MAC-PANEL

Interconnect Solutions & Services

Since 1958

Series 157

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Series 157 Specifications

Receiver

- **Materials**

Frame Members : 6061 Aluminum alloy
Latch Mechanism: 303 Stainless steel
Inserts : Phenolic/Diallyl phthalate

- **Signal Contact Springs**

Material	Beryllium Copper (Heat Treated)
Plating Thickness	Nickel .0001" Gold .00003" over .0001" Nickel
Average Contact Resistance	Nickel Contact Spring to Nickel Tip .009 Ω Gold Contact Spring to Gold Tip .004 Ω
Continuous Current Rating	5 Amperes at 68° F
Maximum Operating Voltage (Sea Level)	1500v DC / 1000v RMS AC

Plugboard

- **Materials**

Rails : 6061 Aluminum alloy
Inserts : Phenolic/Diallyl phthalate
Hardware : Stainless steel
Rollers : Stainless steel

- **Signal Plugwire Tips**

Type	Nickel	Gold
Base Material	Brass	Brass
Plating Thickness	.0001"	.00001" Hard Gold over .0001" Nickel
Crimp Test	20 lbs. Pullout	20 lbs. Pullout

- **Capacitance and Inductance**

		Phenolic	Diallyl
CAPACITANCE between adjacent contact springs and plug wire tip combination :	Horizontal	5.0 mmf.	5.98 mmf.
	Vertical	4.25 mmf.	5.10 mmf.
CAPACITANCE between one contact spring-plugwire tip combination and eight surrounding :		12.95 mmf.	15.5 mmf.
INDUCTANCE of contact spring-plugwire tip combination:		.05μh	

- **Inserts**

Material	**Leakage Resistance Between Adjacent Holes**	**Hole Spacing (Center to Center)**
Phenolic	$> 5 \times 10^{10}$	.281" x .281" or .250" x .281"
Diallyl Phthalate (mineral filled, nylon fibre reinforced)	$> 1 \times 10^{13}$	

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Sales and Manufacturing Facility
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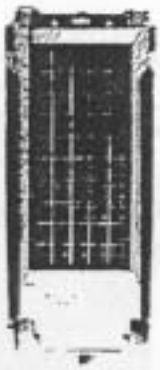
Series 157

Spring Lock Systems - Receivers

Model	Contact Format H	Contact Format V	Insert Material	Contact Plating	CATALOG NUMBER Taper Pin or Solder	CATALOG NUMBER .025 Wire Wrap	CATALOG NUMBER .045 Wire Wrap	Approx. Dim.	Hole to Hole Spacing
902 200 pos.	10 1-10	20 A-T	Phenolic	Nickel	109021	7109021	2109021	W: 4.1" H: 10.2" Weight : 2.6 lbs.	.250" x .281 "
				Gold	109022	7109022	2109022		
	General Purpose		Diallyl Phthalate	Nickel	129021	7129021	2129021		
				Gold	129022	7129022	2129022		
903 320 pos.	16 1-16	20 A-T	Phenolic	Nickel	109031	7109031	2109031	W: 5.4" H: 10.2" Weight : 3.6 lbs.	.250" x .281"
				Gold	109032	7109032	2109032		
	General Purpose		Diallyl Phthalate	Nickel	129031	7129031	2129031		
				Gold	129032	7129032	2129032		
904 440 pos.	22 1-22	20 A-T	Phenolic	Nickel	109041	7109041	2109041	W: 7.1" H: 10.2" Weight : 4.3 lbs.	.250" x .281"
				Gold	109042	7109042	2109042		
	General Purpose		Diallyl Phthalate	Nickel	129041	7129041	2129041		
				Gold	129042	7129042	2129042		
905 440 pos.	20 1-20	22 A-V	Phenolic	Nickel	109051	7109051	2109051	W: 6.5" H: 10.7" Weight : 4 lbs.	.250" x .281"
				Gold	109052	7109052	2109052		
	General Purpose		Diallyl Phthalate	Nickel	129051	7129051	2129051		
				Gold	129052	7129052	2129052		



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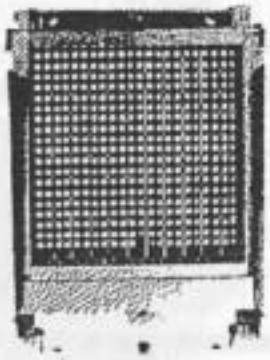

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Series 157

Spring Lock Systems - Plugboards and Covers

Plugboards

Model	Panel Material	Silk Screen	Catalog Number	Approximate Dimensions
902	Phenolic	Blank	209020	Width : 3.5"
		General	209021	
		Special	209022	Height : 6.7"
	Diallyl Phthalate	Blank	229020	
		General	229021	Weight : 1.0 lbs.
		Special	229022	
903	Phenolic	Blank	209030	Width : 5.1"
		General	209031	
		Special	209032	Height : 6.6"
	Diallyl Phthalate	Blank	229030	
		General	229031	Weight : 1.2 lbs.
		Special	229032	
904	Phenolic	Blank	209040	Width : 6.6"
		General	209041	
		Special	209042	Height : 6.7"
	Diallyl Phthalate	Blank	229040	
		General	229041	Weight : 1.4 lbs.
		Special	229042	
905	Phenolic	Blank	209050	Width : 5.9"
		General	209051	
		Special	209052	Height : 7.1"
	Diallyl Phthalate	Blank	229050	
		General	229051	Weight : 1.5 lbs.
		Special	229052	

Covers

Depth **	Catalog Number
1"	219020
2.5"	239020
1"	219030
2.5"	239030
1"	219040
2.5"	239040
1"	219050
2.5"	239050

** - Other depths available by special order

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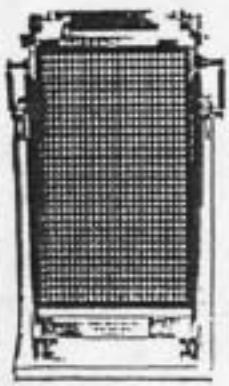
Series 157

Lever-Arm Systems - Receivers

Model	Contact Format H	Contact Format V	Insert Material	Contact Plating	CATALOG NUMBER Taper Pin or Solder	CATALOG NUMBER .025 Wire Wrap	CATALOG NUMBER .045 Wire Wrap	Approx. Dim.	Hole to Hole Spacing
901 680 pos.	20 1-20 General Purpose	34 A-AH	Diallyl Phthalate	Nickel	129011	7129011	2129011	W: 8.6" H: 14.1" Weight : 9.3 lbs.	.281" x .281"
				Gold	129012	7129012	2129012		
906 748 pos.	22 1-22 General Purpose	34 A-AH	Phenolic	Nickel	109061	7109061	2109061	W: 8.6" H: 14.1" Weight : 9.3 lbs.	.250" x .281"
				Gold	109062	7109062	2109062		
			Diallyl Phthalate	Nickel	129061	7129061	2129061		
				Gold	129062	7129062	2129062		
907 816 pos.	24 1-24 General Purpose	34 A-AH	Phenolic	Nickel	109071	7109071	2109071	W: 9.6" H: 14.1" Weight : 9.9 lbs.	.281" x .281"
				Gold	109072	7109072	2109072		
			Diallyl Phthalate	Nickel	129071	7129071	2129071		
				Gold	129072	7129072	2129072		
922 1280 pos.	40 1-40 General Purpose	32 A-AF	Phenolic	Nickel	109221	7109221	2109221	W:13.4" H: 13.6" Weight : 10.9 lbs.	.250" x .281"
				Gold	109222	7109222	2109222		
			Diallyl Phthalate	Nickel	129221	7129221	2129221		
				Gold	129222	7129222	2129222		
921 1600 pos.	50 1-50 General Purpose	32 A-AF	Phenolic	Nickel	109211	7109211	2109211	W:16.3" H: 13.6" Weight : 12.3 lbs.	.250" x .281"
				Gold	109212	7109212	2109212		
			Diallyl Phthalate	Nickel	129211	7129211	2129211		
				Gold	129212	7129212	2129212		



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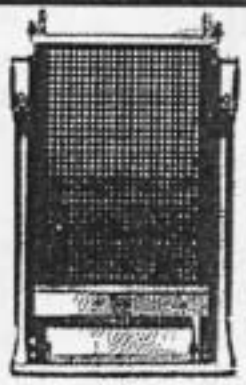

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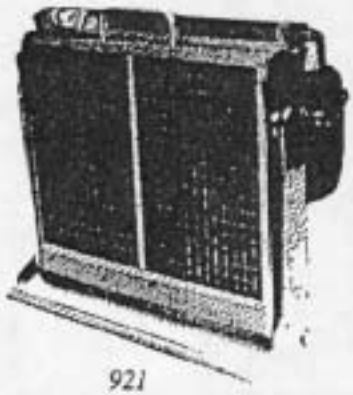

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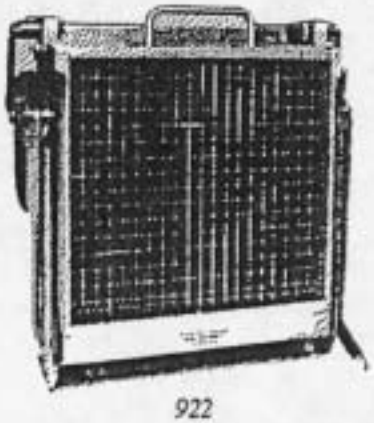

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Series 157

Lever-Arm Systems - Plugboards and Covers

Plugboards

Model	Panel Material	Silk Screen	Catalog Number	Approximate Dimensions
901	Diallyl Phthalate	Blank	229010	Width : 6.4"
		General	229011	Height : 10.6"
		Special	229012	Weight : 2.3 lbs.
906	Phenolic	Blank	209060	Width : 6.4"
		General	209061	
		Special	209062	Height : 10.6"
	Diallyl Phthalate	Blank	229060	
		General	229061	Weight : 2.3 lbs.
		Special	229062	
907	Phenolic	Blank	209070	Width : 7"
		General	209071	
		Special	209072	Height :10.6"
	Diallyl Phthalate	Blank	229070	
		General	229071	Weight : 2.4 lbs.
		Special	229072	
922	Phenolic	Blank	209220	Width : 11.1"
		General	209221	
		Special	209222	Height : 10"
	Diallyl Phthalate	Blank	229220	
		General	229221	Weight : 3.5 lbs.
		Special	229222	
921	Phenolic	Blank	209210	Width : 14"
		General	209211	
		Special	209212	Height : 10"
	Diallyl Phthalate	Blank	229210	
		General	229211	Weight : 3.8 lbs.
		Special	229212	

Covers

Depth **	Catalog Number
1"	219010
2.5"	239010
1"	219060
2.5"	239060
2.5"	239070
2.5"	239220
2.5"	239210

** - Other depths available by special order

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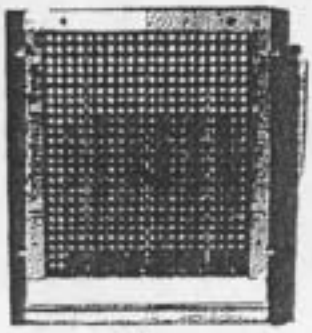
Series 157

Cam-Arm Systems - Receivers

Model	Contact Format H	Contact Format V	Insert Material	Contact Plating	CATALOG NUMBER Taper Pin or Solder	CATALOG NUMBER .025 Wire Wrap	CATALOG NUMBER .045 Wire Wrap	Approx. Dim.	Hole to Hole Spacing
916 480 pos.	20 1-20	24 A-X	Diallyl Phthalate	Nickel	129161	7129161	2129161	W: 8.1" H: 9.3" Weight : 5.3 lbs.	.281" x .281"
	General Purpose			Gold	129162	7129162	2129162		
918 680 pos.	20 1-20	34 A-AH	Diallyl Phthalate	Nickel	129181	7129181	2129181	W: 8.1" H: 12.1" Weight : 9 lbs.	.281" x .281"
	General Purpose			Gold	129182	7129182	2129182		
920 748 pos.	22 1-22	34 A-AH	Phenolic	Nickel	109201	7109201	2109201	W: 8.1" H: 12.1" Weight : 9 lbs.	.250" x .281"
				Gold	109202	7109202	2109202		
	General Purpose		Diallyl Phthalate	Nickel	129201	7129201	2129201		
				Gold	129202	7129202	2129202		
919 816 pos.	24 1-24	34 A-AH	Phenolic	Nickel	109191	7109191	2109191	W: 9.3" H: 12.1" Weight : 9 lbs.	.281" x .281"
				Gold	109192	7109192	2109192		
	General Purpose		Diallyl Phthalate	Nickel	129191	7129191	2129191		
				Gold	129192	7129192	2129192		



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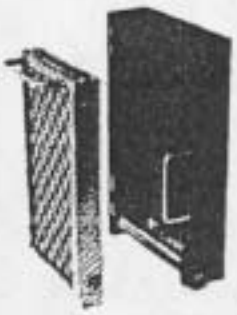

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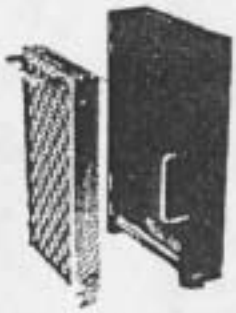

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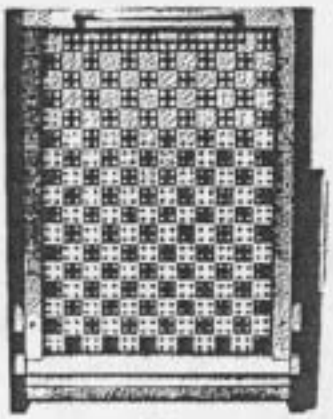

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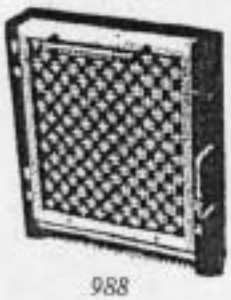
Series 157

Cam-Arm Systems - Receivers

Model	Contact Format H	Contact Format V	Insert Material	Contact Plating	CATALOG NUMBER Taper Pin or Solder	CATALOG NUMBER .025 Wire Wrap	CATALOG NUMBER .045 Wire Wrap	Approx. Dim.	Hole to Hole Spacing
988 1088 pos.	32 1-32	34 A-AH	Phenolic	Nickel	109881	7109881	2109881	W:11.2" H: 12.3" Weight : 11 lbs.	.250" x .281"
				Gold	109882	7109882	2109882		
	General Purpose		Diallyl Phthalate	Nickel	129881	7129881	2129881		
				Gold	129882	7129882	2129882		
924 1280 pos.	40 1-40	32 A-AF	Phenolic	Nickel	109241	7109241	2109241	W:13.0" H: 11.8" Weight : 10 lbs.	.250" x .281"
				Gold	109242	7109242	2109242		
	General Purpose		Diallyl Phthalate	Nickel	129241	7129241	2129241		
				Gold	129242	7129242	2129242		
923 1496 pos.	44 1-44	34 A-AH	Phenolic	Nickel	109231	7109231	2109231	W:15.3" H: 12.3" Weight : 15.8 lbs.	.250" x .281"
				Gold	109232	7109232	2109232		
	General Purpose		Diallyl Phthalate	Nickel	129231	7129231	2129231		
				Gold	129232	7129232	2129232		
925 1632 pos.	48 1-48	34 A-AK	Phenolic	Nickel	109251	7109251	2109251	W:17.7" H: 12.3" Weight : 18 lbs.	.281" x .281"
				Gold	109252	7109252	2109252		
	General Purpose		Diallyl Phthalate	Nickel	129251	7129251	2129251		
				Gold	129252	7129252	2129252		



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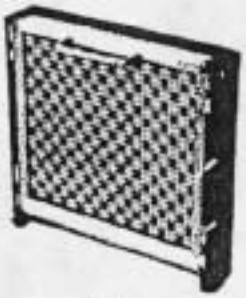

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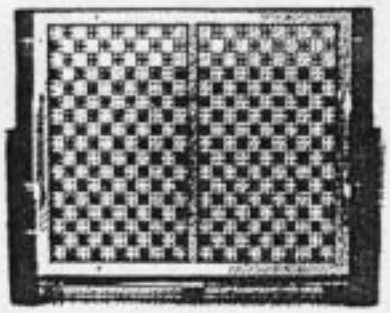

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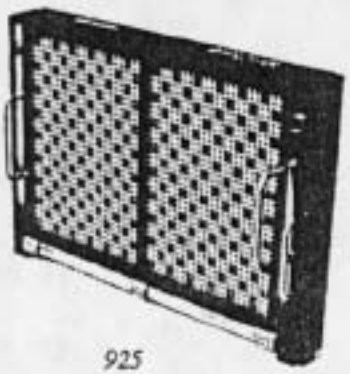

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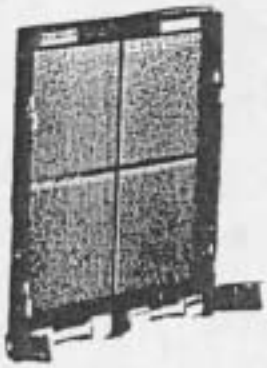
Series 157

Cam-Arm Systems - Receivers

Model	Contact Format H	Contact Format V	Insert Material	Contact Plating	CATALOG NUMBER Taper Pin or Solder	CATALOG NUMBER .025 Wire Wrap	CATALOG NUMBER .045 Wire Wrap	Approx. Dim.	Hole to Hole Spacing
926 2560 pos.	40 1-40 General Purpose	60 A-BL	Phenolic Diallyl Phthalate	Nickel	109261	7109261	2109261	W:13.5" H: 23.7" Weight : 24 lbs.	.250" x .281"
				Gold	109262	7109262	2109262		
				Nickel	129261	7129261	2129261		
				Gold	129262	7129262	2129262		
927 3264 pos.	48 1-48 General Purpose	68 A-BV	Phenolic Diallyl Phthalate	Nickel	109271	7109271	2109271	W:16.6" H: 24.7" Weight : 28 lbs.	.281" x .281"
				Gold	109272	7109272	2109272		
				Nickel	129271	7129271	2129271		
				Gold	129272	7129272	2129272		
928 4896 pos.	48 1-48 General Purpose	102 A-DG	Phenolic Diallyl Phthalate	Nickel	109281	7109281	2109281	W:17.2" H: 35" Weight : 37 lbs.	.281" x .281"
				Gold	109282	7109282	2109282		
				Nickel	129281	7129281	2129281		
				Gold	129282	7129282	2129282		
929 5120 pos.	80 1-80 General Purpose	64 A-BL	Phenolic Diallyl Phthalate	Nickel	109291	7109291	2109291	W:24.3" H: 23.6" Weight : 34 lbs.	.250" x .281"
				Gold	109292	7109292	2109292		
				Nickel	129291	7129291	2129291		
				Gold	129292	7129292	2129292		



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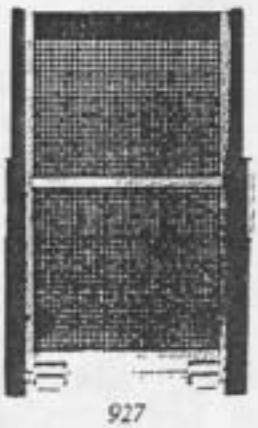

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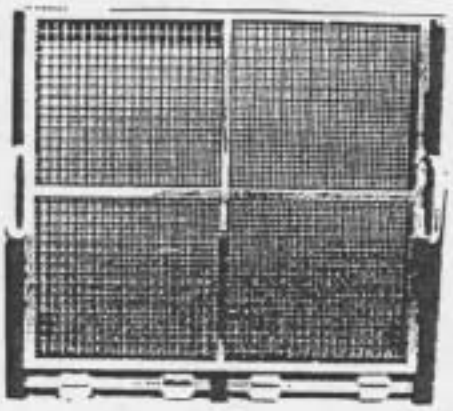

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Series 157

Cam-Arm Systems - Plugboards and Covers

Plugboards

Model	Panel Material	Silk Screen	Catalog Number*	Approximate Dimensions
916	Diallyl Phthalate	Blank	229160	Width : 6.7"
		General	229161	Height : 8.2"
		Special	229162	Weight : 2.3 lbs.
918	Diallyl Phthalate	Blank	229180	Width : 6.7"
		General	229181	Height : 11.0"
		Special	229182	Weight : 3 lbs.
920	Phenolic	Blank	209200	Width : 6.7"
		General	209201	
		Special	209202	Height : 11"
	Diallyl Phthalate	Blank	229200	
		General	229201	Weight : 2.3 lbs.
		Special	229202	
919	Phenolic	Blank	209190	Width : 7.9"
		General	209191	
		Special	209192	Height : 11"
	Diallyl Phthalate	Blank	229190	
		General	229191	Weight : 3 lbs.
		Special	229192	
988	Phenolic	Blank	209880	Width : 9.2"
		General	209881	
		Special	209882	Height : 10.8"
	Diallyl Phthalate	Blank	229880	
		General	229881	Weight : 3.5 lbs.
		Special	229882	

* If Plugboard handle is not required add (-X) to part number.

Covers

Depth **	Catalog Number
2.5"	239160
2.5"	239180
2.5"	239200
2.5"	239190
2.5"	239880

** - Other depths available by special order

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Series 157

Cam-Arm Systems - Plugboards and Covers

Plugboards

Model	Panel Material	Silk Screen	Catalog Number*	Approximate Dimensions
924	Phenolic	Blank	209240	Width : 11.2"
		General	209241	
		Special	209242	Height : 10.5"
	Diallyl Phthalate	Blank	229240	
		General	229241	Weight : 3.8 lbs.
		Special	229242	
923	Phenolic	Blank	209230	Width : 12.8"
		General	209231	
		Special	209232	Height : 10.8"
	Diallyl Phthalate	Blank	229230	
		General	229231	Weight : 6 lbs.
		Special	229232	
925	Phenolic	Blank	209250	Width : 15.2"
		General	209251	
		Special	209252	Height : 10.5"
	Diallyl Phthalate	Blank	229250	
		General	229251	Weight : 6 lbs.
		Special	229252	
926	Phenolic	Blank	209260	Width : 11.3"
		General	209261	
		Special	209262	Height : 19.9"
	Diallyl Phthalate	Blank	229260	
		General	229261	Weight : 7 lbs.
		Special	229262	

Covers

Depth **	Catalog Number
2.5"	239240
2.5"	239230
2.5"	239250
2.5"	239260

*** If Plugboard handle is not required add (-X) to part number.**

**** - Other depths available by special order**

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Series 157

Cam-Arm Systems - Plugboards and Covers

Plugboards

Model	Panel Material	Silk Screen	Catalog Number*	Approximate Dimensions
927	Phenolic	Blank	209270	Width : 15"
		General	209271	
		Special	209272	Height : 21"
	Diallyl Phthalate	Blank	229270	
		General	229271	Weight : 9 lbs.
		Special	229272	
928	Phenolic	Blank	209280	Width : 15.8"
		General	209281	
		Special	209282	Height : 31.3"
	Diallyl Phthalate	Blank	229280	
		General	229281	Weight : 11 lbs.
		Special	229282	
929	Phenolic	Blank	209290	Width : 21.9"
		General	209291	
		Special	209292	Height : 19.9"
	Diallyl Phthalate	Blank	229290	
		General	229291	Weight : 10 lbs.
		Special	229292	

Covers

Depth **	Catalog Number
2.5"	239270
4.0"	239270-02
2.5"	~~239290~~ 239280
2.5"	239290

* If Plugboard handle is not required add (-X) to part number.

** - Other depths available by special order

Series 157

Fixed Plugboard Programming Systems

Model	Contact Format H	Contact Format V	Insert Material	Contact Plating	Catalog Number (Taper Pin or Solder)	Approximate Dimensions	Hole to Hole Spacing
802 200 pos.	10 1-10 General Purpose	20 A-T	Phenolic Diallyl Phthalate	Nickel	108021	Width : 3.4" Height : 6.9" Depth : 2" Weight : 2.2 lbs.	.250" x .281"
				Gold	108022		
				Nickel	128021		
				Gold	128022		
803 320 pos.	16 1-16 General Purpose	20 A-T	Phenolic Diallyl Phthalate	Nickel	108031	Width : 4.9" Height : 6.9" Depth : 2" Weight : 2.5 lbs.	.250" x .281"
				Gold	108032		
				Nickel	128031		
				Gold	128032		
804 440 pos.	22 1-22 General Purpose	20 A-T	Phenolic Diallyl Phthalate	Nickel	108041	Width : 6.4" Height : 6.9" Depth : 2" Weight : 3.7 lbs.	.250" x .281"
				Gold	108042		
				Nickel	128041		
				Gold	128042		
801 680 pos.	20 1-20 General Purpose	34 A-AH	Diallyl Phthalate	Nickel	128011	Width : 6.4" Height : 10.8" Depth : 2" Weight : 6 lbs.	.281" x .281"
				Gold	128012		
811 748 pos.	22 1-22 General Purpose	34 A-AH	Phenolic Diallyl Phthalate	Nickel	108111	Width : 6.4" Height : 10.8" Depth : 2" Weight : 6 lbs.	.250" x .281"
				Gold	108112		
				Nickel	128111		
				Gold	128112		
809 816 pos.	24 1-24 General Purpose	34 A-AH	Phenolic Diallyl Phthalate	Nickel	108091	Width : 7.6" Height : 10.6" Depth : 2" Weight : 6.3 lbs.	.281" x .281"
				Gold	108092		
				Nickel	128091		
				Gold	128092		
822 1280 pos.	40 1-40 General Purpose	32 A-AF	Phenolic Diallyl Phthalate	Nickel	108221	Width : 10.9" Height : 10.3" Depth : 2" Weight : 7.7 lbs.	.250" x .281"
				Gold	108222		
				Nickel	128221		
				Gold	128222		
823 1496 pos.	40 1-40 General Purpose	64 A-BL	Phenolic Diallyl Phthalate	Nickel	108231	Width : 12.3" Height : 11.2" Depth : 2" Weight : 11 lbs.	.250" x .281"
				Gold	108232		
				Nickel	128231		
				Gold	128232		

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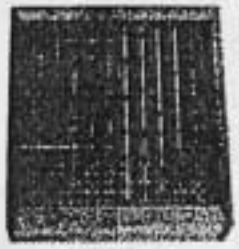
Series 157

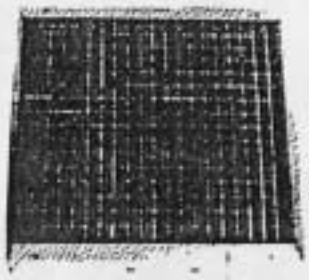
Fixed Plugboard Programming Systems

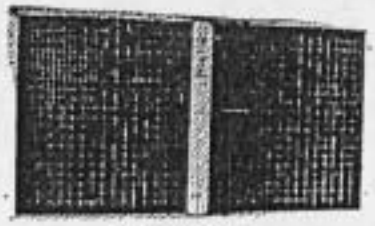
Model	Contact Format H	Contact Format V	Insert Material	Contact Plating	Catalog Number (Taper Pin or Solder)	Approximate Dimensions	Hole to Hole Spacing
825 1632 pos.	48 1-48	34 A-AL	Phenolic	Nickel	108251	Width : 12.3" Height : 11.2" Depth : 2" Weight : 11 lbs.	.281" x .281"
				Gold	108252		
	General Purpose		Diallyl Phthalate	Nickel	128251		
				Gold	128252		
826 2560 pos.	40 1-40	64 A-BL	Phenolic	Nickel	108261	Width : 10.9" Height : 19.6" Depth : 2" Weight : 15.4 lbs.	.250" x .281"
				Gold	108262		
	General Purpose		Diallyl Phthalate	Nickel	128261		
				Gold	128262		
827 3264 pos.	48 1-48	68 A-BP	Phenolic	Nickel	108271	Width : 14.7" Height : 21.6" Depth : 2" Weight : 23 lbs.	.281" x .281"
				Gold	108272		
	General Purpose		Diallyl Phthalate	Nickel	128271		
				Gold	128272		
828 4896 pos.	48 1-48	102 A-DG	Phenolic	Nickel	108281	Width : 14.8" Height : 32.5" Depth : 2" Weight : 34.3 lbs.	.281" x .281"
				Gold	108282		
	General Purpose		Diallyl Phthalate	Nickel	128281		
				Gold	128282		
829 5120 pos.	80 1-80	64 A-BL	Phenolic	Nickel	108291	Width : 22.0" Height : 20.5" Depth : 2" Weight : 30 lbs.	.250" x .281"
				Gold	108292		
	General Purpose		Diallyl Phthalate	Nickel	128291		
				Gold	128292		



802 - 804

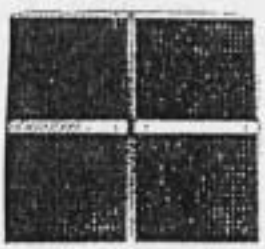
801, 809, 811, 822





823, 825, 826

827 - 829



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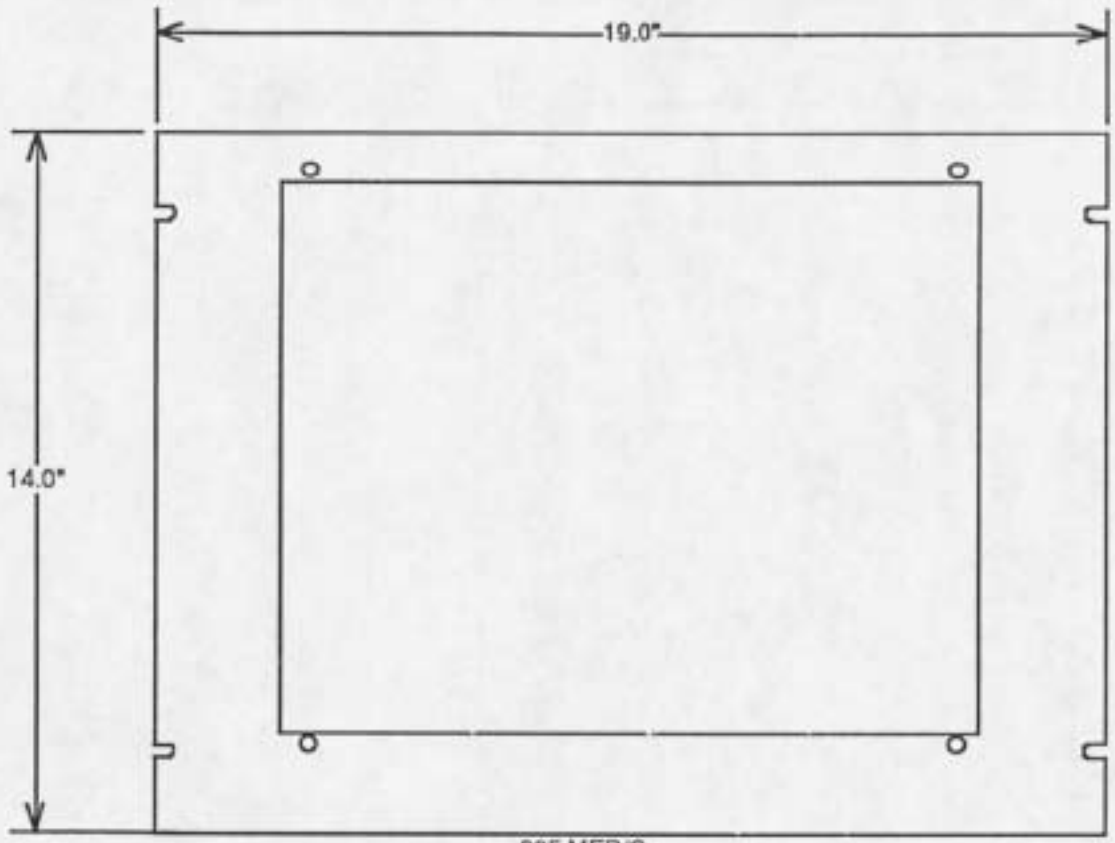
Series 157

Standard and Custom Mounting Plates



925 MFP/C

PART NUMBERS

XXXMFP/X-XX

- **Special Orders : R** - Recessed **RD** - Recessed with door **24 or 36** - 24" or 36" wide rack
- **C** - Clear anodize **B** - Black anodize **S** - Special Paint
- **Receiver Model Number**

Used for mounting receivers on electric equipment relay racks. Normal faceplates have a height of a multiple of 1.75 inches, a 19 inch width, and are made from 1/8 inch thick aluminum. These sizes and the edge mounting hole dimensions conform to the industry standards for 19 inch wide relay rack front panels.

Each model number receiver requires a specific faceplate which had a center cutout for access to rear terminals and the appropriate receiver mounting holes. Usually the faceplate is much wider and somewhat taller than the corresponding receiver dimensions.

Other sizes and types of faceplates can be special ordered. These include panels for 24 or 30 inch wide relay racks and faceplates for below surface or recessed receiver mounting, with or without doors.

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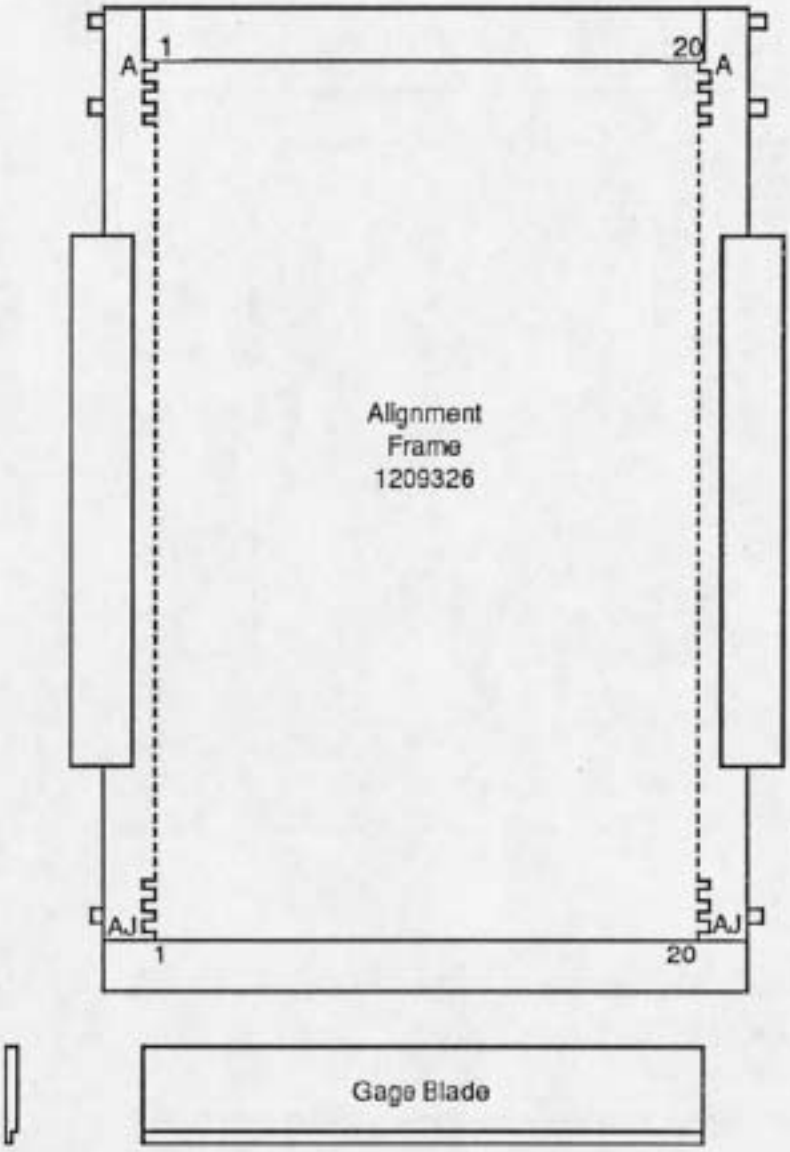
Series 157

Contact Alignment Frames



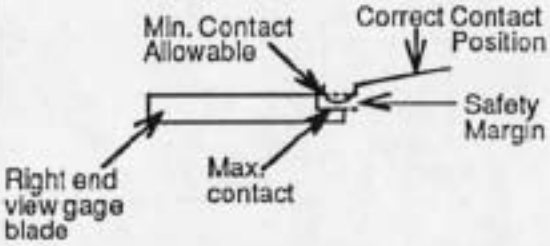
PART NUMBERS

12X XXX6

Receiver Model Number

0 - Phenolic

2 - Diallyl Phthalate

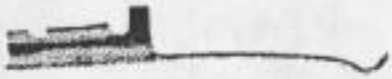


Used to check and adjust receiver contact springs on systems in the field. A different alignment frame is necessary for each model number receiver, which includes a distinction between diallyl-phthalate and phenolic insulators.

When used, the alignment frame is substituted for the plugboard in the receiver, and the gage blade (with stepped edged up) is successively inserted horizontally into the slots. At each inserted blade position, contacts are individually inspected, or adjusted where necessary, for conformance to the correct position as shown in the diagram above.

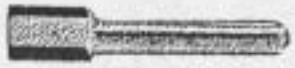
Series 157

General Hardware



Contact Springs

Standard contact spring used in all models of MAC Panel Plugboard Programming System. **Catalog Numbers:** Nickel Plated, 404001; Gold Plated, 404002.

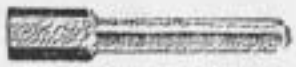


Catalog Numbers

Type	Nickel	Gold
157-18	423201	423232
157-20	423101	423032
157-22	423301	423332
157-26	423501	423532

Taper Pin Terminal
Series 157-18/20/22

Makes single connection between internal equipment wiring and receptacle of contact spring. Made of brass, drilled for various wires which can be either soldered or crimped. Supplied nickel plated or gold plated. Nickel plating is .0001" thick. Gold plating is hard gold, .00001" thick over .0001" thick nickel plating.



Taper Pin Terminal
Series 157-53

Used as an adapter between contact spring receptacle and series 53 taper pin. Plating specifications identical to taper pin terminal above. **Catalog Numbers:** Nickel Plated, 423105; Gold Plated, 423036.

Taper Pin Terminal
Multiple-Series 157

Used to terminate several wires of internal equipment wiring at one point. Side vent in taper pin permits easy soldering of wire endings. Plating specifications identical to taper pin terminal above. **Catalog Numbers:** Nickel Plated, 425105; Gold Plated, 425036.

Taper Plug
Series 157

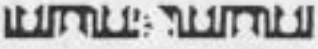
Used with shunts below to shunt contact springs on rear of receiver panel. Plating specifications identical to taper pin terminal above. **Catalog Numbers:** Nickel Plated 422105; Gold Plated, 422036.

Straight Shunts

Used with taper plugs and/or pin terminals to shunt adjacent positions of contact springs on rear of receiver panel. Horizontal contact spring spacing is .250" on most models, while others have .281" spacing. Vertical contact spring spacing is .281" on all models. The .250" shunt is distinguished from the .281" shunt by the corner cut. Made of phosphor bronze, with plating same as taper pin terminal.

Catalog Numbers

Center Sp.	Nickel	Gold
.250"	408101	408032
.281"	408105	408036



Strip Shunts

Horizontal and vertical shunts as shown above are also available in strip form. Horizontal shunts are on .250" centers and cover 40 consecutive positions on the receiver. Vertical shunts are on .281" centers and cover 34 consecutive positions on the receiver. Shunts may be cut to length as required. **Catalog Numbers:** Horizontal - Nickel, 417401; Gold, 417402. Vertical - Nickel, 407341; Gold, 407342.

Diagonal Shunts

Used with taper plugs and/or pin terminals above to shunt adjacent diagonal contact springs on rear of receiver panel. Plating specifications identical to taper pin terminal above. Made of phosphor bronze. **Catalog Numbers:** Nickel Plated, 409101; Gold Plated, 409032.

Series 157

Manual Plugwires

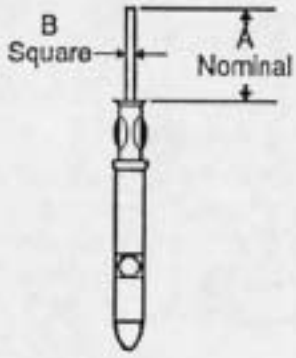
Manual Ball-D-Tent Plugwire Terminal
18 AWG - 26 AWG

Nickel	300011
Gold	300012

Manual Ball-D-Tent Plugwire Terminal
14 AWG - 16 AWG

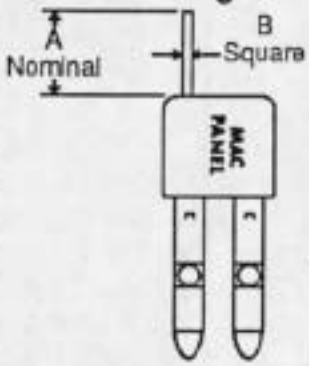
Nickel	300001
Gold	300002

Gold PlugwireTip With Gold Wirewrap Post



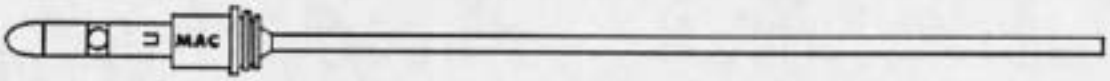
A	B	Catalog #
.500	.025	7302512
.500	.045	7304522
1.000	.045	7304512

Dual Gold PlugwireTip With Gold Wirewrap Post



A	B	Catalog #
.500	.025	7309252

Manual Single Conductor - Solid 26 AWG Kynar Wirewrap Plugwire Tip To End - Gold Tip Plating



Overall Length	Catalog Number
15"	7181502
20"	7182002
24"	7182402
30"	7183002
36"	7183602
42"	7184202
XX"	718XX02

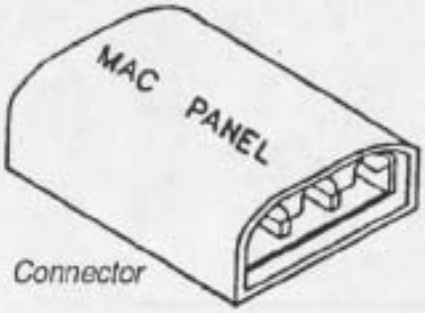
Series 157

Manual Plugwires

Manual Single Conductor 20/22 AWG - Tip To Tip

22 AWG

Overall Length	Tip Plating	Catalog Number
6"	Gold	7030602
9"	Gold	7030902
12"	Gold	7031202
15"	Gold	7031502
24"	Gold	7032402
32"	Gold	7033202
XX"	Gold	703XX02



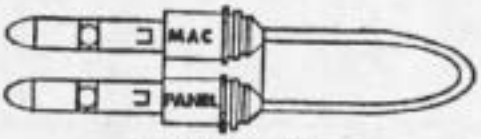
Connector

20 AWG

Overall Length	Tip Plating	Catalog #	Insulation Color
6"	Nickel	300601	Black
	Gold	300602	
9"	Nickel	300901	Yellow
	Gold	300902	
12"	Nickel	301201	Red
	Gold	301202	
15"	Nickel	301501	Blue
	Gold	301502	
24"	Nickel	302401	Green
	Gold	302402	
32"	Nickel	303201	Orange
	Gold	303202	
Jackplug	Nickel	309001	Gray
	Gold	309002	
Connector	Nickel	309101	
	Gold	309102	

Manual Single Connector 22 AWG - Tip To End

Overall Length	Tip Plating	Catalog Number
15"	Gold	7031502-S
20"	Gold	7032002-S
24"	Gold	7032402-S
30"	Gold	7033002-S
36"	Gold	7033602-S
42"	Gold	7034202-S
XX"	Gold	703XX02-S



20 AWG Jackplug

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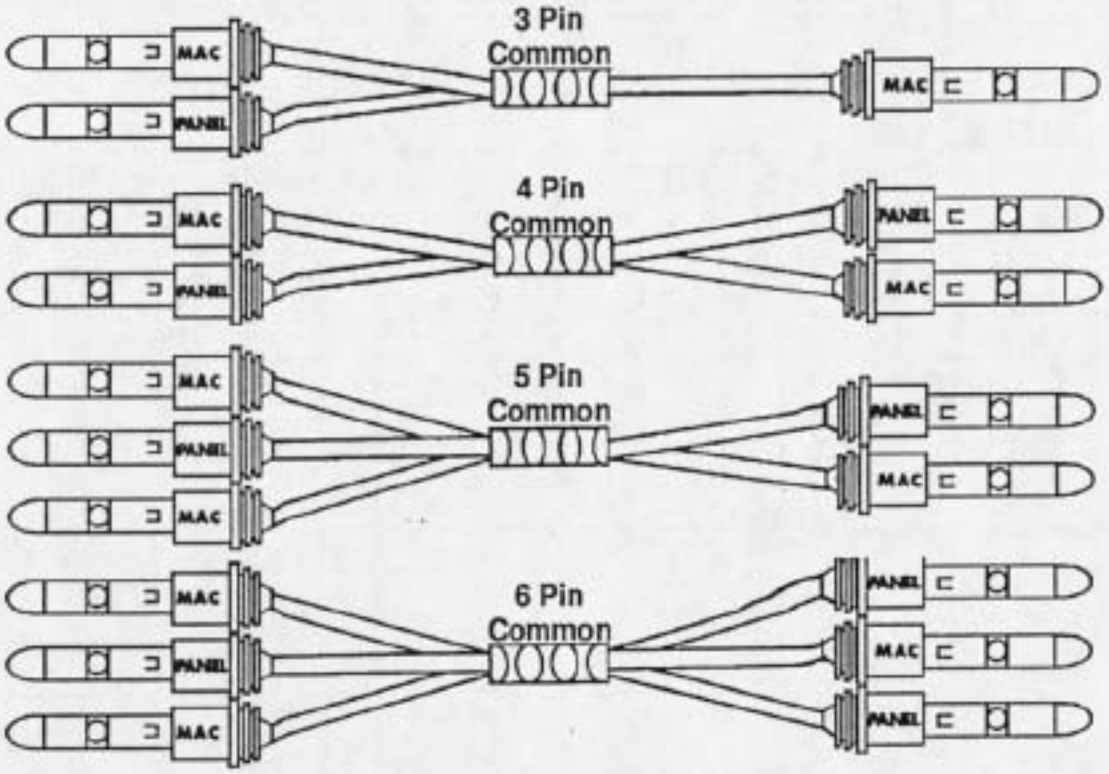
Series 157

Manual Plugwires

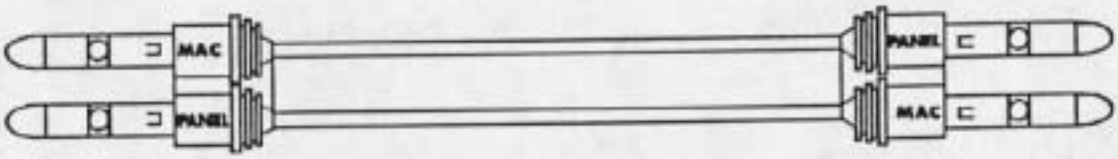


Manual Y-Type Plugwires - 20 AWG

Overall Length	Tip Plating	Catalog Number				Insulation Color
		3 Pin Common	4 Pin Common	5 Pin Common	6 Pin Common	
9"	Nickel	300931	300941	300951	300961	Yellow
	Gold	300932	300942	300952	300962	
12"	Nickel	301231	301241	301251	301261	Red
	Gold	301232	301242	301252	301262	
15"	Nickel	301531	301541	301551	301561	Blue
	Gold	301532	301542	301552	301562	
24"	Nickel	302431	302441	302451	302461	Green
	Gold	302432	302442	302452	302462	
32"	Nickel	303231	303241	303251	303261	Orange
	Gold	303232	303242	303252	303262	

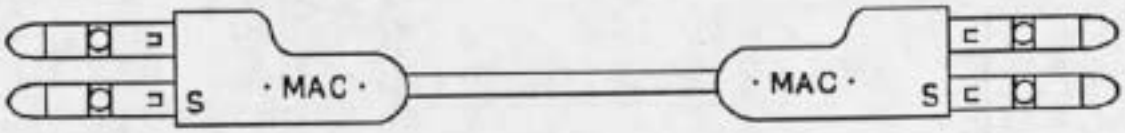
Series 157

Manual Plugwires



Manual Dual Conductor Plugwires - 20 AWG

Overall Length	Tip Plating	Catalog #	Insulation Color
6"	Nickel	330601	Gray-Black
	Gold	330602	
9"	Nickel	330901	Yellow-Black
	Gold	330902	
12"	Nickel	331201	Red-Black
	Gold	331202	
15"	Nickel	331501	Blue-Black
	Gold	331502	
24"	Nickel	332401	Green-Black
	Gold	332402	
32"	Nickel	333201	Orange-Black
	Gold	333202	



Manual Single Conductor Coaxial RG 188 Plugwires

Overall Length	Tip Plating	Catalog #	Insulation Color
6"	Gold	320602	Black
9"	Gold	320902	Yellow
12"	Gold	321202	Red
15"	Gold	321502	Blue
24"	Gold	322402	Green
32"	Gold	323202	Orange

Capacitance : 30 mmf/ft

Impedance : 50 ohm

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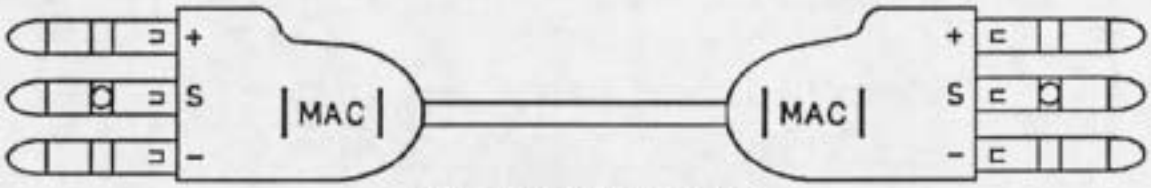
Series 157

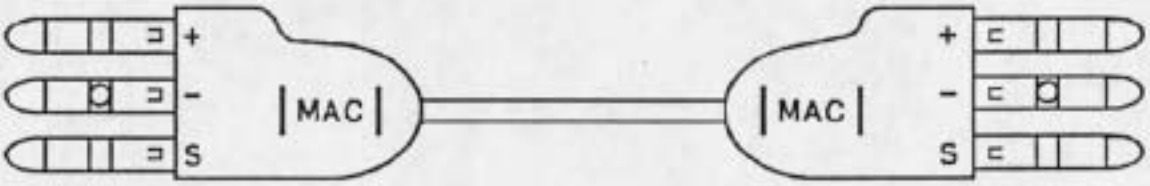
Manual Plugwires

Manual Two Conductor Twisted Pair Shielded Plugwires



20 AWG Center Pin Shield

Overall Length	Tip Plating	Catalog #	Insulation Color
6"	Gold	340602	Black
9"	Gold	340902	Yellow
12"	Gold	341202	Red
15"	Gold	341502	Blue
24"	Gold	342402	Green
32"	Gold	343202	Orange



20 AWG End Pin Shield

Overall Length	Tip Plating	Catalog #	Insulation Color
6"	Gold	340612	Black
9"	Gold	340912	Yellow
12"	Gold	341212	Red
15"	Gold	341512	Blue
24"	Gold	342412	Green
32"	Gold	343212	Orange

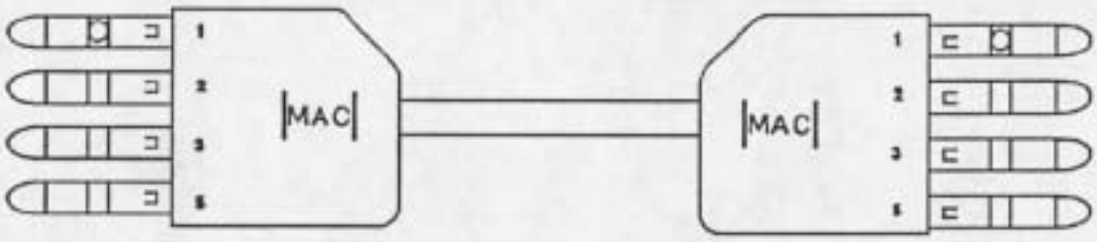
Capacitance : Conductor - 33.3 mmf/ft **Shield** - 56.8 mmf/ft

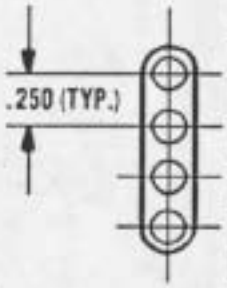
Impedance : Conductor - 44.3 ohm **Shield** - 27.0 ohm

Series 157

Manual Plugwires

Three Conductor Shielded Plugwire - 24 AWG



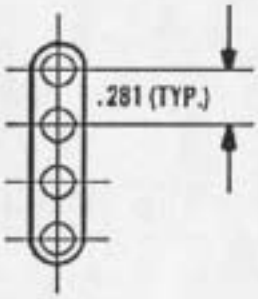


For use on .250" centers

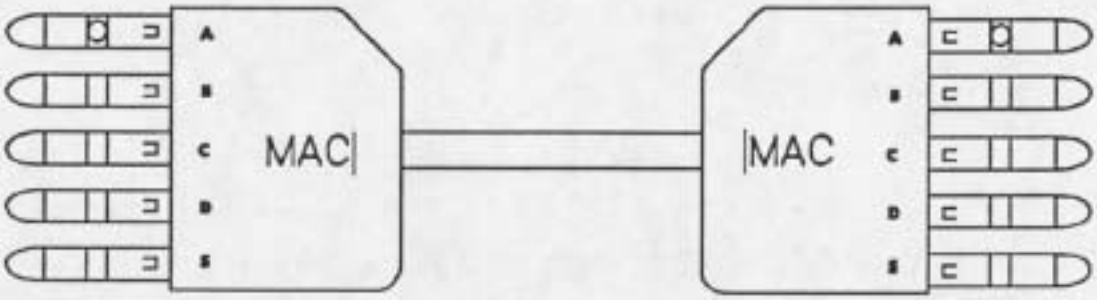
Overall Length	Tip Plating	Catalog Number	Insulation Color
6"	Gold	360602	Black
9"	Gold	360902	Yellow
12"	Gold	361202	Red
15"	Gold	361502	Blue
24"	Gold	362402	Green
32"	Gold	363202	Orange

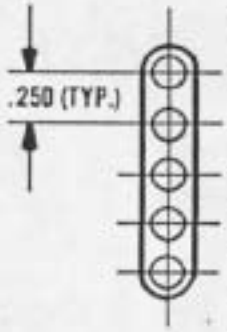
For use on .281" centers

Overall Length	Tip Plating	Catalog Number	Insulation Color
6"	Gold	360612	Black
9"	Gold	360912	Yellow
12"	Gold	361212	Red
15"	Gold	361512	Blue
24"	Gold	362412	Green
32"	Gold	363212	Orange



Four Conductor Shielded Plugwire - 24 AWG



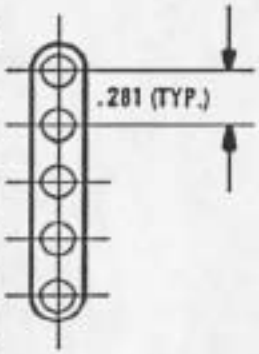


For use on .250" centers

Overall Length	Tip Plating	Catalog Number	Insulation Color
6"	Gold	350602	Black
9"	Gold	350902	Yellow
12"	Gold	351202	Red
15"	Gold	351502	Blue
24"	Gold	352402	Green
32"	Gold	353202	Orange

For use on .281" centers

Overall Length	Tip Plating	Catalog Number	Insulation Color
6"	Gold	350612	Black
9"	Gold	350912	Yellow
12"	Gold	351212	Red
15"	Gold	351512	Blue
24"	Gold	352412	Green
32"	Gold	353212	Orange



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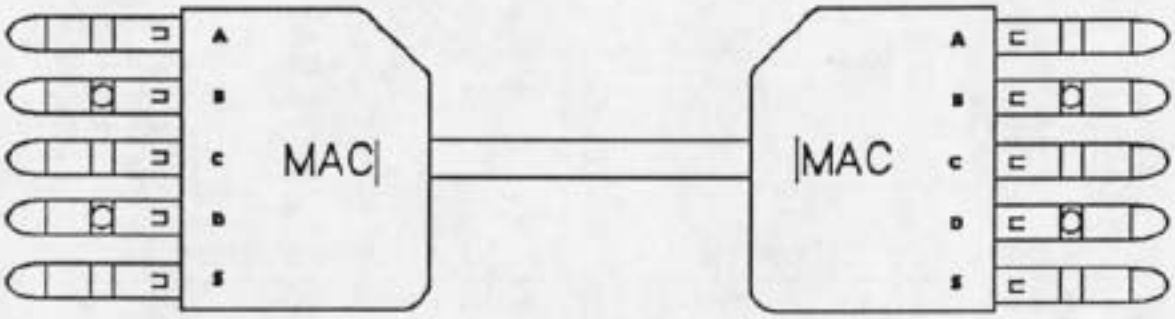
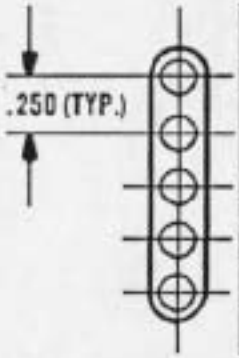
Series 157

Manual Plugwires

Five Conductor Plugwire - 24 AWG



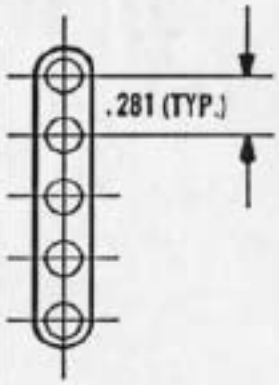


For use on .250" centers

Overall Length	Tip Plating	Catalog Number	Insulation Color
6"	Gold	390602	Black
9"	Gold	390902	Yellow
12"	Gold	391202	Red
15"	Gold	391502	Blue
24"	Gold	392402	Green
32"	Gold	393202	Orange

For use on .281" centers

Overall Length	Tip Plating	Catalog Number	Insulation Color
6"	Gold	390612	Black
9"	Gold	390912	Yellow
12"	Gold	391212	Red
15"	Gold	391512	Blue
24"	Gold	392412	Green
32"	Gold	393212	Orange



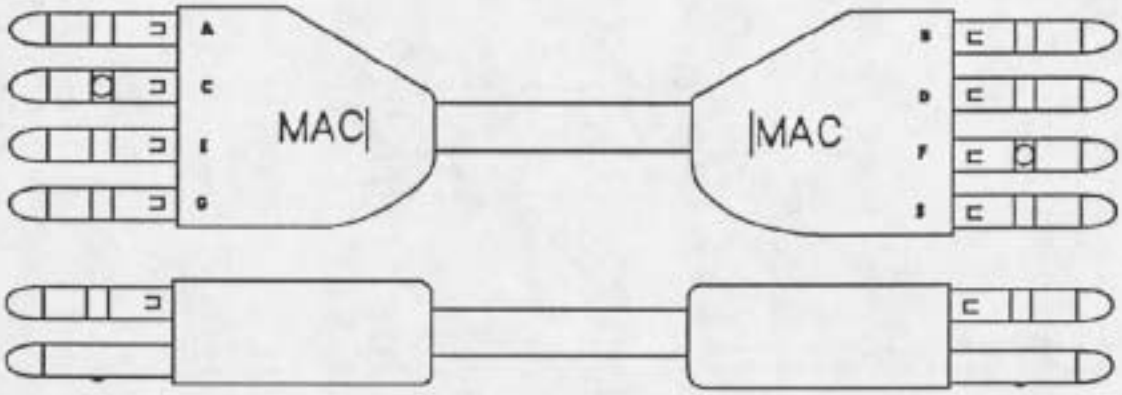
Manual Single Conductor Stackplug - 20 AWG

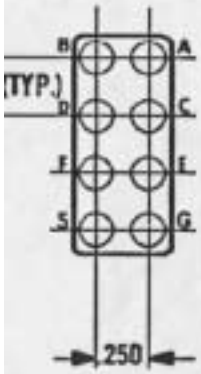
Overall Length	Tip Plating	Catalog #	Insulation Color
6"	Gold	370602	Black
9"	Gold	370902	Yellow
12"	Gold	371202	Red
15"	Gold	371502	Blue
24"	Gold	372402	Green
32"	Gold	373202	Orange

Series 157

Manual Plugwires

Seven Conductor Shielded Plugwire - 20 AWG



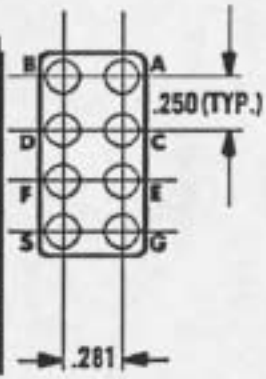


For vertical use

Overall Length	Tip Plating	Catalog Number	Insulation Color
6"	Gold	380602	Black
9"	Gold	380902	Yellow
12"	Gold	381202	Red
15"	Gold	381502	Blue
24"	Gold	382402	Green
32"	Gold	383202	Orange

For horizontal use

Overall Length	Tip Plating	Catalog Number	Insulation Color
6"	Gold	380612	Black
9"	Gold	380912	Yellow
12"	Gold	381212	Red
15"	Gold	381512	Blue
24"	Gold	382412	Green
32"	Gold	383212	Orange



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Series 157

Fixed Plugwires

Fixed Plugwire Terminal

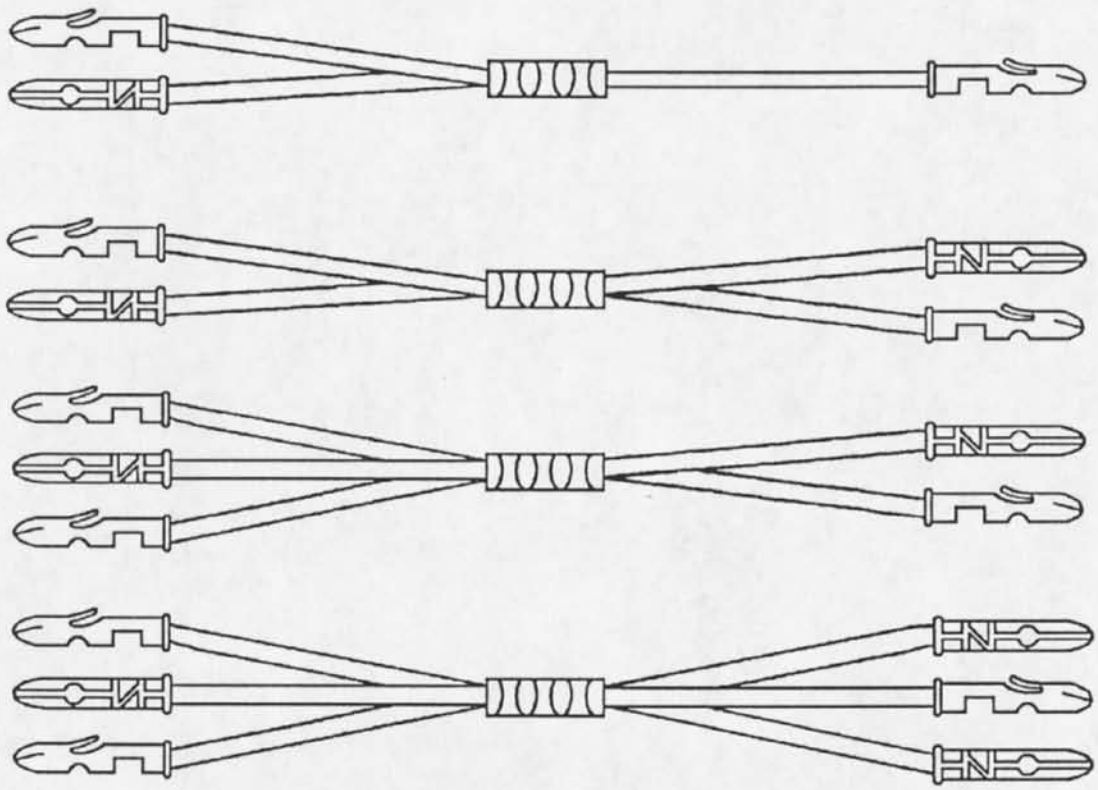
Nickel	310001
Gold	310002

Fixed Single Conductor Plugwire - 20 AWG

Overall Length	Tip Plating	Catalog #	Insulation Color
4"	Nickel	310401	Gray
	Gold	310402	
7"	Nickel	310701	Black
	Gold	310702	
9"	Nickel	310901	Yellow
	Gold	310902	
12"	Nickel	311201	Red
	Gold	311202	
15"	Nickel	311501	Blue
	Gold	311502	
24"	Nickel	312401	Green
	Gold	312402	
32"	Nickel	313201	Orange
	Gold	313202	

Series 157

Fixed Plugwires



Fixed Y-Type Plugwires - 20 AWG

Overall Length	Tip Plating	Catalog Number				Insulation Color
		3 Pin Common	4 Pin Common	5 Pin Common	6 Pin Common	
9"	Nickel	310931	310941	310951	310961	Yellow
	Gold	310932	310942	310952	310962	
12"	Nickel	311231	311241	311251	311261	Red
	Gold	311232	311242	311252	311262	
15"	Nickel	311531	311541	311551	311561	Blue
	Gold	311532	311542	311552	311562	
24"	Nickel	312431	312441	312451	312461	Green
	Gold	312432	312442	312452	312462	
32"	Nickel	313231	313241	313251	313261	Orange
	Gold	313232	313242	313252	313262	