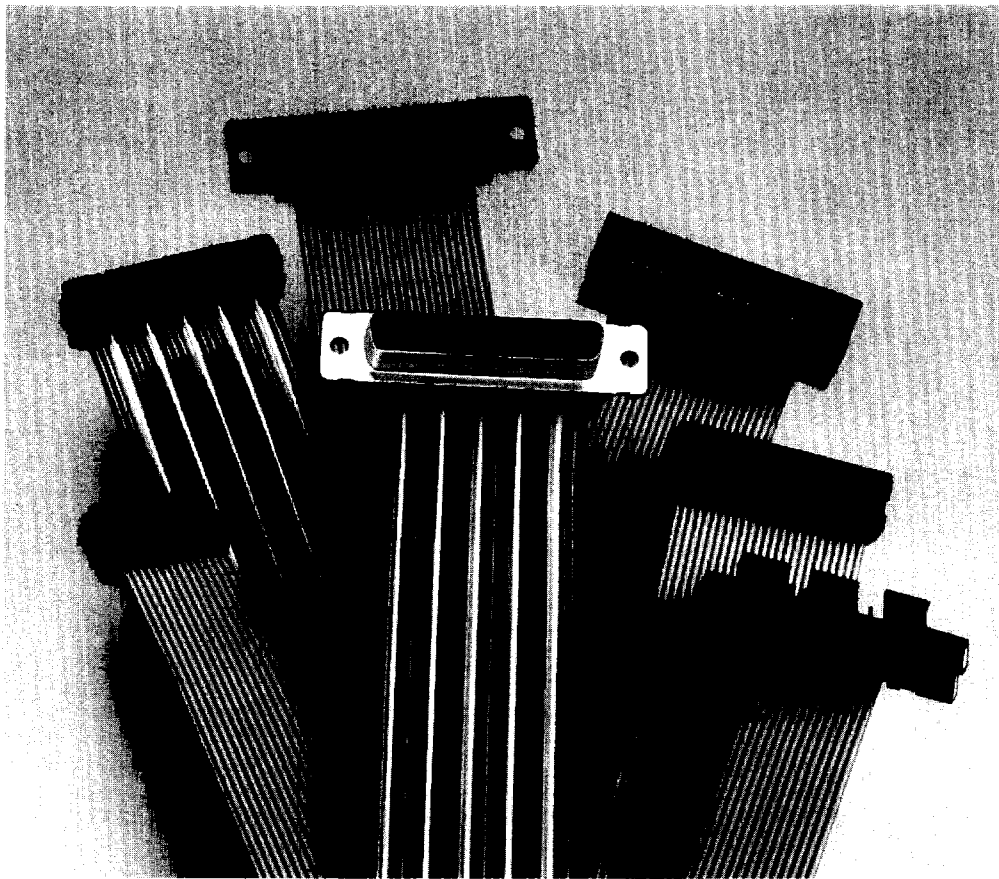


AMP-LATCH Connectors

*Specifications subject to change.
For latest design specifications...
1-800-522-6752*

Dimensioning:
Dimensions are in inches



many other connectors using .025-inch -post compatible receptacles. They are offered with or without slotted mounting flanges or with 4-40 threaded inserts for bulk-head mounting. Their polarizing features match those of Novo receptacles. A dual version with detents offers high retention when mated with the comparable standard receptacle.

DIP (Dual In-line Package) Plugs provide a permanent connection of ribbon cable to a pc board or mating to DIP sockets. Using the same centerline dimensions as DIP integrated circuits, AMP-LATCH DIP plugs offer space efficiency and a very low profile of .253 inch.

Card Edge Connectors plug into the edge of double-sided pc boards having a nominal thickness of .062 inch. They are available without mounting ears, with round-hole mounting ears, or with slotted mounting ears in 10 through 64 positions.

Electrical Characteristics

Contact Current Rating:

1 ampere (continuous)

Operating Temperature:

-55°C to +105°C

Dielectric Withstanding Voltage:

Receptacles (all) —

500 volts, RMS

Card Edge Connectors —

1000 volts, RMS

DIP Plugs — 500 volts, RMS

Paddle Board Connectors —

500 volts, RMS

Pin Connectors —

500 volts, RMS

Ejection Style Pin Headers (all) —

1000 volts, RMS

Ribbon Cable — 2000 volts, RMS

The mass-termination capabilities of the AMP-LATCH family of connectors have helped make ribbon cable and particularly .050-inch centerline cables popular with the industry. The ability to terminate up to 64 conductors simultaneously, without stripping or otherwise preparing the cable, presents obvious labor savings.

AMP-LATCH connectors are wire-to-board devices used to make the transition between cable and pc board circuitry. They find heavy use within equipment to connect one board to another or one subsystem to another. The connectors are also used in input/output applications, connecting different pieces of equipment.

The AMP-LATCH line of connectors consists of five main types of connectors:

- Receptacle connectors
- Pc board headers
- Pin connectors

- DIP plugs
- Card edge connectors

Receptacles feature two rows of contacts on .100 x .100-inch centers on selected sizes of 10 through 64 positions. Contacts mate with .025-inch square or round posts. Receptacles are available in two main versions: standard, using box-like receptacle design, and Novo, using a tuning-fork design. The Novo tuning-fork contact offers higher normal forces, a military-approved design, and a lower cost. Polarization options include dual, military, and center and military.

Universal Eject Headers accept all types of polarized connectors; each header is center, dual, and military polarized (by adding snap-in polarizers). Headers have an eject feature that provides a quick release for receptacles. Headers use .025-inch square posts with a choice of solder-post lengths of .110 or

.155 inch. Also available are versions, which use compliant, press-fit ACTION PIN posts for solderless application to plated-through holes. Recent additions to the line include a high-temperature product, that can be processed with surface mount components, and a stacked right-angle connector.

Pin Connectors feature .025-inch round pins that mate, not only with AMP-LATCH receptacles, but with

Numerical values

To convert U. S. customary unit values in this catalog to their metric equivalents, use the following formulas:

To convert from	to	Multiply by
inch	millimetre (mm)	2.540 000 x 10
inch	metre (m)	2.540 000 x 10 ²
inch	centimetre (cm)	2.540 000
foot	metre (m)	3.048 000 x 10 ¹
pound-mass	kilogram (kg)	4.535 924 x 10 ¹
ounce-mass	kilogram (kg)	2.834 952 x 10 ²

To convert wire size (AWG) to the equivalent metric value using the circular mil area of the wire, use the following formula:
circular mil area (CMA)/1550.003 = square millimetre (mm²)

**Novo Receptacles
.100 x .100 Centers**

*Specifications subject to change.
For latest design specifications...
1-800-522-6752*

Dimensioning:
Dimensions are in inches

**Preassembled Receptacle
and Optional Strain Relief**

Material and Finish:

Housing, Cover and Strain Relief-
Black thermoplastic, 94V-0 rated

Contacts - Phosphor bronze, duplex
plated (See chart, page 5005)

Related Product Data:

Electrical Characteristics -
page 5003

Mateable Pin Headers:

Universal - pages 5016
through 5019

High Temperature - page 5021

Stacked - page 5022

Mateable Pinless Headers -

page 5020

Ribbon Cable - page 5029

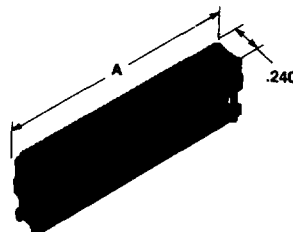
Accessories:

Pull Tab - page 5030

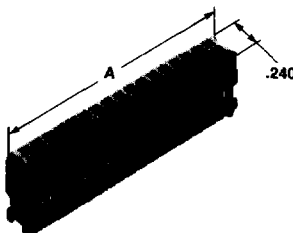
Application Tooling - page 5032

Technical Documents - page 5034

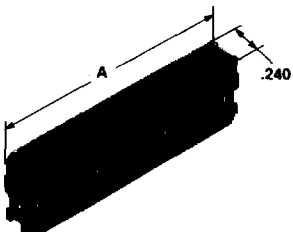
Military Polarized*



Center and Military Polarized**



Dual Polarized



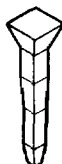
Contacts mate with .025 sq.
or round pins with .245 max.
and .195 min. lengths

Other sizes are available.
Contact AMP Incorporated,
Harrisburg, PA 17105

Keying Plug

Material: Black thermoplastic, 94V-0
rated

Part No. 499712-1

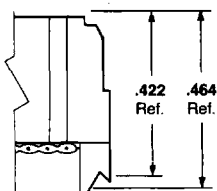


(Plugs into Contact)

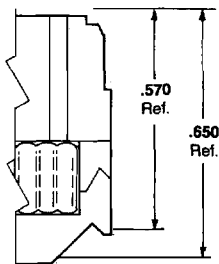
*These receptacles can be used in applications requiring non-polarization, as well as military polarization.
**These receptacles must be used in applications requiring center polarization

Specifications subject to change.
For latest design specifications...
1-800-522-6752

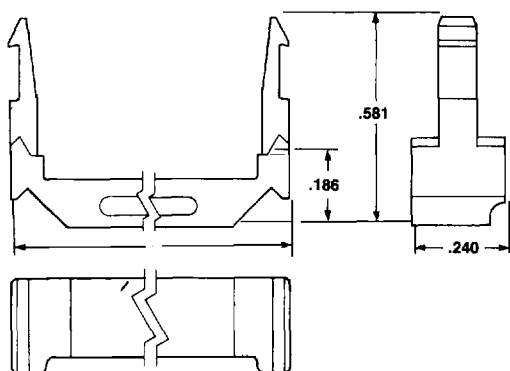
Dimensioning:
Dimensions are in inches



Terminated
with Recessed Cover



Terminated
with Recessed Cover
and Strain Relief



Strain Relief

No. of Pos.	Dimension A	Strain Relief Part No.
10	.680	499252-5
14	.880	499252-9
16	.980	499252-8
20	1.180	499252-2
24	1.380	1-499252-0
26	1.480	499252-3
30	1.680	1-499252-2
34	1.880	499252-6
40	2.180	499252-1
50	2.680	499252-4
60	3.180	499252-7
64	3.380	1-499252-3

Ordering Information

When ordering a receptacle, use the "Base Part Number" chart to determine the 6-digit base no. for the desired contact plating and polarization.

Then, complete the part no. by adding the proper suffix or prefix/suffix for the desired size. The prefix/suffix nos. for all available sizes (10 through 64 positions) are listed in the "Prefixes and Suffixes" Chart.

Base Part Numbers

Military Polarized

Contact Plating	Base Part No.
Duplex ¹	499997
Duplex ²	746290
Tin ³	746291

Center and Military Polarized

Duplex ¹	746285
Duplex ²	746288
Tin ³	746286

Dual Polarization

Duplex ¹	746294
Duplex ²	746292
Tin ³	746293

¹.000015 gold on post/pin mating end, .000100-.000200 bright tin-lead on termination end, with entire contact underplated .000050 nickel.

².000030 gold on post/pin mating end, .000100-.000200 bright tin-lead on termination end, with entire contact underplated .000050 nickel.

³.000100-.000200 bright tin-lead over .000050 nickel on entire contact.

Note: These receptacles are preassembled and are available with or without strain reliefs. Strain reliefs may be purchased separately using the component part nos. listed.

Prefixes and Suffixes

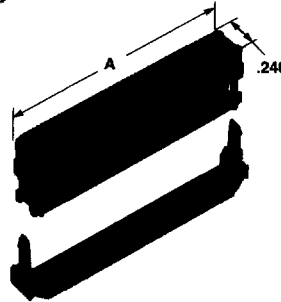
No. of Pos.	Dimension A	Add to Base Part No.	
		Prefix	Suffix
10	.680		-1
14	.880		-2
16	.980		-3
20	1.180		-4
24	1.380		-5
26	1.480		-6
30	1.680		-7
34	1.880		-8
40	2.180		-9
50	2.680	1-	-0
60	3.180	1-	-1
64	3.380	1-	-2

*Specifications subject to change.
For latest design specifications...
1-800-522-6752*

Dimensioning:
Dimensions are in inches

**Novo Receptacles,
Military Polarized
.100 x .100 Centers
(MIL-C-83503 Qualified)**

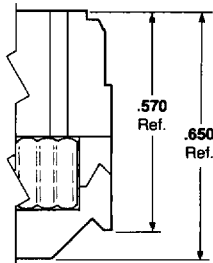
**QUALIFIED
MIL-C-83503**



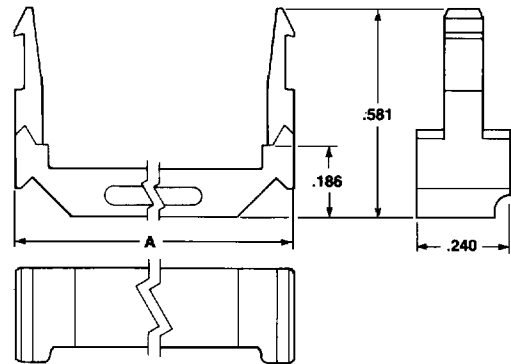
**Preassembled Receptacle
with Recessed Cover and
Strain Relief**

Material and Finish:
Housing, Cover and Strain Relief –
Black thermoplastic, 94V-0 rated
Contacts – Phosphor bronze, duplex
plated .000050 gold on post/pin
mating end, .000180 min. bright tin-
lead on termination end, with entire
contact underplated .000050 nickel

Related Product Data:
Electrical Characteristics -
page 5003
Accessories:
Pull Tab - page 5030
Application Tooling - page 5032
Technical Documents - page 5034



**Terminated
with Recessed Cover
and Strain Relief**



Strain Relief

Contacts mate with .025 sq.
or round pins with .245 max.
and .195 min. lengths

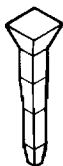
No. of Pos.	Dimension A	Preassembled Receptacle	
		Military Part No. (M83503/)	AMP Part No.
10	.680	7-01	499485-1
14	.880	7-02	499485-2
16	.980	7-03	499485-3
20	1.180	7-04	499485-4
24	1.380	7-05	499485-5
26	1.480	7-06	499485-6
30	1.680	7-07	499485-7
34	1.880	7-08	499485-8
40	2.180	7-09	499485-9
50	2.680	7-10	1-499485-0
60	3.180	7-11	1-499485-1
64	3.380	7-12	1-499485-2

Note: These receptacles include a housing assembly, a recessed cover (preassembled) and a strain relief.

Keying Plug

Material: Black thermoplastic,
94V-0 rated

Part No. 499712-1



(Plugs into Contact)

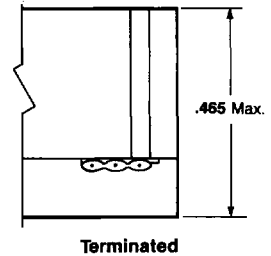
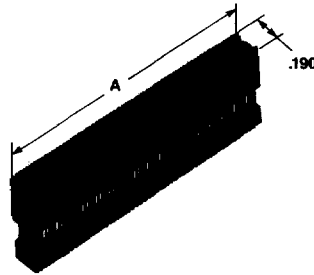
Stackable Novo Receptacles with .190 Wide Covers .100 x .100 Centers

Specifications subject to change.
For latest design specifications...
1-800-522-6752

Dimensioning:
Dimensions are in inches

Preassembled Receptacle with Cover

Material and Finish:
Housing and Cover - Black thermoplastic, 94V-0 rated
Contacts - Phosphor bronze, duplex plated (see chart)



Related Product Data:

Electrical Characteristics - page 5003

Mateable Connectors:

AMP-HDI Connectors - AMP Catalog 82079

Mateable Pin Headers:

Universal (Use without Latches) - pages 5016 through 5019

High Temperature - page 5021

Stacked - page 5022

Mateable Pinless Headers:

(Use without Latches) - page 5020

Ribbon Cable - page 5029

Application Tooling - page 5032

Technical Documents - page 5034

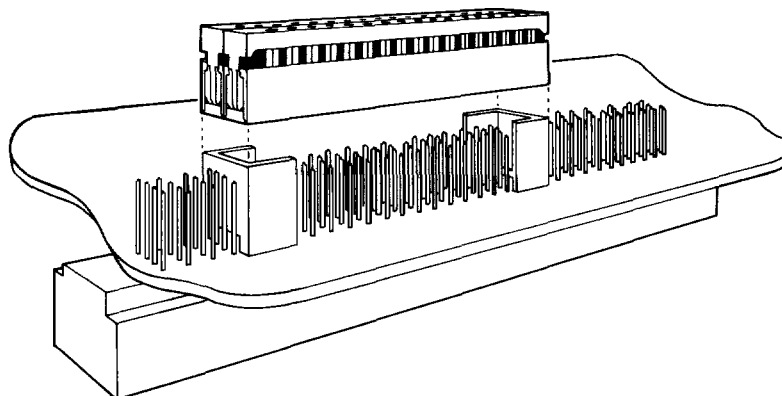
Contacts mate with .025 sq. or round pins with .245 max. and .195 min. lengths

No. of Pos	Dimension A	Contact Plating	Without Cable Stop	With Cable Stop
10	.600	Duplex ¹	746281-1	746279-1
		Duplex ²	746436-1	746435-1
14	.800	Duplex ¹	746281-2	746279-2
		Duplex ²	746436-2	746435-2
16	.900	Duplex ¹	746281-3	746279-3
		Duplex ²	746436-3	746435-3
20	1.100	Duplex ¹	746281-4	746279-4
		Duplex ²	746436-4	746435-4
24	1.300	Duplex ¹	746281-5	746279-5
		Duplex ²	746436-5	746435-5
26	1.400	Duplex ¹	746281-6	746279-6
		Duplex ²	746436-6	746435-6
30	1.600	Duplex ¹	746281-7	746279-7
		Duplex ²	746436-7	746435-7
34	1.800	Duplex ¹	746281-8	746279-8
		Duplex ²	746436-8	746435-8
40	2.100	Duplex ¹	746281-9	746279-9
		Duplex ²	746436-9	746435-9
44	2.300	Duplex ¹	1-746281-0	1-746279-0
		Duplex ²	1-746436-0	1-746435-0
50	2.600	Duplex ¹	1-746281-1	1-746279-1
		Duplex ²	1-746436-1	1-746435-1
60	3.100	Duplex ¹	1-746281-2	1-746279-2
		Duplex ²	1-746436-2	1-746435-2
64	3.300	Duplex ¹	1-746281-3	1-746279-3
		Duplex ²	1-746436-3	1-746435-3

¹ .00015 gold on post/pin mating end, .000100-.000200 bright tin-lead on termination end, with entire contact underplated .000050 nickel.

² .00030 gold on post/pin mating end, .000100-.000200 bright tin-lead on termination end, with entire contact underplated .000050 nickel.

Note: 1. These receptacles include a housing assembly and cover (preassembled).
2. Receptacles listed include covers without a cable stop, and covers preassembled with left-hand cable stop (cable stop located on same side as Position 1 Index Slot).



Positioning Shroud, Part No. 111295-1*

5

Ribbon and Flat Cable Connectors

*Mates with any AMP-HDI 4-Row Pin Assembly with post length of .533

Specifications subject to change.
For latest design specifications...
1-800-522-6752

Dimensioning:
 Dimensions are in inches

Preassembled Connectors with Cover

Material and Finish:

Housing and Cover - Black thermo-plastic, 94V-0 rated

Contacts - Phosphor bronze, duplex plated (see chart, page 5009)

Related Product Data:

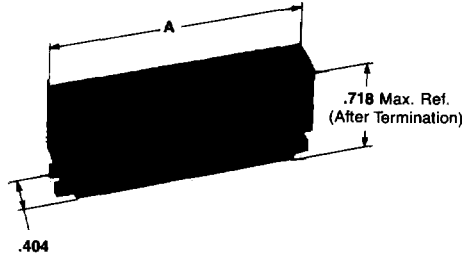
Electrical Characteristics - page 5003

Ribbon Cable - page 5029

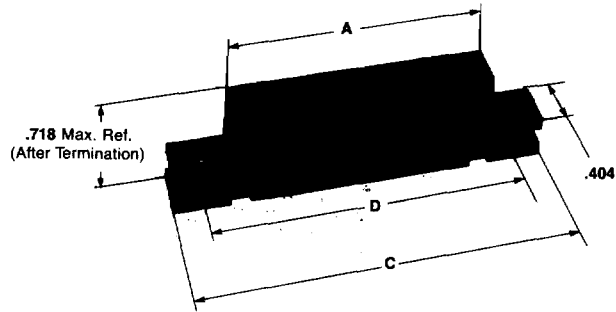
Application Tooling - page 5032

Technical Documents - page 5034

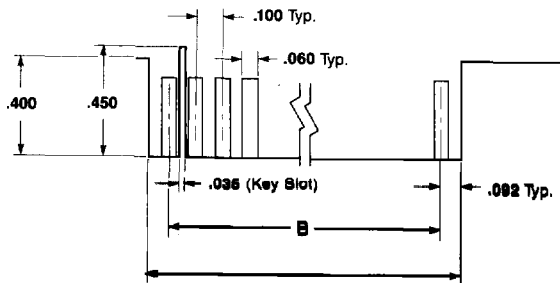
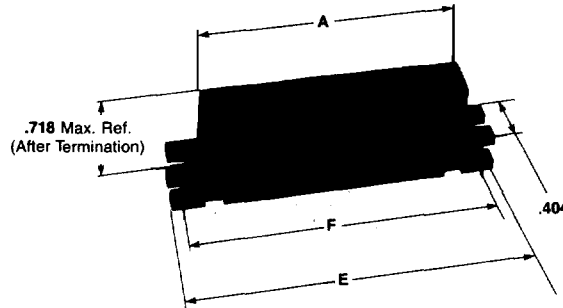
Without Mounting Ears



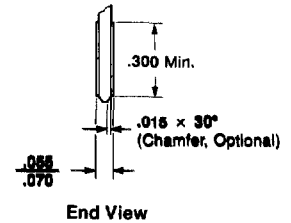
With Round Hole Mounting Ears



With Slotted Mounting Ears



Recommended Pc Board Layout



End View

**Specifications subject to change.
For latest design specifications...
1-800-522-6752**

Dimensioning:
Dimensions are in inches

Ordering Information

When ordering a connector, use the top chart at right to determine the 6-digit base no. for the desired contact plating and mounting style. Then, complete the part no. by adding the proper suffix or prefix/suffix for the desired size. The prefix/suffix nos. for all available sizes (10 through 64 positions) are listed in the bottom chart at right.

Base Part Numbers

Plating	Without Mounting Ears	With Round Hole Mounting Ears	With Slotted Mounting Ears	Without Ears With Molded Key ¹
Duplex ²	111109	111210	111212	111111
Duplex ³	111110	111211	111213	111112

¹ Intercontact keying plug is molded between positions 3, 4, 5, and 6.

² .000030 gold on pc board mating end, .000100-.000200 bright tin-lead on termination end, with entire contact underplated .000050 nickel.

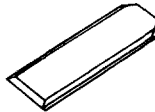
³ .000015 gold on pc board mating end, .000100-.000200 bright tin-lead on termination end, with entire contact underplated .000050 nickel.

Prefixes and Suffixes

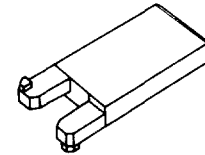
No. of Pos.	Dimensions						Add to Base Part No.	
	A	B	C	D	E	F	Prefix	Suffix
10	.960	.584	1.900	1.400	1.500	1.300		-8
14	1.160	.784	2.100	1.600	1.700	1.500		-9
16	1.260	.884	2.200	1.700	1.800	1.600	1-	-0
20	1.460	1.084	2.400	1.900	2.000	1.800		-6
26	1.760	1.384	2.700	2.200	2.300	2.100		-5
30	1.960	1.584	2.900	2.400	2.500	2.300		-4
34	2.160	1.784	3.100	2.600	2.700	2.500		-3
40	2.460	2.084	3.400	2.900	3.000	2.800		-2
44	2.660	2.284	3.600	3.100	3.200	3.000	1-	-2
50	2.960	2.584	3.900	3.400	3.500	3.300		-1
60	3.460	3.084	4.400	3.900	4.000	3.800		-7
64	3.660	3.284	4.600	4.100	4.200	4.000	1-	-1

Keying Plug

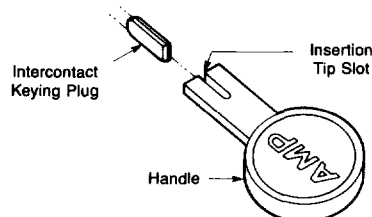
Material: Natural color thermoplastic, 94V-0 rated



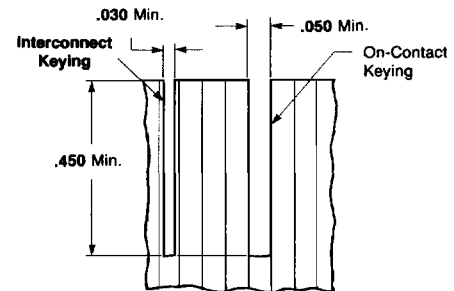
**Intercontact Keying Plug,
Part No. 88113-1**
(Use insertion Tool No. 91233-1)



**On-Contact Keying Plug,
Part No. 88114-1**



**Insertion Tool
No. 91233-1**



Pc Board Slot Dimensions

DIP Plugs

Specifications subject to change.
For latest design specifications...
1-800-522-6752

Dimensioning:
 Dimensions are in inches

Preassembled Plug with Cover

Material and Finish:

Housing and Cover – Black thermoplastic, 94V-0 rated

Contacts - Phosphor bronze, tin or duplex plated (see chart, page 5011)

Related Product Data:

Electrical Characteristics - page 5003

Mateable Sockets:

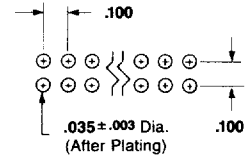
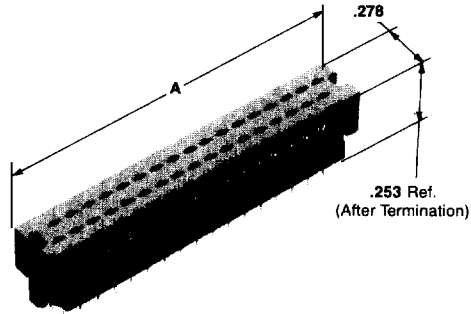
DIP Sockets (for .100 x .300 and .100 x .600 versions) - see AMP Catalog 82172

Ribbon Cable - page 5029

Application Tooling - page 5032

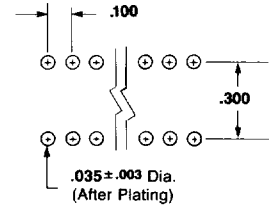
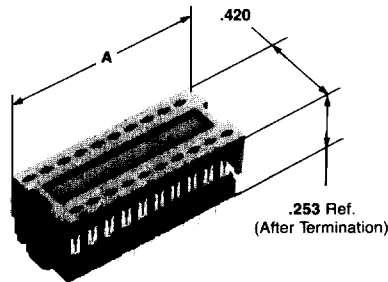
Technical Documents - page 5034

.100 x .100 Centers



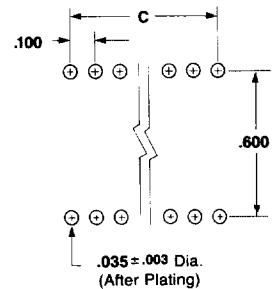
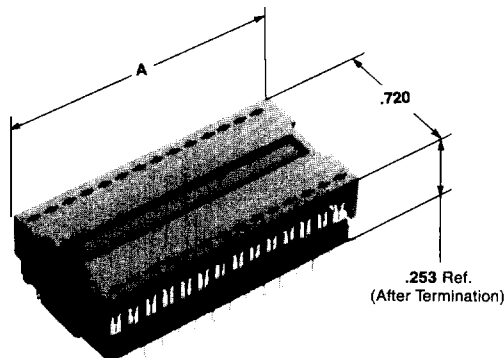
Recommended Mounting Hole Pattern
 (for up to .125 thk. pc boards)

.100 x .300 Centers



Recommended Mounting Hole Pattern
 (for up to .125 thk. pc boards)

.100 x .600 Centers



Recommended Mounting Hole Pattern
 (for up to .125 thk. pc boards)

**Specifications subject to change.
For latest design specifications...
1-800-522-6752**

Dimensioning:
Dimensions are in inches and millimeters.

.100 x .100 Centers

No. of Pos.	Dimension A	Preassembled Plug Part No. ¹
10	.680	746610-1
14	.880	746610-2
16	.980	746610-3
20	1.180	746610-4
24	1.380	746610-5
26	1.480	746610-6
30	1.680	746610-7
34	1.880	746610-8
40	2.180	746610-9
44	2.380	1-746610-3
50	2.680	1-746610-0
60	3.180	1-746610-1
64	3.380	1-746610-2

¹ Plating is .000100-.000200 bright tin-lead over .000050 nickel on entire contact.

.100 x .300 Centers

No. of Pos.	Dimension A	Contact Plating	Preassembled Plug Part No.
8	.488	Duplex ¹	746612-1
		Duplex ²	746611-1
		Tin ³	746613-1
14	.788	Duplex ¹	746612-2
		Duplex ²	746611-2
		Tin ³	746613-2
16	.888	Duplex ¹	746612-3
		Duplex ²	746611-3
		Tin ³	746613-3
18	.988	Duplex ¹	746612-4
		Duplex ²	746611-4
		Tin ³	746613-4
20	1.088	Duplex ¹	746612-5
		Duplex ²	746611-5
		Tin ³	746613-5

¹ .000015 gold on pin end; .000100-.000200 bright tin-lead on cable termination end; entire contact underplated with .000050 nickel.

² .000030 gold on pin end; .000100-.000200 bright tin-lead on cable termination end; entire contact underplated with .000050 nickel.

³ .000100-.000200 bright tin-lead over .000050 nickel on entire contact.

.100 x .600 Centers

No. of Pos.	Dimension A	Contact Plating	Preassembled Plug Part No.
24	1.288	Duplex ¹	746615-1
		Duplex ²	746614-1
		Tin ³	746616-1
28	1.488	Duplex ¹	746615-2
		Duplex ²	746614-2
		Tin ³	746616-2
40	2.088	Duplex ¹	746615-3
		Duplex ²	746614-3
		Tin ³	746616-3

¹ .000015 gold on pin end; .000100-.000200 bright tin-lead on cable termination end; entire contact underplated with .000050 nickel.

² .000030 gold on pin end; .000100-.000200 bright tin-lead on cable termination end; entire contact underplated with .000050 nickel.

³ .000100-.000200 bright tin-lead over .000050 nickel on entire contact.

*Specifications subject to change.
For latest design specifications...
1-800-522-6752*

Dimensioning:
Dimensions are in inches

Preassembled Connector with Cover

Material and Finish:

Housing and Cover – Black thermoplastic, 94V-0 rated

Contacts – Phosphor bronze plated .000100-.000200 bright tin-lead over .000050 nickel on entire contact

Related Product Data:

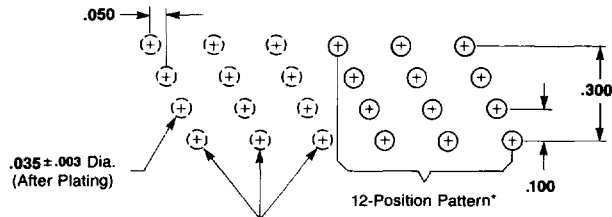
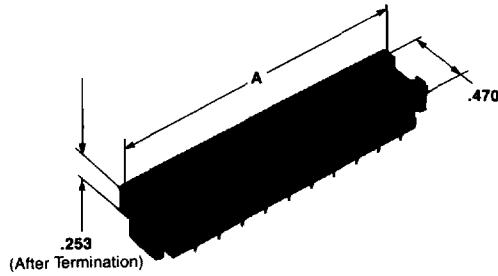
Electrical Characteristics - page 5003

Ribbon Cable - page 5029

Application Tooling - page 5032

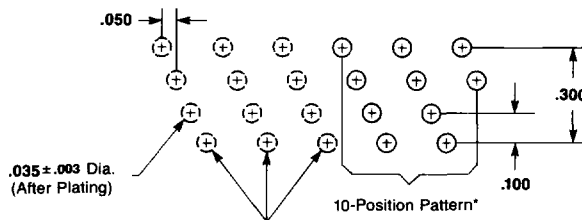
Technical Documents - page 5034

Note: For post length, see chart, page 5013.



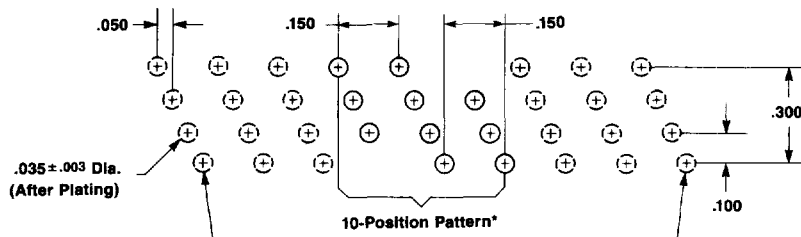
*For larger sizes, contacts are added to left side of 12-position pattern in increments of 4, as required.

**Recommended "Full Row" Mounting Hole Pattern, Component Side
(For .062 thk. P.C. Boards)**



*For larger sizes, contacts are added to left side of 10-position pattern in increments of 4, as required.

**Recommended "Short End" Mounting Hole Pattern, Component Side
(For .062 thk. P.C. Boards)**



*For larger sizes, equal no. of contact rows (4 contacts per row) are added to each end of 10-position pattern as required.

**Recommended "Special Center" Mounting Hole Pattern, Component Side
(For .062 thk. P.C. Boards)**

Specifications subject to change.
For latest design specifications...
1-800-522-6752

Dimensioning:
 Dimensions are in inches

Ordering Information

When ordering a connector, use the top chart at the right to determine the 6-digit base no. for the desired post length and contact pattern. Then, complete the part no. by adding the proper suffix or prefix/suffix for the desired size. The prefix/suffix nos. for all available sizes are listed in the bottom chart at the right.

Base Number

Post Length	Pc Board Thickness	"Full Row" Contact Pattern	"Short End" Contact Pattern	"Special Center" Contact Pattern
.100	.062	111035	111037	111039
.156	.093-.125	111036	111038	111040

Prefixes and Suffixes

"Full Row" Contact Pattern		"Short End" Contact Pattern		"Special Center" Contact Pattern		Add to Base No.	
No. of Pos.	Dimension A	No. of Pos.	Dimension A	No. of Pos.	Dimension A	Prefix	Suffix
12	.874	10	.774	10	.774		-1
16	1.074	14	.974	26	1.574		-2
20	1.274	18	1.174	34	1.974		-3
24	1.474	22	1.374	50	2.774		-4
28	1.674	26	1.574				-5
32	1.874	30	1.774				-6
36	2.074	34	1.974				-7
40	2.274	38	2.174				-8
44	2.474	42	2.374				-9
48	2.674	46	2.574			1-	-0
52	2.874	50	2.774			1-	-1
56	3.074	54	2.974			1-	-2
60	3.274	58	3.174			1-	-3

Universal Ejection Style Pin Headers

Specifications subject to change.
For latest design specifications...
1-800-522-6752

Dimensioning:
Dimensions are in inches

Ordering Information

When ordering a header, use the top chart at the right to determine the 6-digit base no. for the desired housing style, post configuration, post length and contact plating. Then, complete the part no. by adding the proper suffix and, if necessary, prefix for the desired size. The prefix/suffix nos. for all available sizes are listed in the bottom chart at the right.

Base Part Numbers

Housing Style	Post Configuration	Post Length	Contact Plating	Pin Header Part No. (without Latches)	Pin Header Kit No. (with Latches)				
					Short Latch 102312-1	Strain Relief Latch 102320-1			
4-Sided	Straight Posts	.110	Duplex ¹	102153	499910	499922			
			Duplex ²	102154	499160	499206			
		.155	Bright Tin ³	499703	-	-			
			Duplex ¹	102155	499911	499923			
		.610	Duplex ²	102156	499374	102321			
			Gold ⁴	102158	-	-			
	Right Angle Posts	.110	Duplex ¹	102159	499913	499786			
			Duplex ²	102160	499345	499141			
		.155	Bright Tin ³	499705	-	-			
			Duplex ¹	102161	499914	499925			
		.610	Duplex ²	102162	499376	102322			
			Duplex ²	499439	-	-			
3-Sided	Straight Posts	.110	Duplex ²	746140	-	-			
			Bright Tin ³	746232	-	-			
	Right Angle Posts	.110	Duplex ¹	746101	746125	-			
			Duplex ²	746143	746167	746179			
	.155	Bright Tin ³	746235	-	-				
		Duplex ¹	746102	-	-				
3-Sided Low Profile	Right Angle Posts	.110	Duplex ²	746144	-	746180			
			Duplex ¹	746451	-	-			
		.155	Duplex ²	746448	Note: Latches not compatible with Low Profile style				
			Duplex ¹	746452					
4-Sided	Straight ACTION PIN	.174	Duplex ¹	499984				-	-
			Duplex ²	499582				-	-
		.610	Duplex ²	499583	-	-			

- ¹ .000015 gold on post/pin mating end, .000100-.000200 bright tin-lead on termination end, with entire contact underplated .000050 nickel.
² .000030 gold on post/pin mating end, .000100-.000200 bright tin-lead on termination end, with entire contact underplated .000050 nickel.
³ .000100-.000200 bright tin-lead over .000050 nickel on entire contact.
⁴ .000030 gold over .000050 nickel on entire contact.

Prefixes and Suffixes

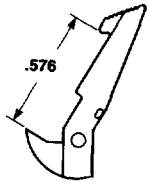
No. of Pos.	Dimensions					Add to Base Part No.	
	A	B	C	D	E	Prefix	Suffix
10	1.260	.860	1.100	.950	.780	-	-1
14	1.460	1.060	1.300	1.150	.980	-	-2
16	1.560	1.160	1.400	1.250	1.080	-	-3
20	1.760	1.360	1.600	1.450	1.280	-	-4
24	1.960	1.560	1.800	1.650	1.480	-	-5
26	2.060	1.660	1.900	1.750	1.580	-	-6
30	2.260	1.860	2.100	1.950	1.780	-	-7
34	2.460	2.060	2.300	2.150	1.980	-	-8
40	2.760	2.360	2.600	2.450	2.280	-	-9
44	2.960	2.560	2.800	2.650	2.480	1-	-3
50	3.260	2.860	3.100	2.950	2.780	1-	-0
60	3.760	3.360	3.600	3.450	3.280	1-	-1
64	3.960	3.560	3.800	3.650	3.480	1-	-2

- Notes:** 1. 10- and 14- position pinless headers have only one slot for snap-in polarizer (military polarization).
2. 10- position pinless headers have only one slot for dual polarization.
3. For information regarding latch/pin header applications and for ordering latches separately, refer to page 5015.

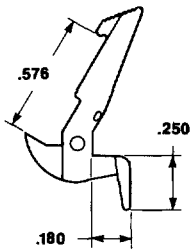
**Latches for Ejection Style
Pin Headers
and Pinless Headers**

Latches

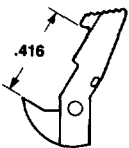
Material: Black thermoplastic,
94V-0 rated



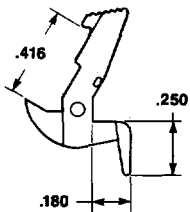
Latch Part No. 102320-1
(without Push Tabs, see Fig. 1)



Latch Part No. 102186-1
(with Push Tabs, available
in component only)



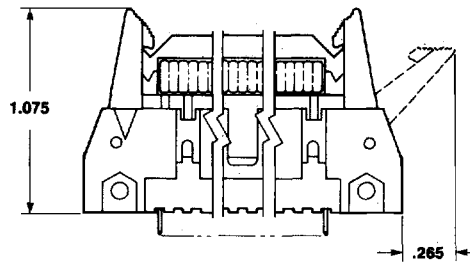
Latch Part No. 102312-1
(without Push Tabs, see Fig. 2)



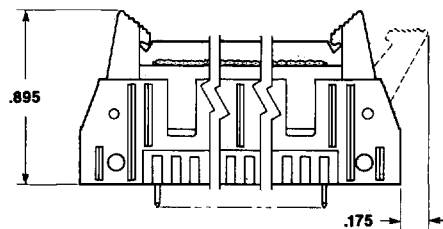
Latch Part No. 102185-1
(with Push Tabs, available
in component only)



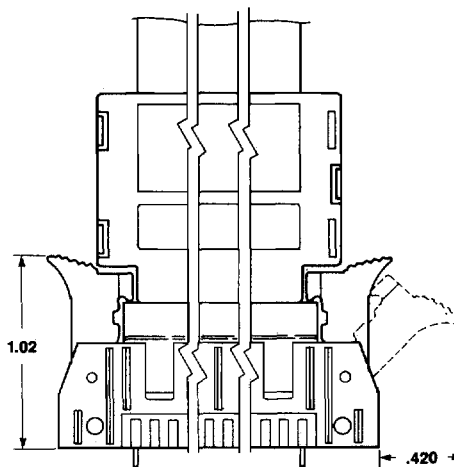
Latch Part No. 746469-1
(without Push Tabs, see Fig. 3)



**Fig. 1 – Use Latch Part No. 102320-1 for AMP Receptacles
with Recessed Cover and Strain Relief.**



**Fig. 2 – Use Latch Part No. 102312-1 for AMP Receptacles
with Recessed Cover.**



**Fig. 3 – Use Latch Part No. 746469-1 for AMP Shielded Stack-
able Novo Receptacles with .240 Wide Cover.**



*Specifications subject to change.
For latest design specifications...
1-800-522-6752*

Dimensioning:
Dimensions are in inches

**Universal Ejection Style
Pin Headers Military, Center
and Dual Polarized
.100 x .100 Centers**

**Straight-Thru, 4 Sided
.025 Sq. Posts,
.240 Mating Post Length**

Material and Finish:

Housing and Latches - Black thermoplastic, 94V-0 rated

Contacts - Brass or phosphor bronze (at AMP's option); tin, gold or duplex plated (see chart, page 5014)

Related Product Data:

Electrical Characteristics - page 5003

Mateable Receptacles:

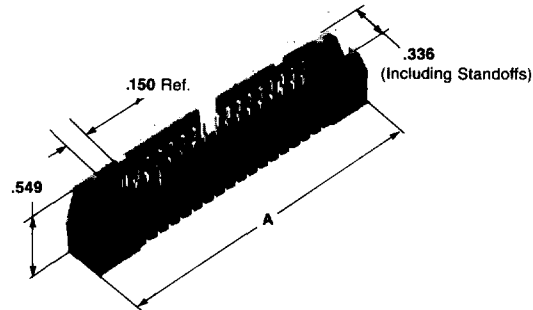
Novo - pages 5004 and 5005
Shielded Novo - pages 5023 and 5024

Accessories:

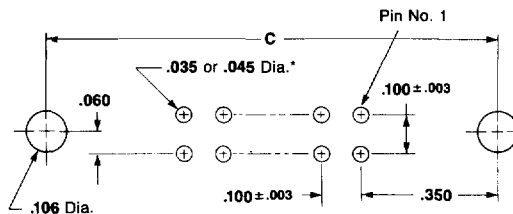
Snap-In Polarizer - page 5031

Technical Documents - page 5034

Note: Retrofit Shields are available for use with these pin headers, see page 5027.



Note: Pin No. 1 designated by "V" notch on side of connector.

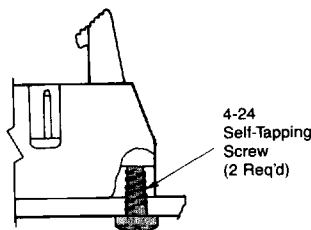


Recommended Mounting Hole Pattern

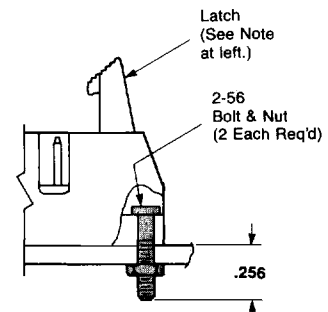
*.035 hole dia. for soldering of posts .110 and .155 long
.045 hole dia. for wrap-type termination of posts .610 long
Pc board thicknesses are .062 for .110 long posts, .125 for .155 long posts.

Mounting Information

4-24 self-tapping screws and 2-56 bolts and nuts can be used for mounting straight-thru pin headers to pc boards. Typical applications with hardware are presented at right.



Pin Header Mounting using 4-24 Self-Tapping Screws



**Pin Header Mounting with 2-56 Bolts and Nuts:
Part No. 746383-1 (Bolt Only)
Kit No. 102198-1 (Bolt and Nut, 2 each per Kit)**

Note: 2-56 bolts and nuts may be used to mount pin headers with and without latches. If latches are to be used, the bolts must be positioned in the pin header before the latches are installed.

*Specifications subject to change.
For latest design specifications...
1-800-522-6752*

Dimensioning:
Dimensions are in inches

**Universal Ejection Style
Pin Headers Center
and Military Polarized
.100 x .100 Centers**

**Straight-Thru, 3 Sided
.025 Sq. Posts**

Material and Finish:

Housing and Latches – Black thermoplastic, 94V-0 rated

Contacts - Brass or phosphor bronze (at AMP's option); tin, gold or duplex plated (see chart, page 5014)

Related Product Data:

Electrical Characteristics - page 5003

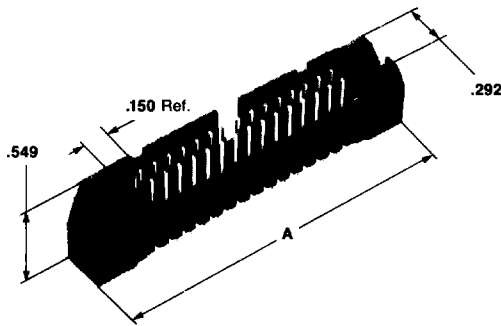
Mateable Receptacles:

Novo - pages 5004 and 5005
Stackable Novo - page 5007

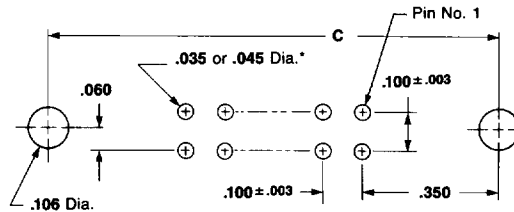
Accessories:

Snap-In Polarizer - page 5031

Technical Documents - page 5034



Note: Pin No. 1 designated by "V" notch on side of connector.

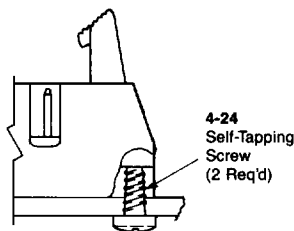


Recommended Mounting Hole Pattern

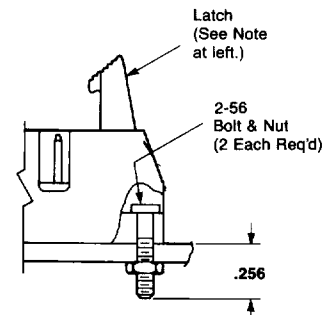
*.035 hole dia. for soldering of posts .110 and .155 long
.045 hole dia. for wrap-type termination of posts .610 long
Pc board thicknesses are .062 for .110 long posts, .125 for .155 long posts.

Mounting Information

4-24 self-tapping screws and 2-56 bolts and nuts can be used for mounting straight-thru pin headers to pc boards. Typical applications and hardware are presented at right.



Pin Header Mounting using 4-24 Self-Tapping Screws



Pin Header Mounting with 2-56 Bolts and Nuts:
Part No. 746383-1 (Bolt Only)
Kit No. 102198-1 (Bolt and Nut, 2 each per Kit)

Note: 2-56 bolts and nuts may be used to mount pin headers with and without latches. If latches are to be used, the bolts must be positioned in the pin header before the latches are installed.

Specifications subject to change.
For latest design specifications...
1-800-522-6752

Dimensioning:
 Dimensions are in inches

**Universal Ejection Style
 Pin Headers
 Center and Military Polarized
 .100 x .100 Centers**

**Right-Angle, 3 Sided
 .025 Sq. Posts**

Material and Finish:

Housing and Latches – Black thermoplastic, 94V-0 rated

Contacts - Phosphor bronze; tin, gold or duplex plated (see chart, page 5014)

Related Product Data:

Electrical Characteristics - page 5003

Mateable Receptacles:

Novo - pages 5004 and 5005
 Stackable Novo - page 5007

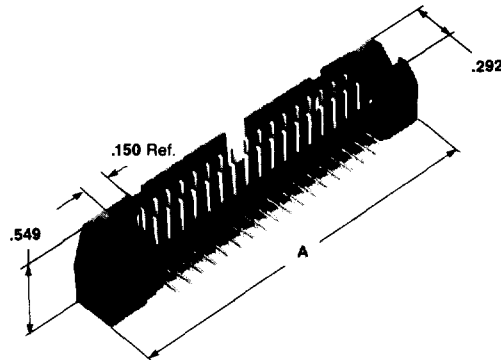
Accessories:

Snap-In Polarizer - page 5031
Technical Documents - page 5034

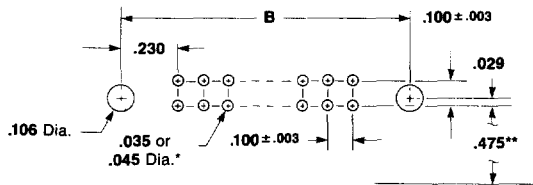
Note: Pc Board Mounted Shields and Retrofit Shields are available for use with these pin headers, see page 5026 and 5027.

Mounting Information

No mounting hardware is supplied by AMP.



Note: Pin No. 1 designated by "V" notch on side of connector.



Recommended Mounting Hole Pattern

*.035 hole dia. for soldering of posts .110 and .155 long
 .045 hole dia. for wrap-type termination of posts .610 long
 **Maximum distance from edge of pc board for daisy chain application.
 Pc board thicknesses are .062 for .110 long posts, .125 for .155 long posts.

**Universal Ejection Style Pin Headers with ACTION PIN Contacts,
 Military, Center and Dual Polarized
 .100 x .100 Centers**

**Straight-Thru, 4 Sided
 .025 Sq. Posts**

Material and Finish:

Housing – Black thermoplastic, 94V-0 rated

Contacts - Copper alloy; tin or duplex plated (see chart, page 5014)

Related Product Data:

Electrical Characteristics - page 5003

Mateable Receptacles:

Novo - pages 5004 and 5005
 Stackable Novo - page 5007
 Shielded Novo - pages 5023 and 5024

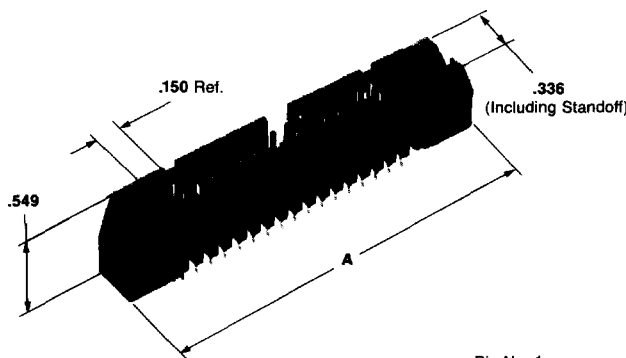
Accessories:

Snap-In Polarizer - page 5031
Technical Documents - page 5034

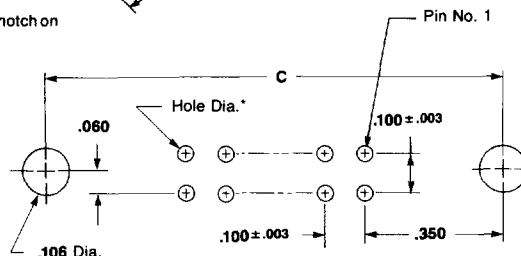
Note: Retrofit Shields are available for use with these pin headers, see page 5027.

Mounting Information

No mounting hardware is supplied by AMP.



Note: Pin No. 1 designated by "V" notch on side of connector.



Recommended Mounting Hole Pattern for .080 min.-.125 Thk. Pc Board

*.0453 ± .0010 hole dia. before plating
 .043/.037 hole dia. after plating

**Specifications subject to change.
For latest design specifications...
1-800-522-6752**

Dimensioning:
Dimensions are in inches

**Universal Ejection Style
Pinless Headers
Military, Center and Dual Polarized
.100 x .100 Centers**

**Straight-Thru, 4 Sided
.025 Sq. Posts
(without latches)**

Material:
Black thermoplastic, 94V-0 rated

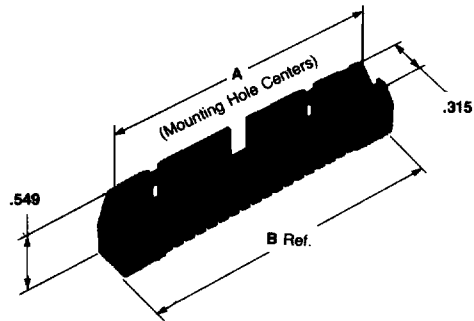
Related Product Data:
Electrical Characteristics -
page 5003

Mateable Receptacles:
Novo - pages 5004 and 5005
Stackable Novo - page 5007

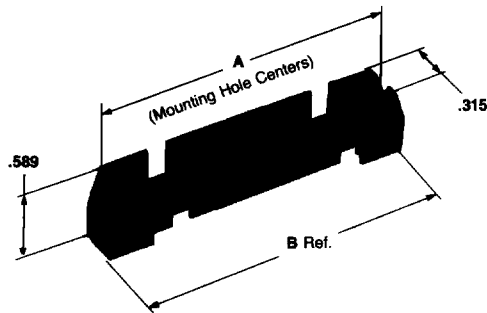
Accessories:
Snap-In Polarizer - page 5031

Technical Documents - page 5034

Note: Retrofit Shields are available
for use with pinless headers, see
page 5027.



Without Standoffs



With Standoffs

5

Ribbon and Flat Cable Connectors

**Insertion of Press-Fit
Pinless Headers**

Insertion Instructions:

1. Place pinless header over preinstalled posts so that post tips start into header cavities.
2. With bottom of pc board supported, place steel block over header. Steel block must be wider and longer than headers so that it covers all four sides of the header. However, for headers with latches preassembled, the steel block must not interfere with the latches.
3. Apply an even, centered force on steel block until header bottoms on pc board. If posts are longer than .545, they may be forced against the steel block before the header is fully seated. In this situation, extreme caution must be taken so that posts are not damaged or pushed out of the pc board.

No. of Pos.	Dimensions		Pinless Header Part Nos.		
			Press-Fit		Clearance-Fit Without Standoffs
			Without Standoffs	With Standoffs	
10	1.100	1.260	499726-1	746487-1	102142-6
14	1.300	1.460	499726-2	746487-2	102142-8
16	1.400	1.560	499726-3	746487-3	102142-9
20	1.600	1.760	499726-4	746487-4	102142-1
24	1.800	1.960	499726-5	746487-5	1-102142-0
26	1.900	2.060	499726-6	746487-6	102142-2
30	2.100	2.260	499726-7	746487-7	1-102142-1
34	2.300	2.460	499726-8	746487-8	102142-3
40	2.600	2.760	499726-9	746487-9	102142-4
44	2.800	2.960	1-499726-3	1-746487-3	1-102142-2
50	3.100	3.260	1-499726-0	1-746487-0	102142-5
60	3.600	3.760	1-499726-1	1-746487-1	102142-7
64	3.800	3.960	1-499726-2	1-746487-2	1-102142-3

Notes: 1. 10- and 14- position pinless headers have only one slot for snap-in polarizer (military polarization).
2. 10- position pinless headers have only one slot for dual polarization.
3. For information regarding latch/pin header applications and for ordering latches separately, refer to page 5015.

High-Temperature, Thru-Hole (SMT Compatible) Universal Ejection Style Pin Header .100 x .100 Centers, .025 Sq. Posts

Specifications subject to change.
For latest design specifications...
1-800-522-6752

Dimensioning:
Dimensions are in inches

Material and Finish:

Housing - Red thermoplastic, 94V-0 rated

Contacts - Phosphor bronze or brass, duplex plated .000030 gold on mating end, .000150 min. matte tin lead on solder tail, with entire contact underplated .000050 nickel

Solder tails are .110

Related Product Data:

Electrical Characteristics - page 5003

Mateable Receptacles:

Novo - pages 5004 and 5005
Shielded Novo - pages 5023 and 5024

Accessories:

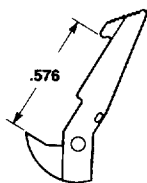
Snap-In Polarizer - page 5031

Technical Documents - page 5034

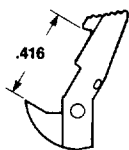
Latches

Material: Red thermoplastic, 94V-0 rated

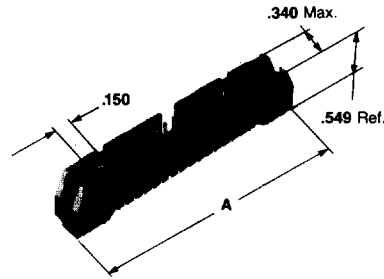
Latch Part No. 111338-1 (for use with receptacles with recessed cover and strain relief.)



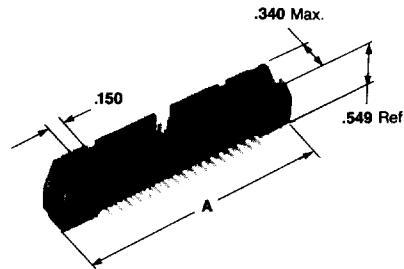
Latch Part No. 111293-1 (for use with receptacles with recessed cover.)



Straight-Thru, 4 Sided

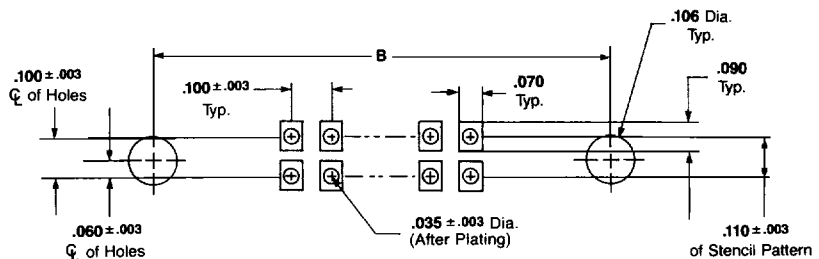


Right-Angle, 4 Sided

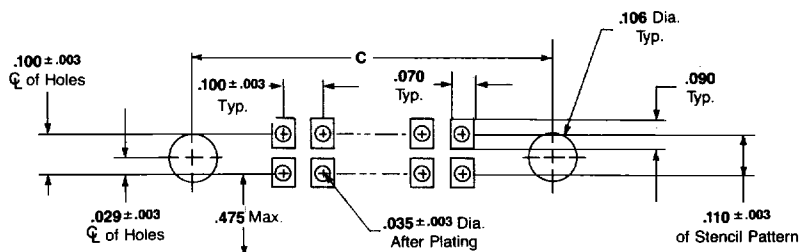


No. of Pos.	Dimensions			Part Nos.	
	A	B	C	Straight-Thru	Right-Angle
10	1.260	1.100	.860	111008-1	111105-1
14	1.460	1.300	1.060	111008-2	111105-2
16	1.560	1.400	1.180	111008-3	111105-3
20	1.760	1.600	1.360	111008-4	111105-4
24	1.960	1.800	1.560	111008-5	111105-5
26	2.060	1.900	1.660	111008-6	111105-6
30	2.260	2.100	1.860	111008-7	111105-7
34	2.460	2.300	2.060	111008-8	111105-8
40	2.760	2.600	2.360	111008-9	111105-9
44	2.960	2.800	2.560	1-111008-3	1-111105-3
50	3.260	3.100	2.860	1-111008-0	1-111105-0
60	3.760	3.600	3.360	1-111008-1	1-111105-1
64	3.960	3.800	3.560	1-111008-2	1-111105-2

Notes: 1. 10- and 14- position pinless headers have only one slot for snap-in polarizer (military polarization).
2. 10- position pinless headers have only one slot for dual polarization.



Recommended Pc Board Mounting Pattern for Straight-Thru Header



Recommended Pc Board Mounting Pattern for Right-Angle Header

Stacked Pin Header, Right-Angle Ejection Style, Dual and Center Polarized .100 x .100 Centers, .025 Sq. Posts

Specifications subject to change.
For latest design specifications...
1-800-522-6752

Dimensioning:
Dimensions are in inches

Material and Finish:

Housing - Black glass-filled, polyester, 94V-0 rated

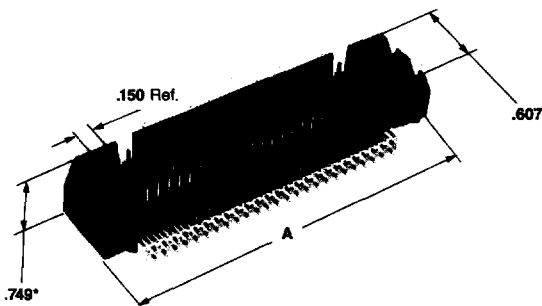
Contacts - Phosphor bronze, duplex plated .000030 gold on mating end, .000100-.000200 bright tin or bright tin lead on solder tail, with entire contact underplated .000050 nickel

Related Product Data:

Electrical Characteristics - page 5003

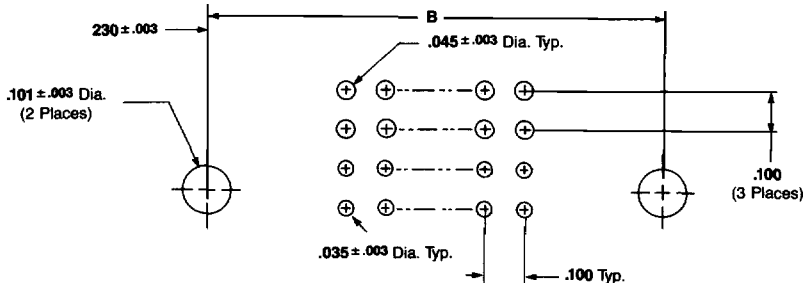
Mateable Receptacles -
Novo - pages 5004 and 5005
Stackable Novo - page 5007

Technical Documents - page 5034



*Dimension from mating face to rear of pin protection feature.

No. of Pos.	Dimensions		Part Nos.
	A	B	
20	1.260	.860	111391-1
28	1.460	1.060	111391-2
32	1.560	1.160	111391-3
40	1.760	1.360	111391-4
48	1.960	1.560	111391-5
52	2.060	1.660	111391-6
60	2.260	1.860	111391-7
68	2.460	2.060	111391-8
80	2.760	2.360	111391-9
100	3.260	2.860	1-111391-0
120	3.760	3.360	1-111391-1
128	3.960	3.560	1-111391-2



Recommended Pc Board Mounting Pattern

**Shielded Novo Receptacles
.100 x .100 Centers**

*Specifications subject to change.
For latest design specifications...
1-800-522-6752*

Dimensioning:
Dimensions are in inches

AMP-LATCH Shielded Novo Receptacle kits provide shielding capabilities for stackable Novo receptacles with .240 wide cover (left-hand cable stop). These stackable Novo receptacles mate with AMP pin connectors, bulkhead pin connectors and Universal Ejection Style Pin headers.

A one-step **TERMI-FOIL** connector crimp is used for terminating all points around the cable shield. After termination, the strain relief cover halves are simply snapped into place.

Material and Finish:

Shields - Brass, .012 thick; pretinned

Receptacle Housing, Cover and Strain Relief Covers - Black thermoplastic, 94V-0 rated

Receptacle Contacts - Phosphor bronze, duplex plated (see chart, page 5024)

Related Product Data:

Electrical Characteristics - page 5003

Mateable Pin Connectors:

Shielded - page 5028

Ground Plane Shielded Option - page 5025

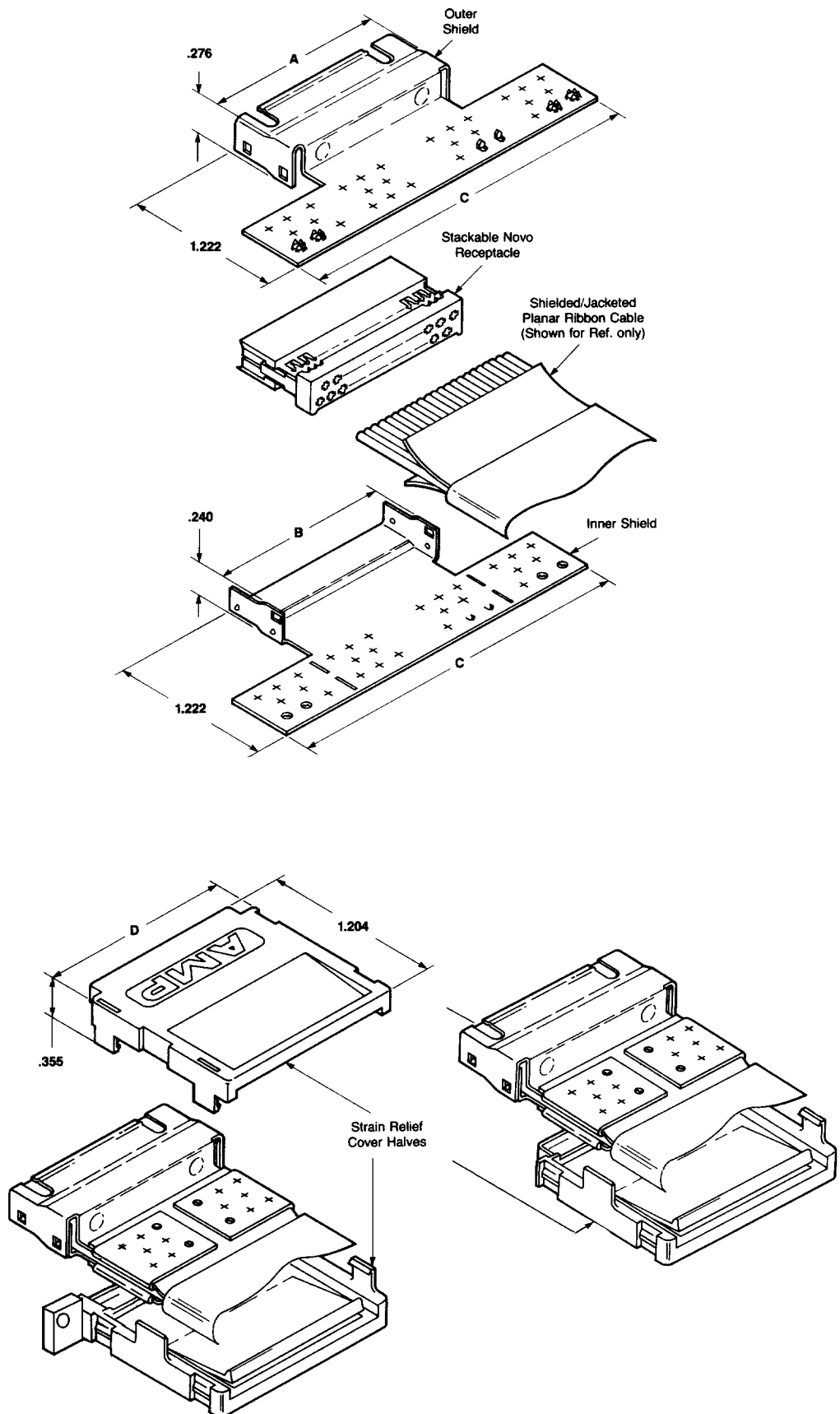
Mateable Universal Ejection Style Pin Headers:

With Pc Board Mounted Shield - page 5026

With Retrofit Shield - page 5027

Application Tooling - page 5032

Technical Documents - page 5034



Specifications subject to change.
For latest design specifications...
1-800-522-6752

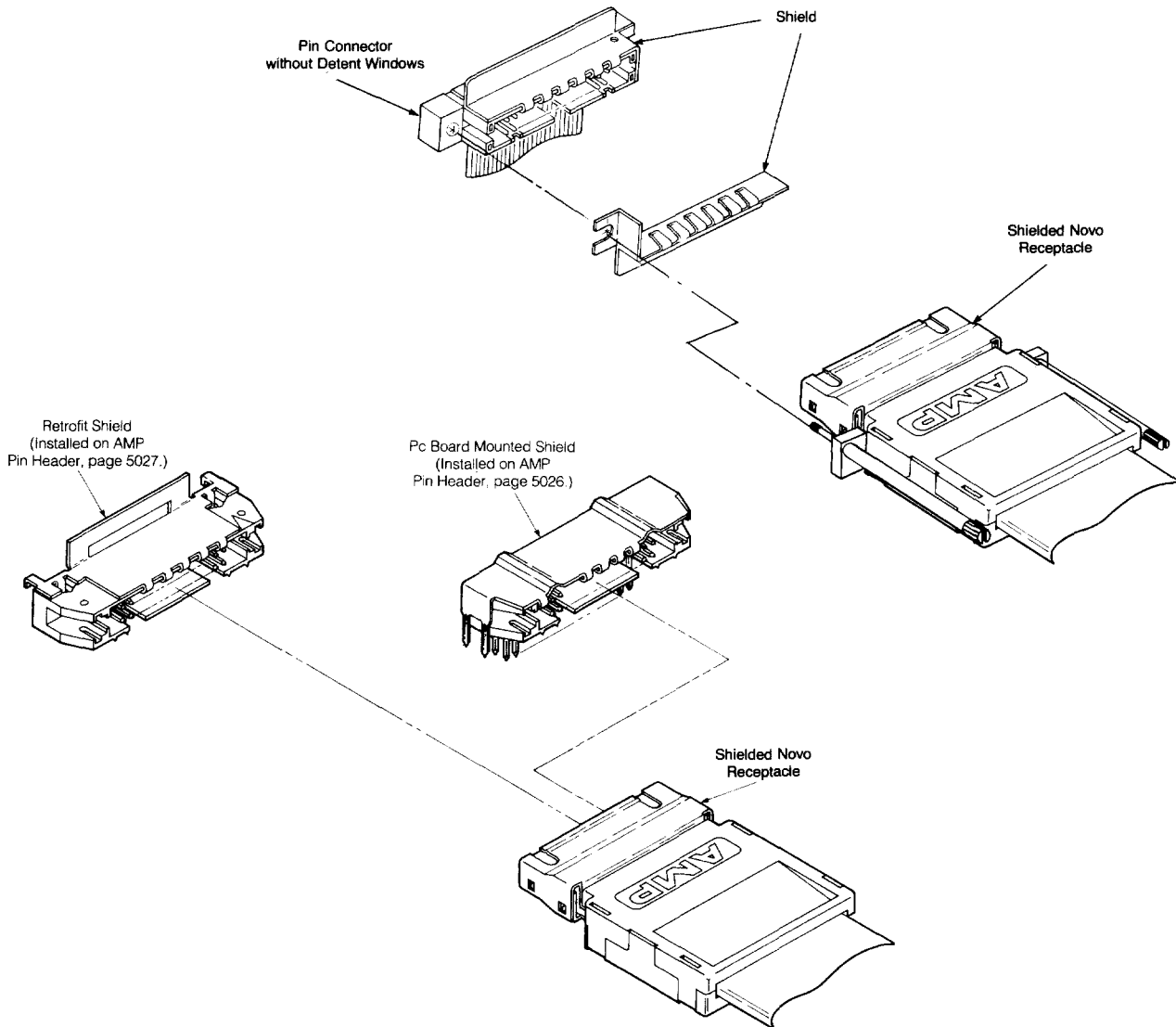
Dimensioning:
Dimensions are in inches

No. of Pos. (Receptacle Size)	Dimensions				Receptacle Contact Plating	Shielded Without Ears Kit No.	Shielded With Jackscrews Kit No.
	A	B	C	D			
20	1.146	1.115	2.192	1.384	Duplex ¹	746447-8	111090-8
					Duplex ²	746483-8	111091-8
26	1.446	1.415	2.792	1.684	Duplex ¹	1-746447-2	1-111090-2
					Duplex ²	1-746483-2	1-111091-2
34	1.846	1.815	3.592	2.084	Duplex ¹	1-746447-6	1-111090-6
					Duplex ²	1-746483-6	1-111091-6
40	2.146	2.115	4.192	2.384	Duplex ¹	1-746447-8	1-111090-8
					Duplex ²	1-746483-8	1-111091-8
50	2.646	2.615	5.192	2.884	Duplex ¹	2-746447-2	2-111090-2
					Duplex ²	2-746483-2	2-111091-2
60	3.146	3.115	6.192	3.384	Duplex ¹	2-746447-4	2-111090-4
					Duplex ²	2-746483-4	2-111091-4

¹ .000015 gold onpost/pin mating end. .000100-.000200 bright tin-lead on termination end, with entire contact underplated .000050 nickel.

² .000030 gold on post/pin mating end. .000100-.000200 bright tin-lead on termination end, with entire contact underplated .000050 nickel.

Notes: 1. These shielded receptacle kits include a receptacle housing assembly and recessed cover (preassembled), two shields and two strain relief cover halves. Shields and cover halves are packaged unassembled.
2. Kit includes hardware.



Typical Mateable Shielding Hardware for Shielded Novo Receptacles

*Specifications subject to change.
For latest design specifications...
1-800-522-6752*

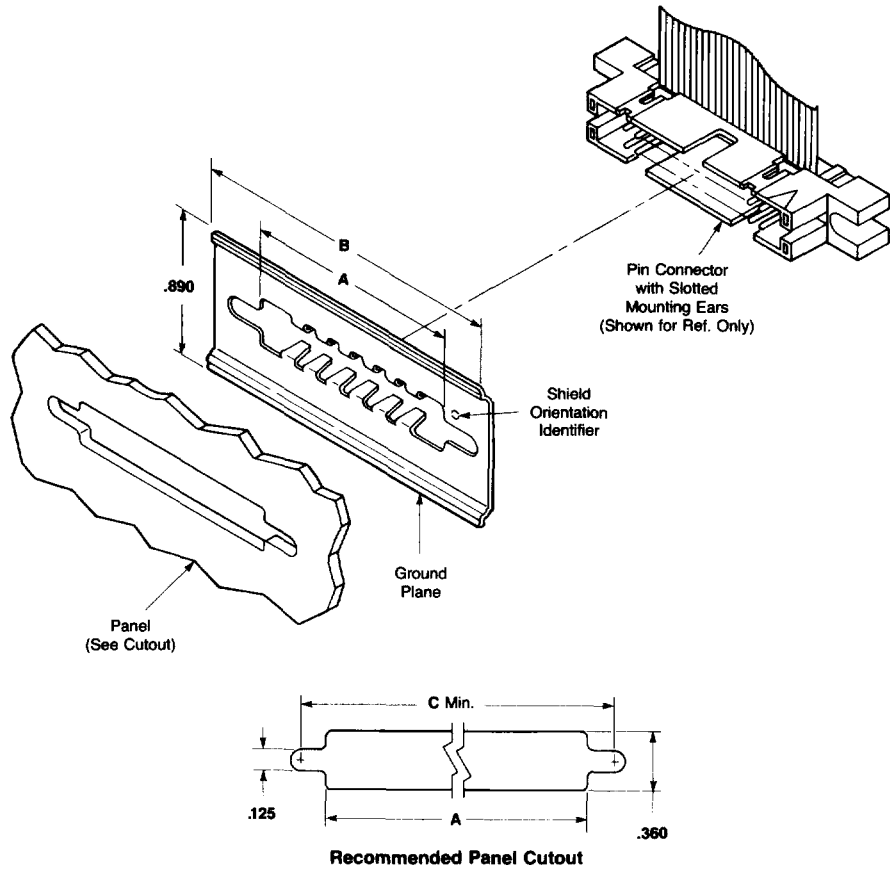
Dimensioning:
Dimensions are in inches

**Ground Plane Shields for
Pin Connectors
with Slotted Mounting Ears
(to Mate with Shielded Novo Receptacles)**

The configuration of these Ground Plane Shields provides an easy means for grounding mated shielded Novo receptacles to a panel. No special mounting hardware is required.

Material and Finish:
Brass, .008 thick; pretinned

Related Product Data:
Mateable Shielded Novo Receptacles - pages 5023 and 5024
Technical Documents - page 5034



No. of Pos. (Connector Size)	Dimensions			Ground Plane Shield Part No.
	A	B	C	
20	1.300	1.900	1.600	746484-4
26	1.600	2.200	1.900	746484-6
34	2.000	2.600	2.300	746484-8
40	2.300	2.900	2.600	746484-9
50	2.800	3.400	3.100	1-746484-1
60	3.300	3.900	3.600	1-746484-2

Note: Bulkhead pin connectors and pin connectors with slotted mounting ears must be ordered separately.

**Specifications subject to change.
For latest design specifications...
1-800-522-6752**

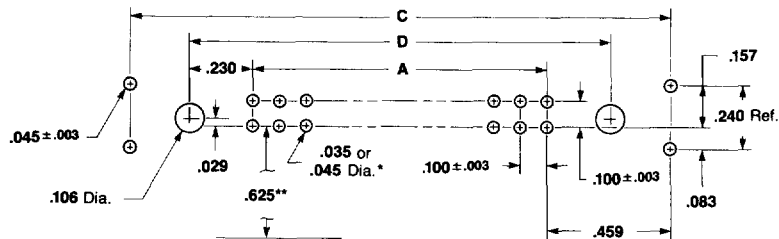
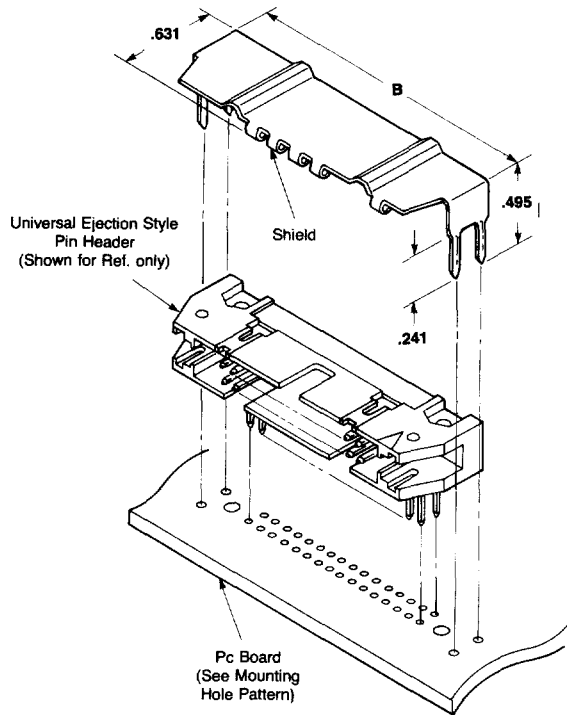
Dimensioning:
Dimensions are in inches

**Pc Board Mounted Shields
for Universal Ejection Style
Pin Headers,
Right-Angle, 4-Sided**

Pc Board Mounted Shields are designed to be wave-soldered to the pc board ground plane. They are installed over 4-sided, right-angle pin headers and provide the shielding interface of shielded Novo receptacles when mated with AMP Universal Ejection Style Pin Headers.

Material and Finish
Brass, .008 thick; pretinned

Related Product Data:
Universal Ejection Style Pin Headers used with (Use with Latch Part No. 746469-1 for shielding) - page 5017
Mateable Shielded Novo Receptacles - pages 5023 and 5024
Technical Documents - page 5034



Recommended Mounting Hole Pattern
*.035 hole dia. for soldering of posts .110 and .155 long.
.045 hole dia. for wrap-type termination of posts .610 long
**Maximum distance from edge of pc board.

No. of Pos. (Pin Header Size)	Dimensions				Pc Board Mounted Shield Part No.
	A	B	C	D	
20	.900	1.810	1.818	1.360	746684-4
26	1.200	2.110	2.118	1.660	746684-6
34	1.600	2.510	2.518	2.060	746684-8
40	1.900	2.810	2.818	2.360	746684-9
50	2.400	3.310	3.318	2.860	1-746684-1
60	2.900	3.810	3.818	3.360	1-746684-2

Note: Universal ejection style pin headers must be ordered separately.

**Specifications subject to change.
For latest design specifications...
1-800-522-6752**

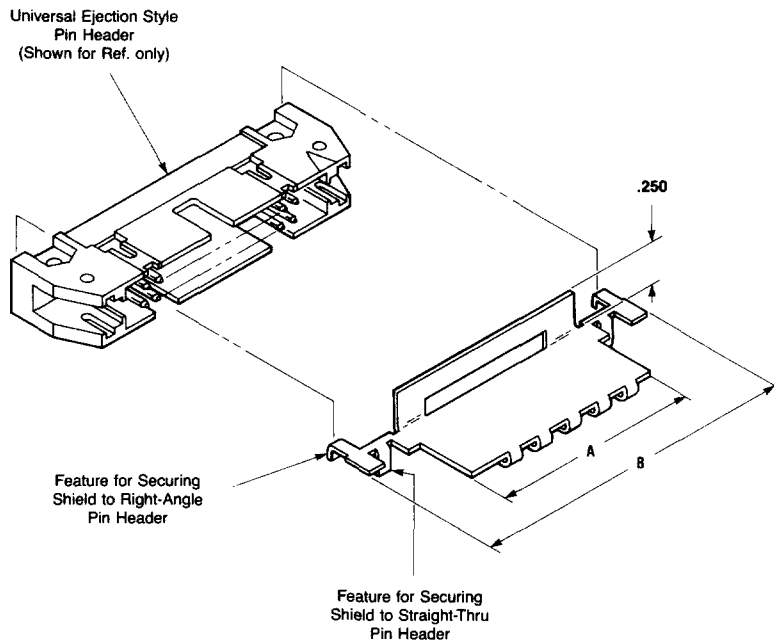
Dimensioning:
Dimensions are in inches

**Retrofit Shields for
Universal Ejection Style Pin
or Pinless Headers,
Straight-Thru and Right Angle,
4-Sided**

Retrofit Shields are simply added to a pin or pinless header, allowing customers to quickly convert an existing unshielded header to a shielded header. They can be used on either AMP Universal Ejection Style Pin or Pinless Headers (Straight-Thru and Right-Angle, 4-Sided).

Material and Finish:
Brass, .008 thick; pretinned

Related Product Data:
Universal Ejection Style Pin Headers used with (Use with Latch Part No. 746469-1 for shielding):
Straight-Thru, 4-Sided - page 5016
Right-Angle, 4-Sided - page 5017
Universal Ejection Style Pinless Headers used with - page 5020
Mateable Shielded Novo Receptacles - pages 5023 and 5024
Technical Documents - page 5034



No. of Pos. (Pin Header Size)	Dimensions		Retrofit Shield Part No.
	A	B	
20	1.000	1.760	746431-4
26	1.300	2.060	746431-6
34	1.700	2.460	746431-8
40	2.000	2.760	746431-9
50	2.500	3.260	1-746431-1
60	3.000	3.760	1-746431-2

Note: Universal ejection style pin and pinless headers must be ordered separately.

Shielded Pin Connectors

Specifications subject to change.
For latest design specifications...
1-800-522-6752

Dimensioning:
Dimensions are in inches

Shielded Pin Connectors with Slotted Mounting Ears

AMP-LATCH Shielded Pin Connector kits provide shielding capabilities for AMP pin connectors with both slotted mounting ears and mounting ears with molded-in threaded inserts. These pin connectors mate with AMP shielded Novo receptacles. Shields can be quickly installed onto the pin connector, requiring no mounting hardware.

Material and Finish:

Shields - Brass, .008 thick; pretinned

Connector Housing and Cover - Black thermoplastic, 94V-0 rated

Connector Contacts - Phosphor bronze, duplex plated

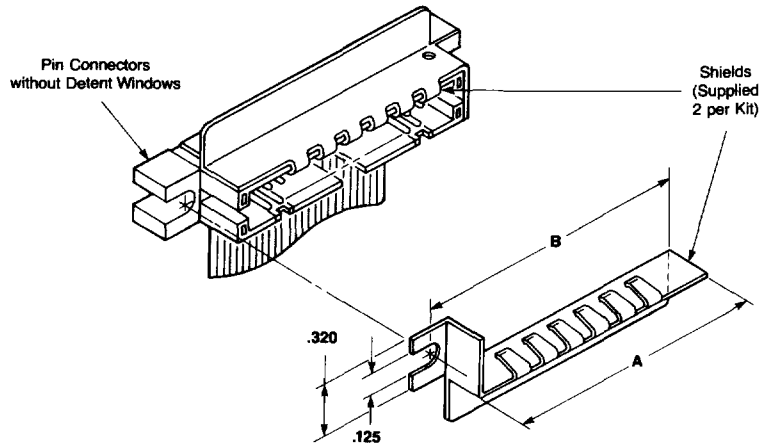
Related Product Data:

Electrical Characteristics - page 5003

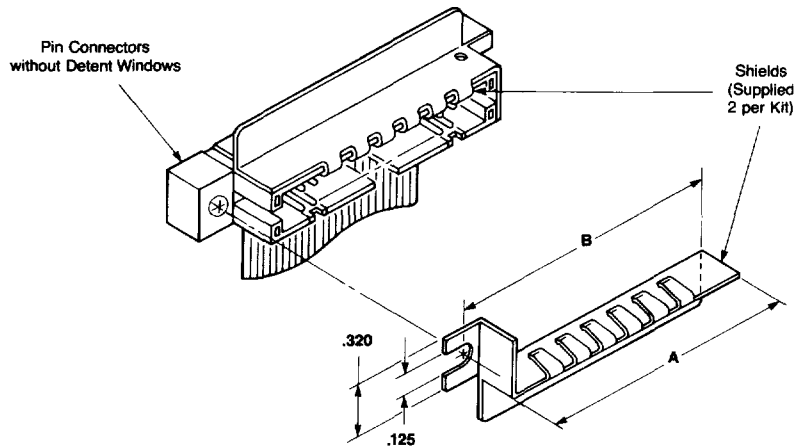
Mateable Shielded Novo Receptacles - pages 5023 and 5024

Technical Documents - page 5034

With Slotted Mounting Ears



With Mounting Ears with Molded-In Inserts

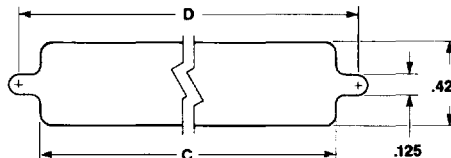


No. of Pos. (Connector Size)	Dimensions				Connector Contact Plating	Shielded Kit Nos.	
	A	B	C	D		with Slotted Mounting Ears	with Mounting Ears with Molded-In Inserts
20	1.377	1.461	1.462	1.782	Duplex ¹	746638-8	1-11297-8
					Duplex ²	746637-8	1-11296-8
26	1.677	1.761	1.762	2.082	Duplex ¹	1-746638-2	1-11297-2
					Duplex ²	1-746637-2	1-11296-2
34	2.077	2.161	2.162	2.482	Duplex ¹	1-746638-6	1-11297-6
					Duplex ²	1-746637-6	1-11296-6
40	2.377	2.461	2.462	2.782	Duplex ¹	1-746638-8	1-11297-8
					Duplex ²	1-746637-8	1-11296-8
50	2.877	2.961	2.962	3.282	Duplex ¹	2-746638-2	2-11297-2
					Duplex ²	2-746637-2	2-11296-2
60	3.377	3.461	3.462	3.782	Duplex ¹	2-746638-4	2-11297-4
					Duplex ²	2-746637-4	2-11296-4

¹ .000015 gold on pin end; .000100-.000200 bright tin-lead on cable termination end; entire contact underplated with .000050 nickel.

² .000030 gold on pin end; .000100-.000200 bright tin-lead on cable termination end; entire contact underplated with .000050 nickel.

Note: These shielded pin connectors include a connector and two shields and hardware where appropriate. Shields are packaged unassembled.



Recommended Panel Cutout


Planar Ribbon Cable .050 Centers

Specifications subject to change.
For latest design specifications...
1-800-522-6752

Dimensioning:
Dimensions are in inches

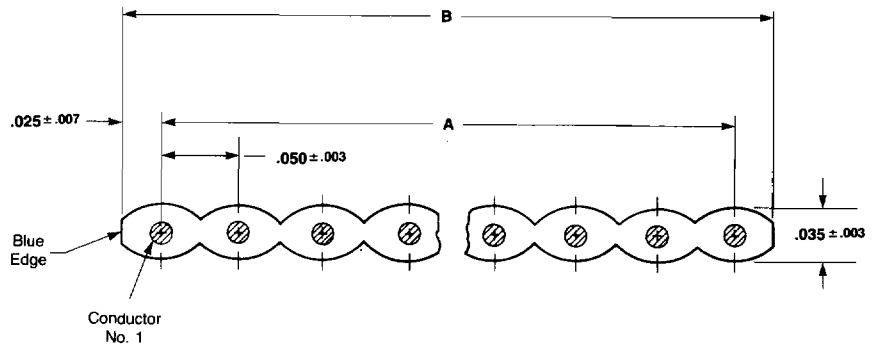
An integral part of AMP flat cable termination system is flat ribbon cable. The cable is furnished in a wide range of popular sizes and is stored on reels with a 100 ft. minimum capacity for easy handling. The cable also can be terminated to any pre-assembled AMP-LATCH connector using AMP application tools featuring one-step mass termination technology. The tooling is presented on pages 5032 and 5033.

Planar Ribbon Cable is constructed of standard gray polyvinylchloride (PVC) insulation and 28 AWG stranded conductors.

Recognized under the Component Program of Underwriters Laboratories Inc. File No. E53793, UL Style No. 2651 

In accordance with IPC-FC-222/19

Flammability Rating – VW-1



Conductors: 28 AWG tinned copper, 7/36 stranded
Insulation: standard gray PVC, flame retardant; with blue edge on Conductor No. 1 side.
Temperature Rating: -20°C to +105°C
Voltage Rating: 300 volts
Insulation Resistance: 10,000 megohms/10 ft

Typical Electrical Values: **GND-SIG-GND**
 Characteristic Impedance 104-106 ohms
 Capacitance 13.5 pf/ft
 Time Delay 1.44 ns/ft

Crosstalk (per 9.84 ft section):

	0.5 ns Rise Time	1 ns Rise Time	2 ns Rise Time	5 ns Rise Time
Near End	2.8-3%	2.8-3%	2.8-3%	2.8-3%
Far End	19%	14.5%	9%	4%

No. of Conductors	Dimensions		Reel Part No.*
	A	B	
9	.400	.450	2-499116-1
10	.450	.500	499116-7
14	.650	.700	499116-1
15	.700	.750	2-499116-0
16	.750	.800	499116-2
18	.850	.900	1-499116-7
20	.950	1.000	499116-3
24	1.150	1.200	1-499116-1
25	1.200	1.250	1-499116-8
26	1.250	1.300	499116-4
30	1.450	1.500	1-499116-2
34	1.650	1.700	499116-8
36	1.750	1.800	1-499116-6
37	1.800	1.850	1-499116-9
40	1.950	2.000	499116-5
44	2.150	2.200	1-499116-0
50	2.450	2.500	499116-6
60	2.950	3.000	499116-9

* 100-ft. continuous (splice-free) reel.

Accessories

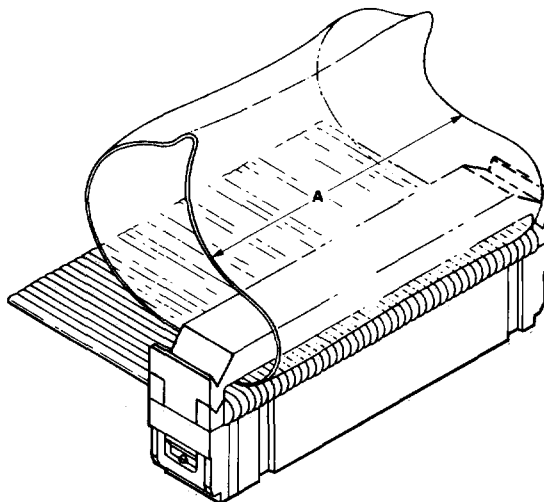
*Specifications subject to change.
For latest design specifications...
1-800-522-6752*

Dimensioning:
Dimensions are in inches

**Pull Tabs, Permanent
(for Receptacles
and Pin Connectors)**

Material: Natural color PVC
94-VTM-1 Rating (thin material)

Related Product Data:
Receptacles used with:
Novo - pages 5004 and 5005
Technical Documents - page 5034



Note: This pull tab is installed manually between the cover and strain relief.

No. of Pos.	Dimension A	Pull Tab Part No.
—	120	88450-1
10	.44	88450-2
14	.64	88450-3
16	.74	88450-4
20	.88	88450-5
24	1.08	88450-6
26	1.18	88450-7
30	1.38	1-88450-2
34	1.58	88450-8
40	1.82	88450-9
50	2.32	1-88450-0
60	2.80	1-88450-1

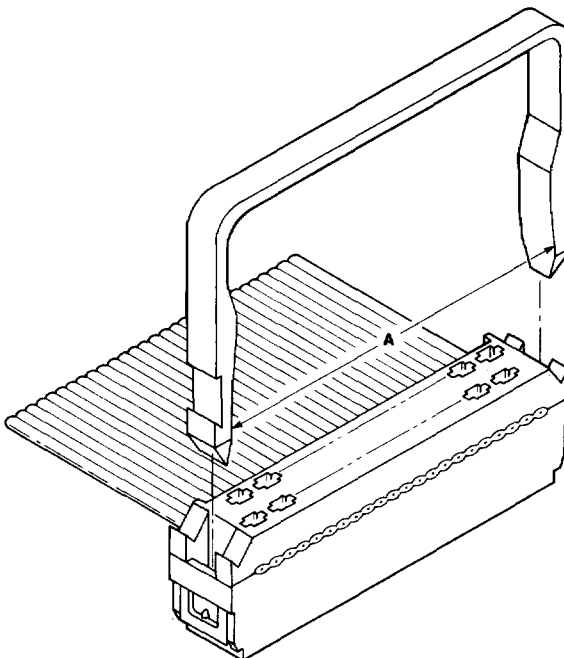
5

Ribbon and Flat Cable Connectors

**Pull Tabs, Snap-In
(for Receptacles
without Strain Relief)**

Material: Black thermoplastic,
94V-0 rated

Related Product Data:
Receptacles used with:
Novo - pages 5004 and 5005
Technical Documents - page 5034



No. of Pos.	Dimension A	Pull Tab Part No.
10	.550	746601-1
14	.750	746601-2
16	.850	746601-3
20	1.050	746601-4
24	1.250	746601-5
26	1.350	746601-6
30	1.550	746601-7
34	1.750	746601-8
40	2.050	746601-9
44	2.250	1-746601-0
50	2.550	1-746601-1
60	3.050	1-746601-2
64	3.250	1-746601-3

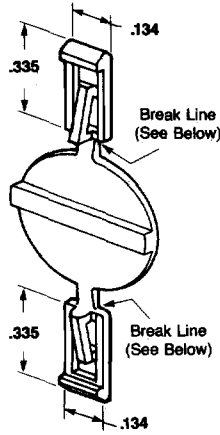
**Specifications subject to change.
For latest design specifications...
1-800-522-6752**

Dimensioning:
Dimensions are in inches

**Polarizer, Snap-In
(for Pin Connectors,
Universal Pin and Pinless
Headers and Low Profile
Pin Headers)**

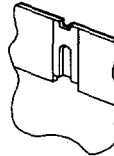
Material: Black thermoplastic,
94V-0 rated
Part Nos.:
499991-2 (Packaged 50 per bag)
499991-3 (Packaged 1000 per box)

Related Product Data:
Pin Headers used with:
Universal - pages 5016 through 5019
**Universal Pinless Headers used
with -** page 5020
Technical Documents - page 5034

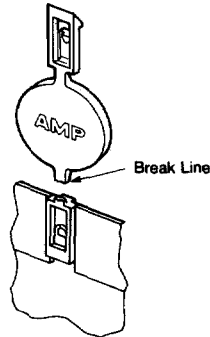


The snap-in polarizer provides military polarization for pin connectors (without detent windows), Universal pin and pinless headers and Low Profile pin headers. Installation of the polarizer is as follows:

Orient the polarizer so that the polarizer latch is on the same side as the inner wall (post side) of the connector/header housing.



Slide the polarizer over the polarizing slot of the housing until the latch engages the hole. Snap off the tab at the break line next to the housing. Using the remaining polarizer, repeat the process for the other housing location.



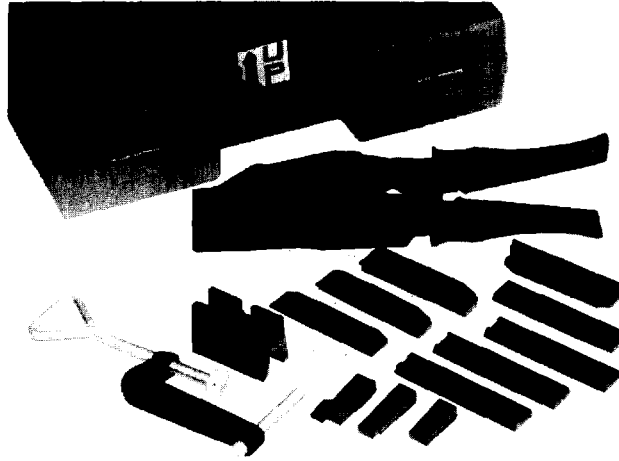
*Specifications subject to change.
For latest design specifications...
1-800-522-6752*

Application Tooling for AMP-LATCH Connectors (One-Step Termination)

Hand Tool Kit

This hand tool kit is designed to terminate AMP-LATCH connectors up to and including 60 positions with contacts on .100 x .100 centers to flat ribbon cable. Cable conductor sizes may be 30 AWG solid, 28 AWG solid or stranded or 26 AWG solid or stranded.

Hand Tool Kit includes the Hand Tool, a Bench Mount Clamp, a Cable Cutter (No. 543263-1), locators for Receptacle, Card Edge and HDF connectors and the plastic case.



Hand Tool Kit No. 91271-1

Manual Arbor Tool and Pneumatic Auto-Cycle Tool

These application tools are designed for one-step termination of AMP-LATCH connectors to planar, ground plane and shielded/jacketed ribbon cable on .050 centers. A complete set of tooling consists of a press (manual or pneumatic), a termination die set and a locator kit.

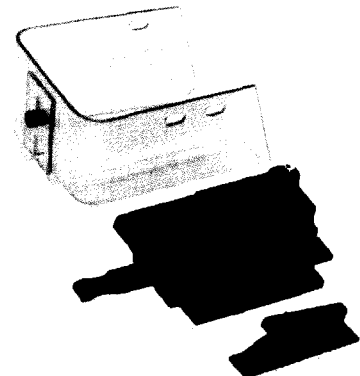
For additional information about tooling, call the AMP Customer Service Hotline 1-800-722-1111.



Manual Arbor Tool No. 91085-2



Pneumatic Auto-Cycle Tool No. 91112-3



Pneumatic Auto-Cycle Tool Termination
Die Set and Shield No. 543360-1

Note: Tooling is available for other manufacturer's manual arbor tools. For information, call the AMP Product Information Center 1-800-522-6752

R-CAM 2A & R-CAM 3A Ribbon Cable Assembly Machines

*Specifications subject to change.
For latest design specifications...
1-800-522-6752*

R-CAM 2A Machine No. 760700-6

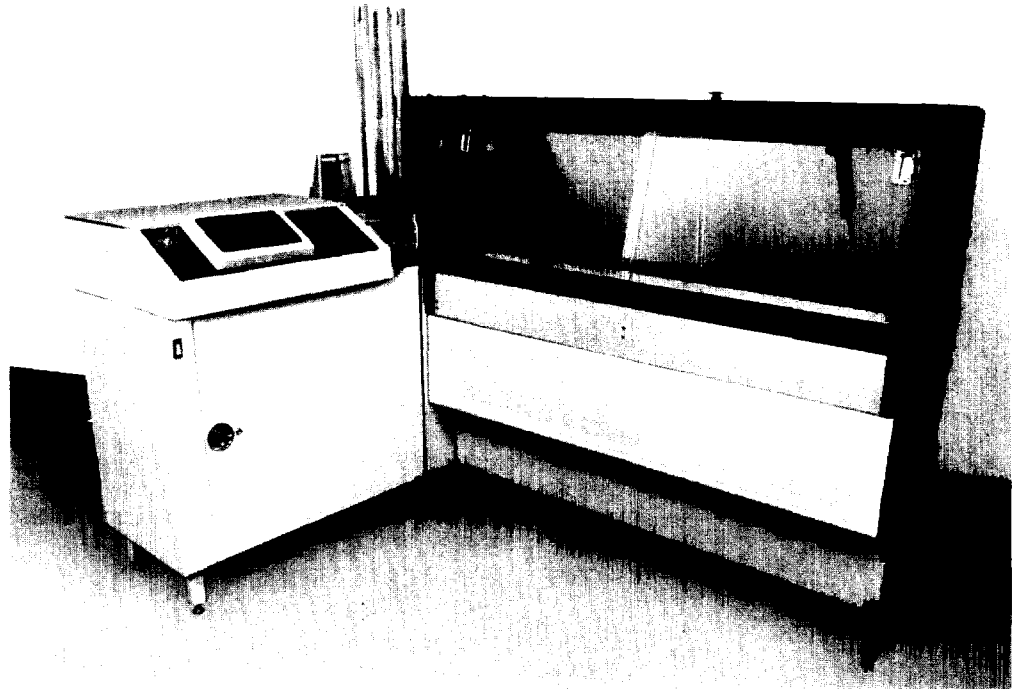
The R-CAM 2A Machine, the industry's most complete production ribbon cable machine for .050 centerline cable, is capable of applying and testing up to 1,672 connectors per hour.

This versatile machine automatically feeds cable and connectors, terminates cable, then tests and ejects finished cable assembly. Cable assemblies, with cable length up to 48, may contain a total of four connectors in any orientation. The machine tests each assembly for shorts, opens and high-voltage breakdown, isolating any defective assemblies, and automatically stops after three consecutive defects as programmed by the operator.

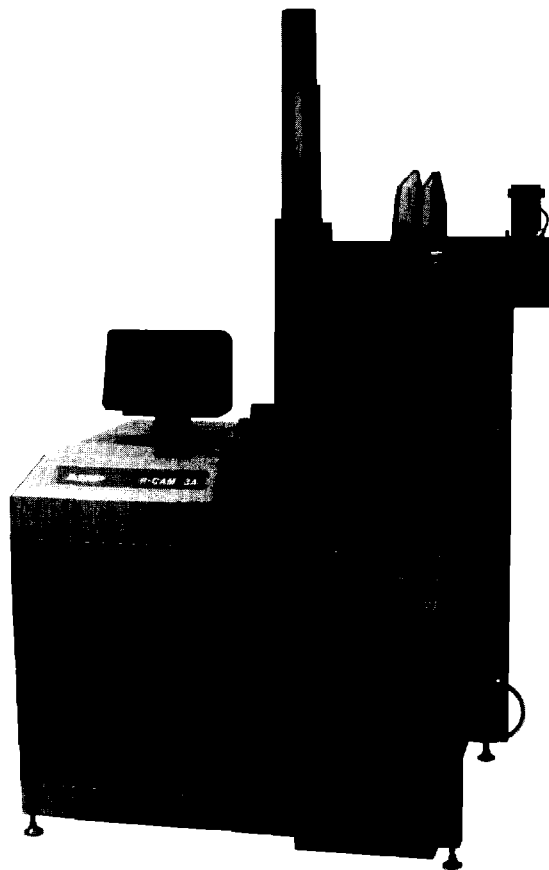
The R-CAM 2A Machine is operated by a touch screen, making it easy to use. It can be programmed from the touch screen, and parameters for over 100 cable assemblies can be retained in memory. The unit checks the program against the machine set-up to prevent errors. The interactive display provides troubleshooting direction to pinpoint malfunctions. Changeover is toolless and rapid; the most extensive change requires only 25 minutes.

Currently, the machine applies AMP-LATCH receptacles and card edge connectors to cable meeting AMP Product Specification 108-40004. It accommodates 10 to 64 position card-edge connectors and 20- through 60-position receptacles without tooling changes. Tooling for other configurations is also available.

R-CAM 3A Machine No. 761900-1



Length: 108
Width: 54
Height: 60
Air: 80 psi 8 SCFM
Electric Requirement: .115 VAC, 50 or 60 Hz, 15 amperes



Length: 48
Width: 48
Height: 62
Air: 80 psi @ 8 scfm
Electric Requirement: 120 VAC, 50-60 Hz, Single Phase, 15 amperes

Specifications subject to change.
For latest design specifications...
1-800-522-6752

Various technical documents are available for your use:

Product Specifications describe technical performance characteristics and verification tests. They are intended for the Design, Component and Quality Engineer.

108-40000	Novo Receptacles
108-40004	Ribbon Cable, PVC Insulated, AMP
108-40009	Receptacles
108-40013	Paddle Board and DIP Plug Connectors
108-40018	Pin Headers
108-40019	Pin Headers with ACTION PIN Contacts
108-40022	Pin Connectors
108-40024	Stackable Novo Receptacles
108-46000	Card Edge Connectors
108-46001	Shielded Receptacles

Application Specifications describe requirements for using the product in its intended application and/or crimping information. They are intended for the Packaging and Design Engineer and the Machine Setup Person.

114-40005	Ribbon Cable Connectors
114-46000	Shielded Novo Receptacles

Instruction Sheets provide instructions for assembling or applying the product. They are intended for the Manufacturing Assembler or Operator.

Instructional material covering operation, setup, maintenance, repair, etc. is included with each machine, tool or die set. If this material is required prior to receiving your tooling, call the AMP Customer Service Hotline 1-800-722-1111 for the applicable document.