1.0/2.3 Connectors



General Description

Delta 1.0 / 2.3 series jacks are compact, high-performance connectors that mate with all five standard types of 50 ohm 1.0 / 2.3 series plugs.

Designed to meet all applicable CECC and DIN requirements, they offer good electrical performance up to 10 GHz.

These connectors are ideal for use in rack-and-panel applications with appropriate slide-on mating plugs.

Current configurations include direct-solder bulkhead jacks for semi-rigid cable, along with two- and four-hole flange panel jacks with post contacts. New types are being added to our product line, so please call with your requirements for other 1.0 / 2.3 configurations.

1.0/2.3 Configurations

Straight P.C. Board Jack Receptacle	1
Panel Jack Receptacles	2
Bulkhead Cable Jacks	2

1.0/2.3 Specifications*



**Some proportions altered to illustrate detail. Dimensions in mm.

Electrical:

Nominal Impedance: 50 ohms. Frequency Range: DC–10 GHz. Voltage Rating: 250 volts RMS (dependent on cable). Dielectric Withstanding Voltage : 750 volts RMS. Insulation Resistance: 1,000 megohms.

Materials/Finishes:

Insulators: Teflon per ASTM D1710. Female Contacts: Beryllium Copper per ASTM B196. Contact Plating : Gold per MIL-DTL-45204. Gaskets: Silicone rubber per ZZ-R-765, Class II, Grade 50. Other Metal Parts: Brass per ASTM B16, gold plated per MIL-DTL-45204.

All other specifications are in accordance with the latest issues of CECC 22 230, DIN 41626, or DIN 47297, or other applicable specifications, and interfaces are in accordance with IEC 169-29.

*These specifications are typical and may not apply to all connectors. Detailed specifications for individual connectors are available on request.

Printed-Circuit Board Jack Receptacle



Figure 1 (Straight through-hole mount)

Figuro	Dimensions		Max. Mounting		Plat	ing	Dolto D/N
Figure	А	В	Board	Figure	Body	Contact	Della P/N
1	.433	.138	.100	PCB06	Gold	Gold (C)	4267000G91P-001

• See page 208 for mounting figures. • (C) in contact plating column indicates captive contact.

1.0/2.3 Connectors



Panel Jack Receptacles - Post Contact



Figure 1 (1/2" square flange)





Figuro		Dimensions		Pla	ting	Dalta D/N	
Figure	А	В	С	Body	Contact	Della P/N	
1	.705	.590	.115	Gold	Gold (C)	4258000G051-000	
1	.250	.150	.100	Gold	Gold (C)	4258000G051-010	
2	.705	.590	.115	Gold	Gold (C)	4258000G921-002	
2	.250	.150	.100	Gold	Gold (C)	4258000G921-003	

Bulkhead Jacks - Direct Solder For Semi-Rigid Cable





Cable	Dimensions		Mounting	Pla	ting		
Group	А	В	С	Figure	Body	Contact	Delta P/N
13	.184	.145	.125	67	Gold	Gold	4217031G673-000
14	.120	.088	.125	67	Gold	Gold	4217025G673-000

Assembly Procedure

- 1) Trim cable as shown. Remove any burrs from jacket and center conductor. Tin center conductor.
- 2) Solder contact to center conductor, with end of contact flush with cable dielectric.
- Remove any excess solder from outside of contact.
- 3) Insert cable into body until end of cable jacket stops against internal shoulder. Solder cable jacket to body.



-.080

-.120

Receptacles also available with other contact / insulator configurations. See page 208 for mounting figures.

• (C) in contact plating column indicates captive contact. See page 209 for cable groups.





- 1) Trim cable jacket to dimension A. Slide backnut, washer, V-gasket, and braid clamp onto cable as shown. Cable jacket should bottom on step in braid clamp.
- 2) Comb braid wires out straight and fold back over front shoulder of braid clamp (braid wires should not overlap one another after folding). Trim braid wires flush with step of braid clamp. Trim cable dielectric and center conductor to dimensions B and C.
- 3) If support insulator is provided for RG-62 or 71 cable, insert into hollow in dielectric. Assemble rear bushing or washer (if supplied), rear insulator (if captive contact) and contact, and solder contact to center conductor. Rear of contact should be flush with cable dielectric end. For right angle connectors with access cap, omit this step entirely.
- 4) Insert prepared cable and hardware into body and tighten backnut. For right angle connectors with access cap, solder center conductor into slot in contact and tighten access cap.











Code	А	В	С
A/01	.375 (3/8)	.047 (3/64)	.203 (13/64)
A/02	.375 (3/8)	.109 (7/64)	.203 (13/64)
A/03	.438 (7/16)	.250 (1/4)	.188 (3/16)
A/04	.281 (9/32)	.047 (3/64)	.125 (1/8)
A/05	.313 (5/16)	.125 (1/8)	.109 (7/64)
A/06	.594 (19/32)	.391 (25/64)	.156 (5/32)
A/07	.375 (3/8)	.047 (3/64)	.125 (1/8)
A/08	.281 (9/32)	.109 (7/64)	.094 (3/32)
A/09	.344 (11/32)	.109 (7/64)	.094 (3/32)
A/10	.406 (13/32)	.109 (7/64)	.203 (13/64)
A/11	.500 (1/2)	.281 (9/32)	.156 (5/32)
A/12	.343	.040	.219
A/13	.375 (3/8)	.125 (1/8)	.156 (5/32)
A/14	.355	.090	.188 (3/16)
A/15	.425	.094 (3/32)	.259
A/16	.328 (21/64)	.094 (3/32)	.188 (3/16)
A/17	.375 (3/8)	.109 (7/64)	.125 (1/8)
A/18	.375 (3/8)	.062 (1/16)	.172 (11/64)
A/19	.375 (3/8)	.188 (3/16)	.094 (3/32)

Trim Codes For Assembly Procedure A



Assembly Procedure B

1) Trim cable per chart. Slide crimp sleeve back onto cable.



2) If support insulator is provided for RG-62 or 71 cable, insert into hollow in dielectric. Solder contact onto center conductor; back of contact flush with trimmed end of cable dielectric (omit this step for right angle connectors with access caps). Flare cut end of braid slightly by rotating dielectric.



- 3) Insert cable/contact into rear of body, with all braid wires on outside of crimp tail. a) For captive contact connectors, push cable in until contact snaps into insulator.
 - b) For noncaptive contact connectors, push cable in until cable dielectric bottoms in connector.
 - c) For right angle or tee connectors with access caps, push cable in until end of braid touches connector body shoulder, and cable center conductor rests in contact slot.

Trim excess braid wires even with shoulder of body. Slide crimp sleeve forward until flush with body and crimp (see page 211 for hex die sizes).

For right angle or tee connectors with access caps: Solder center conductor into contact slot, assemble insulator disc (if supplied), then press cap into body until seated or screw into place.



I rim Codes For Assembly Procedure B										
Code	А	В	С		Code	А	В	С		
B/01	.320	.470	.140		B/20	.250	.375	.156		
B/02	.422	.578	.172		B/21	.425	.550	.156		
B/03	.406	.500	.187		B/22	.375	.500	.156		
B/04	.285	.505	.140		B/23	.281	.469	.125		
B/05	.335	.460	.140		B/24	.250	.700	.109		
B/06	.187	.437	.219		B/25	.343	.775	.125		
B/07	.422	.610	.156		B/26	.343	.437	.109		
B/08	.422	.562	.219		B/27	.313	.437	.187		
B/09	.313	.610	.203		B/28	.219	.271	.078		
B/10	.280	.436	.187		B/29	.200	.320	.060		
B/11	.430	.542	.156		B/30	.500	.650	.219		
B/12	.300	.434	.156		B/31	.350	.840	.150		
B/13	.300	.447	.156		B/32	.175	.260	.095		
B/14	.420	.645	.187		B/33	.195	.270	.045		
B/15	.300	.420	.120		B/34	.150	.250	.105		
B/16	.312	.609	.125		B/35	.195	.280	.170		
B/17	.250	.500	.156		B/36	.150	.325	.090		
B/18	.437	.562	.109		B/37	.195	.295	.075		
B/19	.343	.437	.156		B/38	.150	.225	.095		
	B/39 .250 .300 .135									



Assembly Procedure C



B

Non-captive

olde

Captive

C→

→

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1) Trim cable jacket to dimension A. Slide backnut, washer, gasket, and braid clamp onto cable as shown. Cable jacket should bottom on step in braid clamp.

2)	Comb braid wires out straight and fold back over front
	shoulder of braid clamp (braid wires should not overlap
	one another after folding). Trim braid wires flush with
	edge of braid clamp. Trim cable dielectric and center
	conductor to dimensions B and C.

3) If support insulator is provided for RG-62 or 71 cable, insert into hollow in dielectric. Assemble rear insulator (if captive contact) and contact, and solder contact to center conductor. Rear of contact should be flush with cable dielectric end.



B

oldei

Captive 4) Insert prepared cable and hardware into body and tighten backnut. For right angle connectors with access cap, solder cable center conductor to slot in contact and tighten access cap.

Assembly Procedure D





2) Comb braid wires out straight and fold back over front shoulder of braid clamp (braid wires should not overlap one another after folding). Trim braid wires flush with edge of braid clamp. Trim cable dielectric and center conductor to dimensions B and C.

3) Assemble rear insulator (if captive contact) and contact, and solder contact to center conductor. Rear of contact should be flush with cable dielectric end.



4) Insert prepared cable and hardware into body and tighten backnut. Trim armor to fit between armor clamp and braid clamp. Tighten armor clamp.

Trim Codes							
Code	А	В	С				
C/01	.656 (21/32)	.141 (9/64)	.250 (1/4)				
C/02	.500 (1/2)	.125 (1/8)	.250 (1/4)				
C/03	.450	.136	.187				
C/04	.375 (3/8)	.109 (7/64)	.125 (1/8)				
C/05	.375 (3/8)	.062 (1/16)	.250 (1/4)				
C/06	.500 (1/2)	.188 (3/16)	.125 (1/8)				
C/07	.575	.438	.094				
C/08	.625 (5/8)	.141 (9/64)	.219 (7/32)				



	Irim Codes							
Code	А	В	С					
D/01	.375 (3/8)	.047 (3/64)	.250 (1/4)					
D/02	.500 (1/2)	.188 (3/16)	.219 (7/32)					
D/03	.344 (11/32)	.047 (3/64)	.219 (7/32)					
D/04	.313 (5/16)	.047 (3/64)	.172 (11/64)					
D/05	.625 (5/8)	.281 (9/32)	.250 (1/4)					
D/06	.313 (5/16)	.062 (1/16)	.109 (7/64)					



Assembly Procedure E



 Slide backnut onto cable as shown. Trim cable to dimensions A and B as shown. Slit jacket to dimension C in two places, 180° apart.



Trim Codes Code В С А E/01 .250 (1/4) .141 (9/64) .313 (5/16) .250 (1/4) E/02 .219 (7/32) .063 (1/16) E/03 .250 (1/4) .031 (1/32) .250 (1/4)

 Slide cone/insulator/contact assembly under braid until braid is flush with shoulder. Solder contact to center conductor.



 Insert prepared cable and hardware into body; tighten assembly by holding nut stationary and turning body.

Assembly Procedure F

Trim Codes							
Code	В						
F/01	.250 (1/4)	.219 (7/32)					
F/02	.250 (1/4)	.172 (11/64)					
F/03	.188 (3/16)	.188 (3/16)					
F/04	.109 (7/64)	.265 (17/64)					
F/05	.156 (5/32)	.250 (1/4)					
F/06	.219 (7/32)	.250 (1/4)					
F/07	.156 (5/32)	.172 (11/64)					
F/08	.109 (7/64)	.219 (7/32)					





- Trim cable per chart. Slide backnut, washer, v-gasket, and solder ferrule onto cable. Trimmed end of cable jacket should bottom on step in solder ferrule.
- 2) Solder ferrule to cable jacket as shown. Retrim cable dielectric to proper length if it has extruded from soldering heat. Slide bushing and rear insulator over cable dielectric if captive contact. Solder contact onto center conductor; back of contact flush with trimmed end of cable dielectric.



 Insert prepared cable and hardware into body and tighten backnut.



Assembly Procedure G





 Soft solder cable jacket to body, making sure that end of cable is flush with end of body. After solder joint has cooled, retrim any protruding dielectric flush with end of body.



 Assemble 'C' ring and gasket to body. Compress 'C' ring and slide body assembly into coupling nut until ring is seated in groove.



Using this positioner in the final step of assembly procedure H or I (for plugs only) will ensure that the contact and insulator are retained in the proper position to meet MIL-C-39012 requirements. The positioner should be screwed finger-tight into the mating end of the connector (as shown at right) before the cable jacket is soldered to the body assembly.



Assembly Procedure J

Trim Codes						
Code	А	В				
J/01	.109	.047				
J/02	.059	.039				
J/03	.059	.079				
J/04	.050	.059				

→ | < B

 Trim cable as shown. Remove any burrs from jacket and center conductor.



 Soft solder cable jacket to body, making sure that end of cable is flush with step in body.
Solder center conductor into contact slot, assemble insulator disc (if supplied), then press cap into body until seated or screw into place.

Assembly Procedure K



Plug body assembly and contact shown; procedure is identical for jack connectors.

	Trim Codes								
Code	A	В	С	Code	А	В	С		
K/01	.250	.270	.110	K/07	.220	.290	.135		
K/02	.200	.270	.140	K/08	.420	.620	.090		
K/03	.225	.290	.110	K/09	.090	.135	.160		
K/04	.225	.330	.110	K/10	.250	.415	.115		
K/05	.250	.330	.110	K/11	.250	.400	.150		
K/06	.250	.315	.095	K/12	.282	.390	.140		



Assembly Procedure L

Trim Codes					
Code A B C					
L/01	.250	.438	.109		
L/02	.125	.219	.109		
L/03	.234	.344	.109		
L/04	.195	.270	.050		
L/05	.095	.155	.050		
L/06	.281	.390	.070		

1) Trim cable per chart. Slide crimp (or solder) sleeve onto cable.



 Insert cable into rear of body, with all braid wires on outside of crimp tail. Push cable in until end of braid touches connector body shoulder and center conductor rests in contact slot.

Slide crimp sleeve forward until flush with body and crimp (see page 211 for hex die sizes). (For solder-type connectors, solder braid to body and sleeve through hole in sleeve.)

Solder center conductor into contact slot, assemble insulator disc (if supplied), then press cap into body until seated or screw into place.



Assembly Procedure M



 Trim cable per chart. Slide crimp (or solder) sleeve and backnut onto cable.



2) Flare cut end of braid slightly by rotating dielectric. Insert cable into rear of clamp, with all braid wires on outside of crimp tail.Slide insulator over cable dielectric until it is flush with front of clamp, and cable insulation bottoms inside insulator. Slide contact onto center conductor, with contact shoulder flush with front of insulator. Solder contact to center conductor.



 Slide crimp sleeve forward until flush with clamp shoulder; crimp as close to shoulder as possible. (see page 211 for hex die sizes). (For solder-type connectors, solder braid to body and sleeve through hole in sleeve.)



4) Insert prepared cable into back of body. Slide nut forward and tighten to 12–15 inch-pounds.





* For Delta cable groups. See MIL-PRF-39012 specifications for dies sizes used with M39012 cable groups.

Crimp Tools For Flexible Cable

Frame only—P/N M22520/5-01 —Use with interchangeable dies listed below. Cable Group* Hex Die Size Die Set P/N Closure 2, 3, 4 .429 hex, .400 wide M22520/5-61 А 5,6 .213 hex, .400 wide M22520/5-19 В 7 .255 hex, .400 wide M22520/5-19 A 9 .128 hex, .400 wide M22520/5-35 В В 10 .151 hex, .400 wide M22520/5-37 11 .105 hex, .400 wide M22520/5-33 В



Connector Flanges (Panel Mounted Connectors)



4-hole flanges				
Figure	A	В	С	
04	1/2	.360	.089	
05	1/2	.340	.102	
07	¹¹ /16	.500	#3-56 tap	
08	¹¹ /16	.500	.136	
09	¹¹ /16	.500	.125	
10	¹¹ /16	.500	.120	
12	¹¹ /16	.500	.109	
18	3/4	.531	.136	
26	1	.718	#6-32 tap	
27	1	.718	#4-40 tap	
30	1	.718	.166	
32	1	.718	.136	
32A	1	.718	.136*	
33	1	.718	.125	
34	1 ³ /32	.812	.150	
36	1 ³ /16	.906	#6-32 tap	
39	1 ³ /16	.906	.152	
40	1 ³ /16	.906	.125	
45	2	1.437	.257	
91	.375	.250	.067	
91A	.375	.232	.093	

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2-hole flanges						
Figure	Figure A B C D					
92	.223	.481	.625	.102		
92A	.260	.481	.625	.102		
95	.640	1.015	1.30	.125		

Panel Cutouts (Bulkhead Mounted Connectors)



D-Hole					
Figure	А	В			
51	.755	.723			
54	.630	.598			
55	.630	.583			
57	.557	.531			
59	.505	.473			
62	.442	.410			
63	.407	.362			
65	.380	.348			
66	.319	.292			
67	.255	.236			
68	.195	.176			



Double D-Hole				
Figure A B				
69	.755	.692		
72	.630	.536		
75	.380	.341		
84	.319	.278		



Round Hole				
Figure A				
82	.255			
89	.380			

Mounting Figures

P.C. Board Drilling



(PCB traces are shown for illustrative purpose only, and are not representative of actual circuitry.)

Coaxial connectors					
Figure	А	В	С	D	
PCB01	.067	.400	.200	.045	
PCB02	.045	.500	.250	.045	
PCB03	.067	.300	.150	.035	
PCB05	.067	.200	.100	.055	
PCB06	.067	.200	.100	.045	
PCB07	.045	.177	.088	.045	
PCB08	.032	.100	.050	.032	



(PCB traces are shown for illustrative purpose only, and are not representative of actual circuitry.)

Twinax Connectors					
Figure	e A B C D				
PCB04	.045	.500	.250	.045	



Cable Groups

Delta Cable Groups

Gro	oup	Cables
	1A	RG-5, 5A, 5B, 21, 21A; M17/73, /162
1 1B 1C		RG-6, 6A; M17/2
		RG-143, 143A, 212, 222; M17/73, /112, /162
	2A	RG-8, 8A, 213; M17/74
2	2B	RG-11, 11A; M17/6
	3A	RG-9, 9A, 9B, 214; M17/75
3	3B	RG-13A, 216; M17/77
	3C	RG-225; M17/127
	4	RG-393; M17/127
	5	RG-58, 58A, 58C, 141, 141A; M17/28, /111
6	6A	RG-55A, 142, 142A, 223, 400; M17/60, /84, /128
0	6B	RG-55, 55B, 142B; M17/60, /84
7	7A	RG-59, 59A, 59B, 62, 62A, 62B, 62C, 210; M17/29, /30, /97
	7B	RG-71, 71A, 71B; M17/90
0	8A	RG-122; M17/54
0	8B	RG-180, 180A, 180B, 195; M17/95, /137
0	9A	RG-174, 188, 188A, 316; M17/152
9	9B	RG-179A, 179B, 187, 187A; M17/94, /136
10		Double-Shielded RG-174, 316; M17/152
1	1	RG-178, 178A, 178B, 196, 196A; M17/93
1.	2	.250" semi-rigid; RG-401; M17/129
1.	3	.141" semi-rigid; RG-402; M17/130
14	4	.085" semi-rigid; RG-405; M17/133
1.	5	RG-10, 12, 215; M17/6, /74
1	6	RG-14A, 217; M17/78, /165
1	7	RG-17A, 218
1	8	RG-18A, 219
1	9	RG-115A
2	0	RG-118A, 228A
2	1	RG-126
2	2	RG-302
2	3	RG-303
2	4	RG-304
2	5	Special 8X cable; contact factory for details.
2	б	Belden 8281
2	7	RG-108, 108A; M17/45
2	8	RG-22, 22A, 22B; M17/15
2	9	Belden 9207; Dearborn 6207; IBM 7362211
3	0	M17/176
3	1	AT&T 735A

Cable Group Finder				
Cable	Group	Cable	Group	
RG-5, 5A, B	1A	RG-225	3C	
RG-6, 6A	1B	RG-228A	20	
RG-8, 8A	2A	RG-302	22	
RG-9, 9A, B	3A	RG-303	23	
RG-10	15	RG-304	24	
RG-11, 11A	2B	RG-316	9A	
RG-12	15	RG-316DS	10	
RG-13A	3B	RG-393	4	
RG-14A	16	RG-400	6A	
RG-17A	17	RG-401	12	
RG-18A	18	RG-402	13	
RG-21, 21A	1A	RG-405	14	
RG-22, 22A, B	28	M17/2	1B	
RG-55, 55B	6B	M17/6	2B	
RG-55A	6A	M17/15	28	
RG-58, 58A, C	5	M17/28	5	
RG-59, 59A, B	7A	M17/29	7A	
RG-62, 62A, B, C	7A	M17/30	7A	
RG-71, 71A, B	7B	M17/45	27	
RG-108, 108A	27	M17/73	1A	
RG-115A	19	M17/162	1A	
RG-118A	20	M17/112	1C	
RG-122	8A	M17/74	2A	
RG-126	21	M17/75	3A	
RG-141, 141A	5	M17/127	3C	
RG-142, 142A	6A	M17/77	3B	
RG-142B	6B	M17/60	6A	
RG-143, 143A	1C	M18/84	6A	
RG-174	9A	M17/128	6A	
RG-174DS	10	M17/97	7A	
RG-178, 178A, B	11	M17/54	8A	
RG-179A, 179B	9B	M17/95	8B	
RG-180, 180A, B	8B	M17/137	8B	
RG-187, 187A	9B	M17/152	9A	
RG-188, 188A	9A	M17/93	11	
RG-195	8B	M17/129	12	
RG-196, 196A	11	M17/130	13	
RG-210	7A	M17/133	14	
RG-212	1C	M17/78	16	
RG-213	2A	M17/165	16	

Note: MIL-PRF-39012 QPL connectors have cable groups defined by the MIL specification, not the Delta cable groups shown here. See page 185 for M39012 cable groups.

3A

15

16

17

18

1C

6A

M17/176

AT&T 735A

Belden 8281

Belden 9207

Dearborn 6207

IBM 7362211

30

31

26

29

29

29

RG-214

RG-215

RG-217

RG-218

RG-219

RG-222

RG-223



Ordering & Warranty Information

Warranty

We warrant our parts to be free of defects and workmanship for one year from purchase. During that time we will repair or replace (at our option) any parts found to be defective. The warranty does not apply to parts that have been modified, used in conditions exceeding Seller's, or military specifications, or disassembled. We will not, under any circumstances, be responsible for consequential or incidental damages or installation costs. No other warranties apply, and no other liability may be assumed or extended by representatives or distributors. The terms of the applicable warranty or warranties, as the case may be, as set forth herein are the sole and exclusive warranty terms that shall have any force or effect in the any product order, resulting from the quotation and such terms and in lieu of all other warranties, expressed or implied, including the implied warranties of merchantability and fitness for a particular purpose, which are hereby expressly excluded.



Returns

Returns will be accepted only with a Return Authorization number issued by Delta, and are subject to inspection and acceptance upon arrival. Restocking charges will be determined prior to issusnce of Return Authorization. All claims for shortages must be made within 30 days of receipt by customer.

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COLLABORATE

CONNECT



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