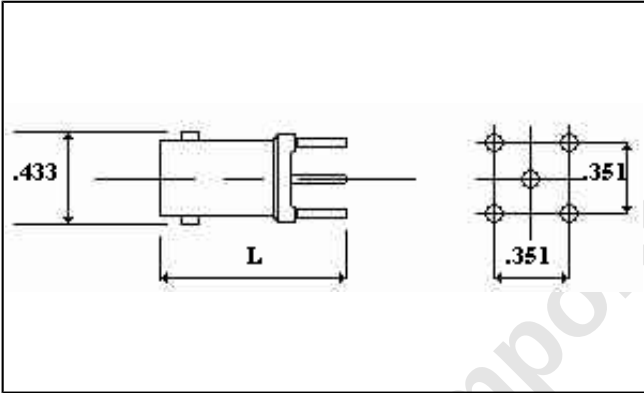


Fig. 26



The press-fit center pin locks the connector into the PC board so it is held firmly for reflow or wave soldering.

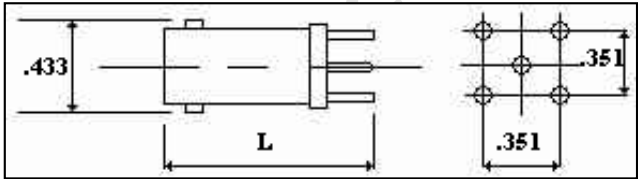


Fig. 27B

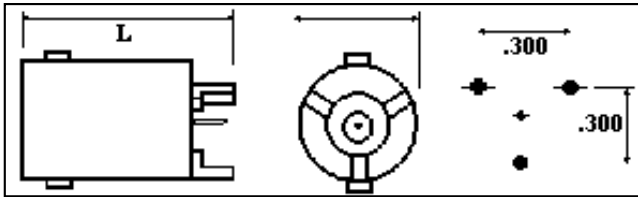


Fig. 27A

* Denotes that items are not popular and may require a special minimum quantity requirement.

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BNC Connectors

PC Board Right Angle Jacks

These BNC jacks are manufactured to the highest standards to assure stability in maintaining impedance matching at 50 ohm and 75 ohm applications. The 50 ohm versions have been approved by most of the U.S. manufacturers of LAN cards, and the 75 ohm is in wide use in High Definition Video applications which require the use of a True 75 ohm connector. Contacts are phosphor bronze and will remain resilient even after hundreds of insertions.



28



Fig. 29



Fig. 30



Fig. 31



32



Fig. 33

Part Number	Body Material	Description	Height F. M.S.	Contact Plating	Fig. No.
364M095 (50Ω)	Nickel/Zinc	4 Post Low Profile, Metal	.453	Gold	38
364M0975 (50Ω)	Nickel /Zinc	4 Post Low Profile, Metal	.453	Gold	38
364A595	White Valox	Standard Profile W/ Posts	.610	Gold	28
364A595NP*	White Valox	Standard Profile WO Posts	.610	Gold	35
364A595B	Black Valox	Standard Profile W/ Posts	.610	Gold	30
364A595BNP*	Black Valox	Standard Profile WO Posts	.610	Gold	35
364A595BL	White Valox	Lo Profile W/ Posts	.515	Gold	29
364A595BLNP*	White Valox	Lo-Profile W/O Posts	.515	Gold	34
364A595BLB	Black Valox	Lo-Profile W/ Posts	.515	Gold	31
364A595BLBNP*	Black Valox	Lo-Profile W/O Posts	.515	Gold	34
364M595	Nickel /Zinc	Standard Profile W/ Posts	.620	Gold	32
364M595M	Nickel /Zinc	Super Lo-Profile W/ Clips	.340	Gold	35A
364M595L	Nickel / Zinc	Lo-Profile W/ Posts	.529	Gold	33
364A595NP	White Valox	Standard Profile WO Posts	.610	Gold	35
364A595BNP*	Black Valox	Standard Profile WO Posts	.610	Gold	35
364A595BLNP*	White Valox	Lo-Profile W/O Posts	.515	Gold	-
364A595BLBNP*	Black Valox	Lo-Profile W/O Posts	.515	Gold	34
364A795 (75Ω)	White Valox	Standard Profile W/ Posts	.610	Gold	28
364A795B (75Ω)	Black Valox	Standard Profile W/ Posts	.610	Gold	30



Fig.

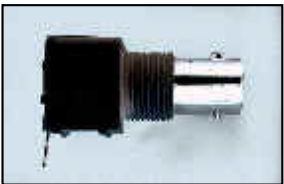


Fig. 35

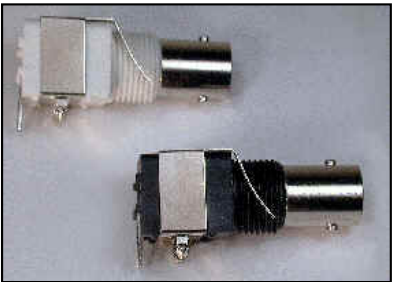


Fig. 36 (top)

Fig. 37

364A795BL(75Ω)	White Valox	Lo-Profile W/ Posts	.515	Gold	29
364A795BLB(75Ω)	Black Valox	Lo-Profile W/ Posts	.515	Gold	31
364M795 (75Ω)	Metal	Standard Profile W/ Posts	.620	Gold	32
364M795L (75Ω)	Metal	Lo-Profile W/ Posts	.529	Gold	33
364F595BL	White Valox	9400pF 500V Decoupled	.515	Gold	36
364F595BLB	Black Valox	9400 pF 500V Decoupled	.515	Gold	37
364H595BL	White Valox	9400 pF 1500V Decoupled	.515	Gold	36
364H595BLB	Black Valox	9400 pF 1500V Decoupled	.515	Gold	37
364NT	Zinc/Brass	Jam Nut (364 Series)	----	----	36N
364LW	Zinc/ Steel	Lock Washer (364Series)	----	----	37N
364 KNT	Brass/Nickel	Knurled Nut (364 Series)	----	----	38N

Board Clips Are Available In Place of Posts. Add Suffix “C”



Spear-point clips lock snugly into the board.

Hardware

Note: Mounting hardware is optional and must be ordered separately. Hardware is not sold without the connectors.

Fig. 36N

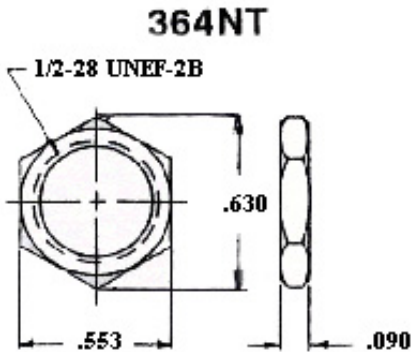


Fig. 37N

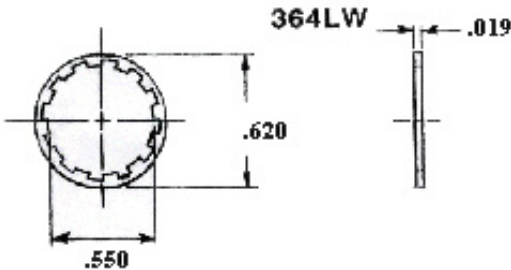
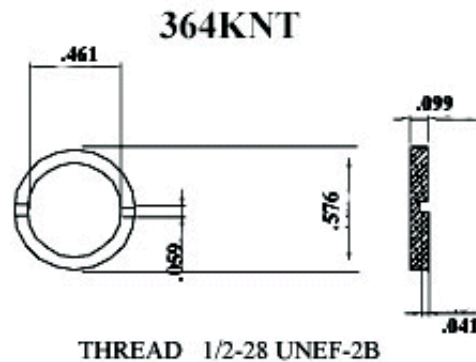


Fig. 38N



* Denotes that items are not popular and may require a special minimum order quantity.

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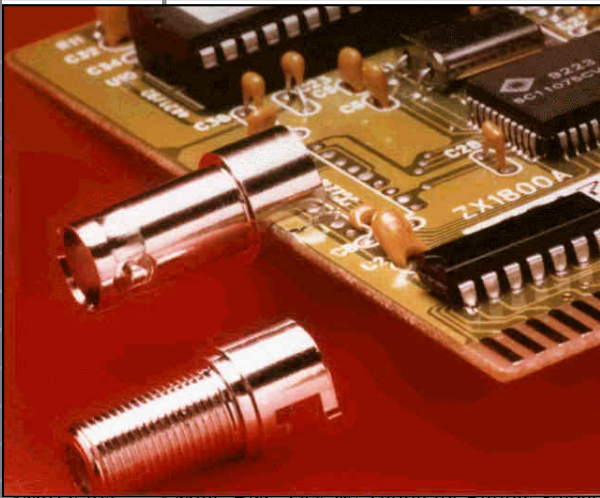
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V-Bite ® PC Edge Mount

The **V-Bite** ® is an industry award winning design PCB connector with all the advantages a designer could want. It edge mounts to the board which offers the lowest profile and utilizes very little PCB real estate. It lends itself to surface mount and through-hole soldering techniques. There are versions for IR and convection reflow soldering. Because the connector locks into place both above and below the PCB it disperses rotational torque relief to the board and not the solder points. The **V-Bite** ® design offers the lowest VSWR ratings due to the straight through-put contact design. No right angles for reflection. Available in 50 and 75 ohm, threaded and non-threaded. Other options for PCB thickness available. Other interfaces available.(See “F”, BNC Twin and TNC sections.)



SM01V704 Mini-BNC Jack w/ Teflon for Reflow Solder
Low Profile .270 High FMS
(See Index V-Bite for F Type)

Anti-Rotational

VSWR 1.15:1

Patented V-Bite® Snaps Into PCB

Surface Mount Center Contact

Pick & Place Version Available

	Imp	Contact	Fig. No.
	50Ω	Phos./Gold	39A
Solder	50Ω	Phos./Gold	39
	50Ω	Phos./Tin	39A
Cr	50Ω	Phos./Tin	39
Cr /Flange	50Ω	Phos./Tin	39B
	75Ω	Phos./Gold	39A
Solder	75Ω	Phos./Gold	39
Flange	75Ω	Phos./Gold	39B
	75Ω	Phos./Gold	39A
Cr	75Ω	Phos./Gold	39
	NA	---	---
	75Ω	Phos./Gold	---



Fig. 39

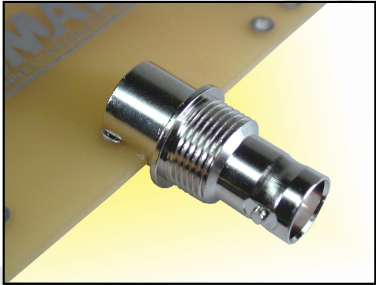
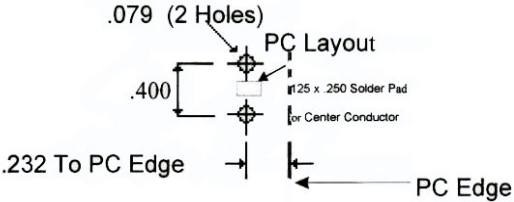


Fig. 39B



Reduced Size PCB Right Angle Mount

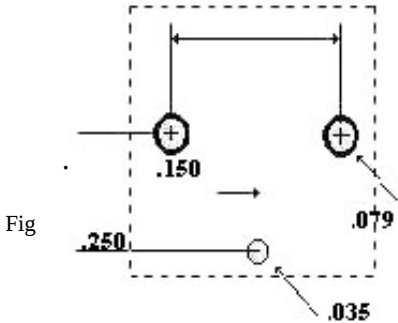
The Super Low™ Profile BNC PC jack reduces the amount of board space needed to mount a PC jack. Board clips hold the unit in place for soldering. The smallest, lowest profile right angle BNC jack available.

The Lo-Deco™ features a four post design that offers greater stability after wave soldering. Also featured is a gold plated contact and nickel plated cast zinc body. Smooth, sleek and aesthetically pleasing design is tumbled to remove casting lines.

Part Number	Description	Imp.	Contact	Fig. No.
364M595M	BNC Super Low Profile Jack	50Ω	Phos./Gold	35A
364M795M	BNC Super Low Profile Jack	75Ω	Phos./Gold	35A
364M095	BNC Lo-Deco Jack	50Ω	Phos./Gold	38
364M0975	BNC Lo-Deco Jack	75Ω	Phos./Gold	38



35A



Fig

PC Layout for Super Low Profile



Fig. 38

*Denotes that items are not popular and may require a special minimum order quantity.

BNC Connectors

Dual PC Jacks (Threaded)

Right Angle or Vertical Stacked: When board space becomes a serious issue and you still need the robust, full size, BNC connectors, a dual stacked right angle or vertical version will do the trick. Assembly insertion time is cut in half as well. The Dual 364 series is available in both Valox isolated and all metal construction.

(shown with closed back option FS)



Fig. 38A



Fig. 38B

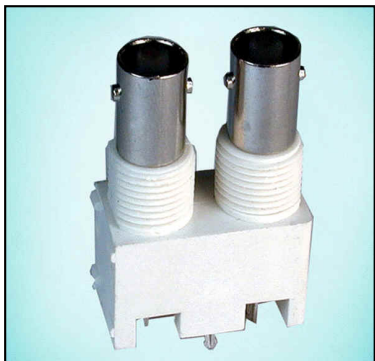


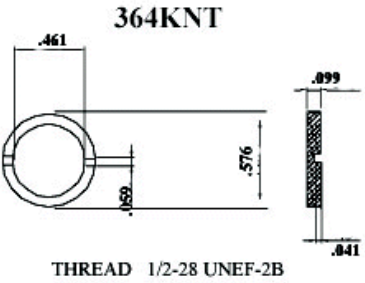
Fig. 40D



Fig. 38D

	Right Angle			
Part Number	Description	Imp.	Contact	Fig.No.
364A2595	Dual Right Angle, White Valox	50Ω	Phos./Gold	38A
364A2795	Dual Right Angle, White Valox	75Ω	Phos./Gold	38A
364A2595B	Dual Right Angle, Black Valox	50Ω	Phos./Gold	38A
364A2795B	Dual Right Angle, Black Valox	75Ω	Phos./Gold	38A
364M2595	Dual Right Angle, Metal	50Ω	Phos./Gold	38B
364M2795	Dual Right Angle, Metal	75Ω	Phos./Gold	38B
3M64M2795	Dual Right Angle, Metal Mini-BNC	75Ω	Phos-Gold	38D
364KNT	Knurled Nut for Dual BNC	N/A	Brass/Nickel	
BD36400	Hex Shafted Tool for Knurled Nut	N/A		
	Vertical			
Part Number	Description	Imp.	Contact	Fig.No.
364S2595	Dual Vertical, White Valox	50Ω	Phos./Gold	40D
364S2795	Dual Vertical, White Valox	75Ω	Phos./Gold	40D
364S2595B	Dual Vertical, Black Valox	50Ω	Phos./Gold	40D
364S2795B	Dual Vertical, Black Valox	75Ω	Phos./Gold	40D
364S2595M	Dual Vertical, Metal	50Ω	Phos./Gold	----
364S2795M	Dual Vertical, Metal	75Ω	Phos./Gold	----
	Hardware is optional and must be ordered separately			

Multi-Port PC Jacks (Non-Threaded)



Side By Side: These right angle units are available in dual or quad configurations. These units are not threaded for panel installation using a jam nut. Up one fourth the installation time.

Part Number	Description	Imp.	Contact	Fig. No.
365A2595	Dual Right Angle, Side By Side White Valox	50Ω	Phos./Gold	38B
365A2795	Dual Right Angle, Side By Side White Valox	75Ω	Phos./Gold	38B
365A2595B	Dual Right Angle, Side By Side Black Valox	50Ω	Phos./Gold	38B
365A2795B	Dual Right Angle, Side By Side Black Valox	75Ω	Phos./Gold	38B
365A4595	Quad Right Angle, Side By Side White Valox	50Ω	Phos./Gold	38C
365A4795	Quad Right Angle, ,Side By Side White Valox	75Ω	Phos./Gold.	38C
365A4595B	Quad Right Angle, Side By Side Black Valox	50Ω	Phos./Gold	38C
365A4795B	Quad Right Angle, ,Side By Side Black Valox	75Ω	Phos./Gold	38C

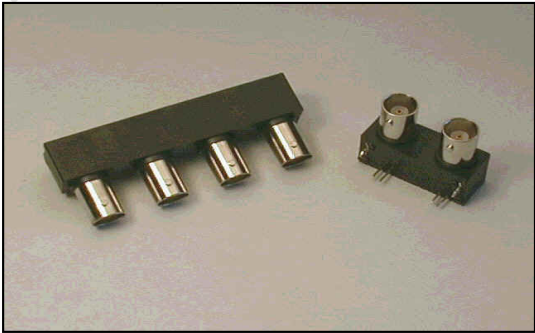


Fig.38B

Fig38C