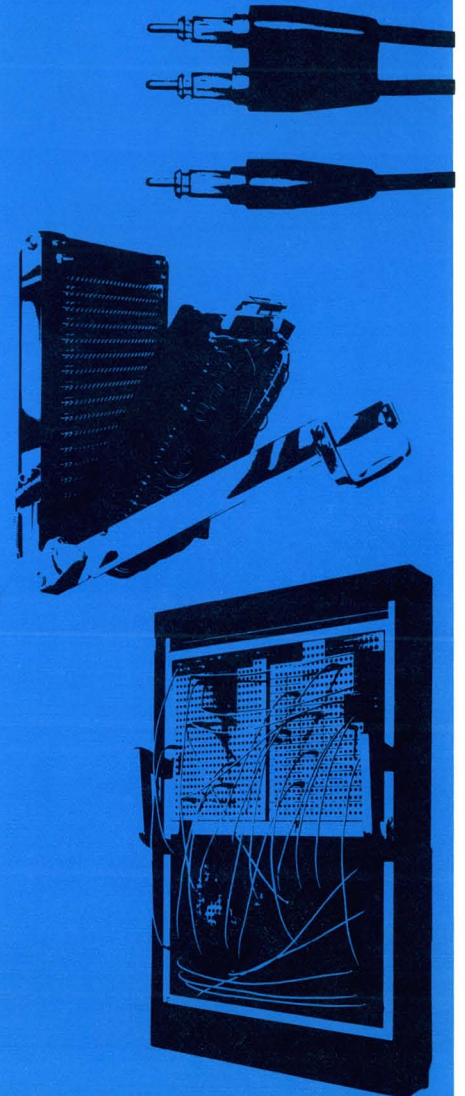


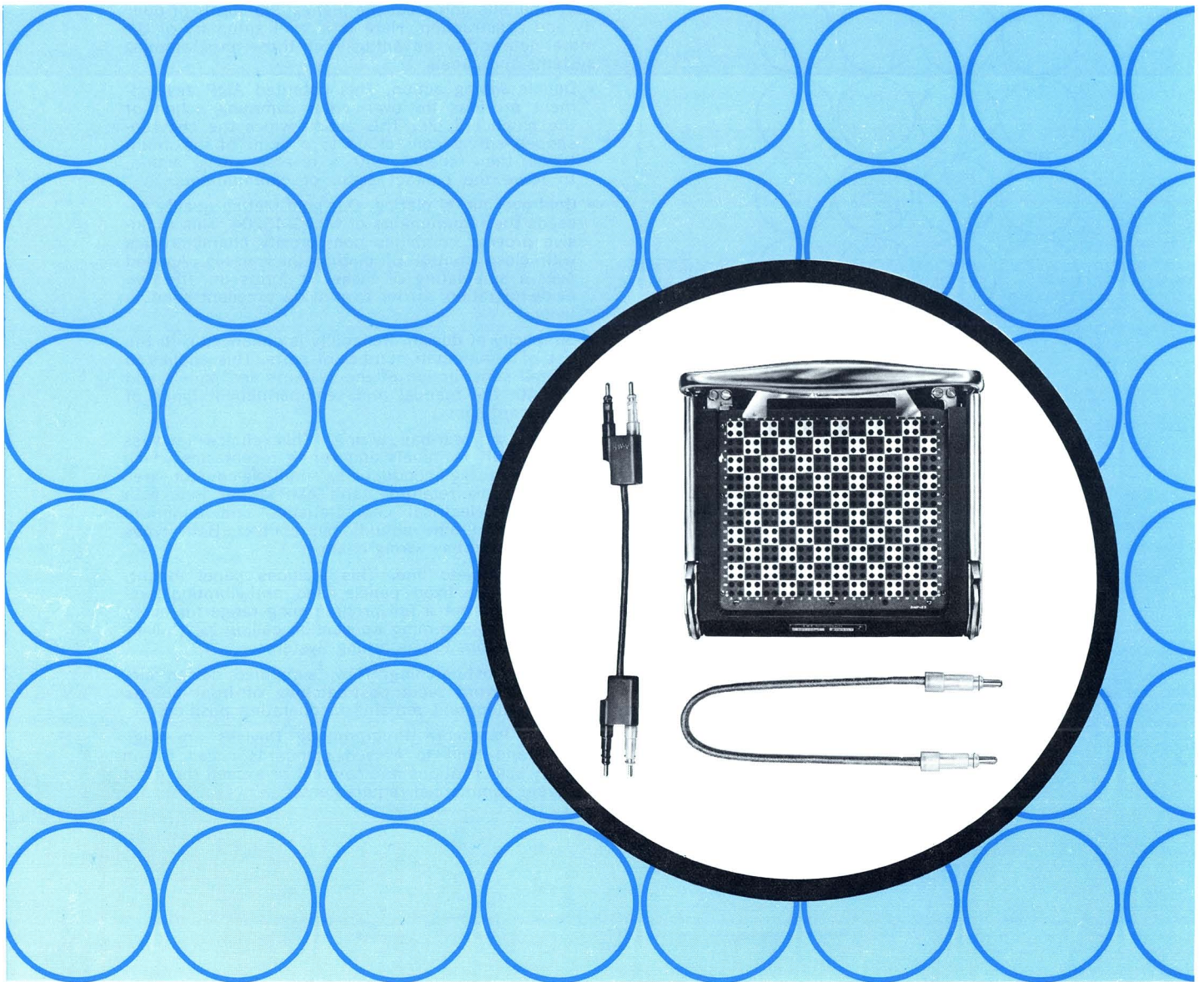
AMP's extensive line of patching system products permits, through proper patchcord, contact and panel selection, almost infinite switching combinations to meet the most varied and complex circuit programming needs. All system devices feature AMP's patented double-wiping action which assures contaminant-free contact surfaces for maximum conductivity.

Universal patchcord programming systems	18-3
Standard patchcord programming systems	18-43
Coaxial patchcord systems for critical low-level applications	18-69
Hybrid patchcord programming systems — one system permits complete signal, power & coaxial circuits, plus special low profile version which fits a standard 19" rack	18-73
Low capacitance shielded patchcord programming systems	18-79
RF patch panels and patchcords	18-84

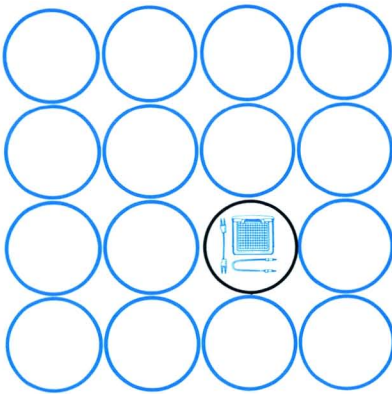
PATCHCORD PROGRAMMING SYSTEMS & PANELS



Universal Patchcord Programming Products



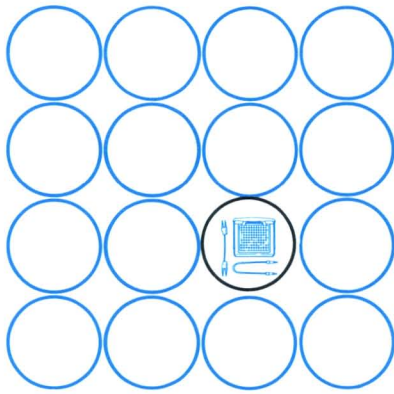
INTRODUCTION



AMP Universal Patchcord Programming Systems and Panels provide almost infinite switching combinations through the use of permanently wired rear boards and variously programmed front boards. They are designed to meet the most critical demands of advanced electronic applications. They feature a number of exclusive developments and meet the highest standards of quality and construction. Here is a brief summary of the more noteworthy advantages of these programming systems and panels:

- **Double wiping action.** This patented AMP development provides for over-center camming action of the patchcord pin. This action wipes the chevron-shaped spring contact up to a point of maximum travel, then recedes, with a reverse wiping action, to leave the contact clean of contaminants.
- **Gold over nickel plating.** Our gold plating quality exceeds the requirements of MIL-G-45204. This exclusive process combines non-porosity characteristics with close control of plating thicknesses. Applied over a sub-plating of nickel, it forms an effective oxide-migration barrier to provide excellent conductivity.
- **Simplicity of design.** Reliability is enhanced with the use of a minimum number of parts. This applies to overall construction of the systems and panels and to both the manual and semi-permanent types of patchcord pins.
- **Choice of rear-bay wiring.** This choice involves LANCELOK Terminals and spring receptacles which provide a high-conductivity, multiple-contact area and positive retention; and AMP Taper Pins with excellent electrical characteristics and minimum retention of nine pounds per contact. Both types simplify rear-bay wiring changes.
- **Most complete line.** This includes panel mount, rack mount, fixed panels, and anti-vibration systems to permit a full programming range for every type of programming application calling for Universal Patchcord Programming Systems.
- **Easiest post-patching.** New, simplified design elements permit rapid post-patching of front boards while equipment remains in operating position.

All AMP Patchcord Programming Devices are engineered and built to exceed standards called for in military specifications and to meet or exceed the most stringent commercial requirements.

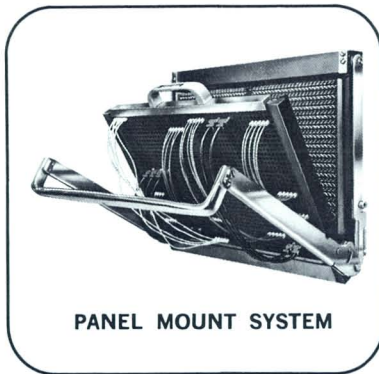


AMP

Universal

Programming

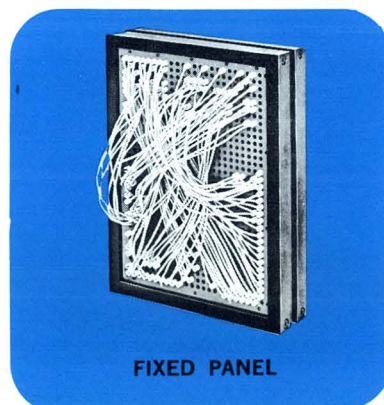
Products



PANEL MOUNT SYSTEM



RACK MOUNT SYSTEMS



FIXED PANEL

AMP PROGRAMMING DEVICES

These programming products are divided into two classifications: systems and panels. These are designed to meet the increasing need for complex and varied switching combinations.

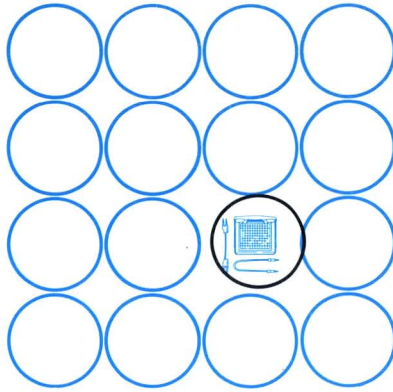
Programming **systems** are made up of a metal frame assembly which encases a permanent rear board. This board contains contact springs which connect to the internal wiring of the electronic equipment in use. Its function is to accept interchangeable patchboards that are programmed with patchcords to create whatever circuit may be required for a given switching operation. Many types of patchcords, from a single conductor to shunts, squids and multiple shielded types are available for this purpose in lengths from 3" to 35".

Programming **panels** consist of a metal frame assembly containing a fixed rear board and a non-removable programming patchboard. Other elements used in this application—contact springs and patchcords are identical to those used in the patchboard systems.

As an indication of the flexibility of AMP programming products, a model P1632 system can function as any one of the following:

- 1 pole 1631 throw switch
- 816 pole single throw switch
- 544 pole double throw switch
- 408 pole triple throw switch

Moreover, this same system can provide combinations of the above pole and throw arrangement.

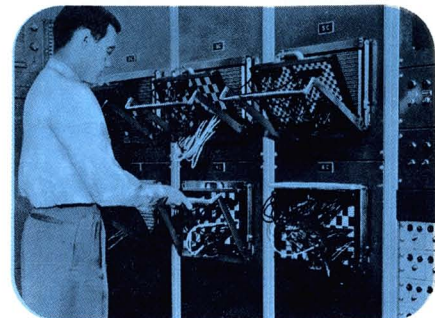


Types of Universal Patchcord Programming Systems & Panels

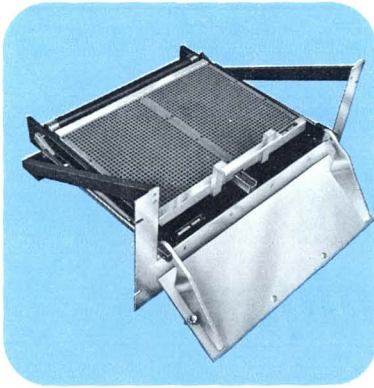
There are five types of AMP Universal Patchboard Programming Products: (1) **Panel Mount Systems** (2) **Rack Mount Systems** (3) **Anti-Vibration Systems** (4) **Airborne Systems** (5) **Fixed Panels**. These systems and panels are available in a variety of sizes for such applications as data processing equipment, digital computers, automatic test equipment, electronic switching, automation processes, statistical analysis, decision theory, medical computation and many more.

PANEL MOUNT SYSTEMS

These vertically mounted systems consist of a metal frame assembly containing a permanent, fully wired rear board with contact springs which, in turn, are connected to the internal wiring of a wide variety of electronic equipment. Matching removable front patchboards are pre-programmed with manual type or semi-permanent type patchcords with metal tips that mate in any desired pattern with the contact springs of the rear board. In this way, a large number of circuits may be changed as often as desired. Previously established switching combinations can be stored for repeated use.



RACK MOUNT SYSTEMS



This new rack mount version of AMP Patchcord Programming Systems saves as much as 50% in panel area over vertical installations. It can be installed as a recessed desk-top unit or placed within a console or racked-and-hinged panel assembly. Four standard size units are available. Each occupies only 8¾" of rack height and fits all standard 19" wide racks.

Rack mount systems incorporate all the quality and performance features of panel mount systems. A unique cam mechanism creates the same type of exclusive wiping action as found in the panel mount systems. The front and rear boards are engaged or disengaged when the panel door to the compartment containing the system is opened or closed.

FIXED PANELS

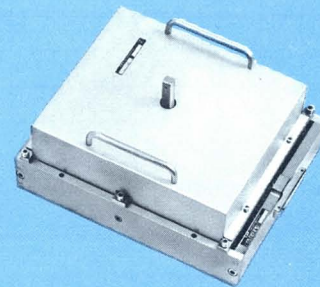
These panels are available in eight sizes to accommodate a variety of programming needs. A unit consists of a fixed board with contact springs that are permanently wired to the equipment in use, and a non-removable programming patchboard. With this arrangement, no engaging mechanism is needed. An AMP Fixed Panel has, within the limitations of its design, the same features and serves similar programming needs as a panel mount or rack mount system.



ANTI-VIBRATION PATCHCORD SYSTEMS

These systems are designed to withstand the highest extremes of vibration and shock. They are available in two sizes. One of these is designed to accommodate 806 contacts, the other 1280. Normally, both have frames and structural members made of machined stainless steel, but the smaller unit is available with aluminum frames. Both are supplied with a dust cover; 806 unit is made of aluminum, the 1280 is made of stainless steel.

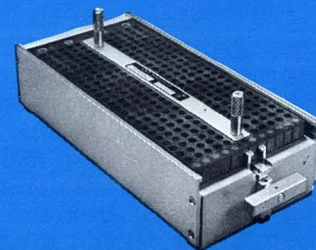
The chief design emphasis of these systems centers on properly securing the patchboard to the rear frame after contact mating has been achieved. This is accomplished with the use of a center post and six tie-down screws. The frame member has three pins protruding from the inside face. The center pin is longer than the others and serves as a polarizing pin to assure proper orientation of the patchboard. The pins on either side insure insertion at the "zero entry" position, serve as alignment pins, and provide an added measure of stability.

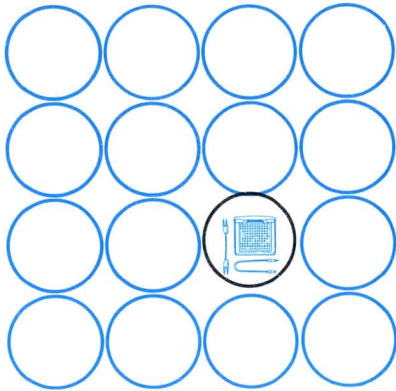


AIRBORNE PATCHCORD SYSTEMS

Two standard sizes are available. They are designated as the "240" and "408" to correspond with the number of contacts each board will accept. The frames of these systems are machined from aluminum stock, and the engaging mechanisms are made of cadmium plated steel. Both can be completely programmed in a few seconds with changeable pre-programmed patchboards. The mechanical design for mating these boards with the rear frame and spring assembly affords firm seating of the patchcord plugs to resist excessive shock and vibration. It also provides for safe, easy removal of one patchcord for the substitution of another.

In addition to standard fastening devices, mating bosses are used: (1) to assure proper board alignment of the mating pin and hole arrangement and (2) as stop blocks to prevent board travel that would bend the contact springs beyond the point of yield.

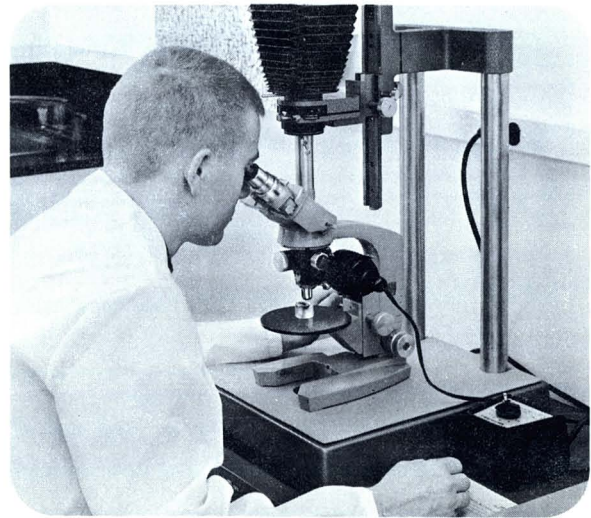
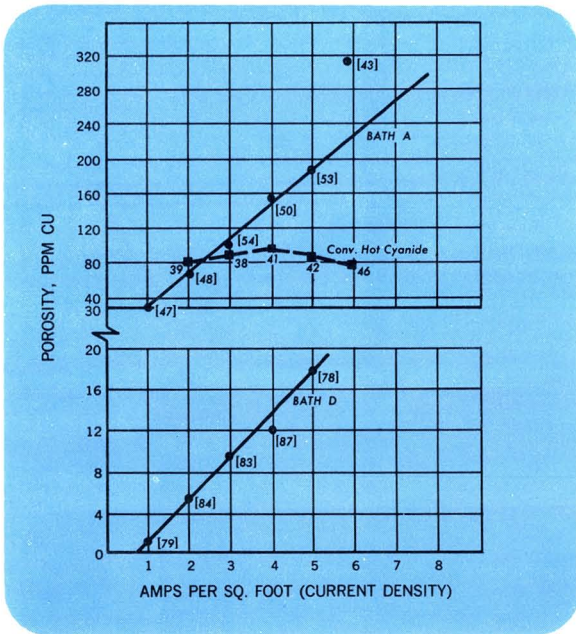




AMP's plating technique

In all critical circuits gold is becoming mandatory. Since gold is costly, it is important to use the minimum plate thickness while maintaining high contact standards. AMP research revealed that gold, even applied to a thickness of .0001" did not prevent copper from migrating to the outer surface of the gold to form an oxide barrier. The problem was resolved by using nickel to a thickness of approximately .0001" as sub-plating. Gold over nickel plating was found to be suited both to the geometry of the product and repeated insertion and removal of patchcord pins.

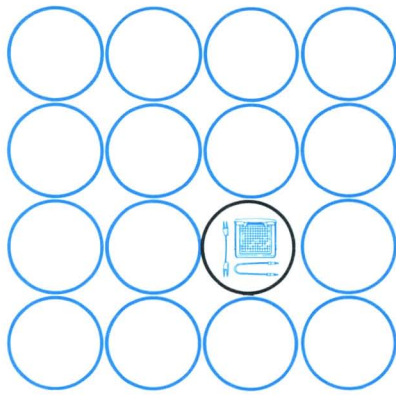
This is why the following general standards for critical and non-critical applications of patchcord programming systems and panels have been established: In applications ranging between sensitive and critical, standard pin and contact spring platings consist of a minimum average of .00006" hard gold over .0001" minimum nickel. For non-critical applications electro-tin plating .0002" to .0004" thick is used on contact springs and .0001" minimum nickel on pins. For special applications other finishes will be supplied as required. All finishes assure dependable performance and long life contact surfaces, even under unfavorable environmental conditions.



Linear plot of porosity vs. current density for three gold plating baths. Numbers show the actual average thickness for each lot. Samples for all three were taken from lots prepared by the bath manufacturer.

Another factor was found to be electro-plate porosity. This is defined either in terms of the relative amount of "empty" volume in the deposit or in the relative amount of exposed base area. AMP research teams discovered that different baths produced measurable differences in porosity. They also found for some particular baths the faster the rate of plating the greater the porosity. The linear relationship between current density and porosity is demonstrated in the above graph. The efficiency of the bath also seems to fall off above 5 amp/ft.² These experiments did much to establish a system

of controls that now produces gold over nickel plating with porosity reduced almost to the vanishing point. Another notable AMP refinement is an exclusive X-ray technique so microscopically accurate that it measures plating thicknesses to the millionth of an inch. These two factors—low porosity and controlled plating thickness—have been found to be especially important in highly sensitive circuits where applied voltages are in millivolt regions. These facts are an urgent consideration to equipment manufacturers concerned with the necessity of meeting ever-tightening space-age requirements.



Connections... a critical factor

The overall reliability of any electrical system depends largely on the mechanical integrity of its various connections. In the AMP Universal Patchcord Systems and Panels there are four such points: (1) wire crimp to LANCELOK Terminal or Taper Pin, either of which connects the rear board of a system to equipment wiring; (2) contact between these terminals and the contact spring; (3) contact between spring and patchcord pin; (4) patchcord pin-to-wire crimped connection. (See figure 1.)

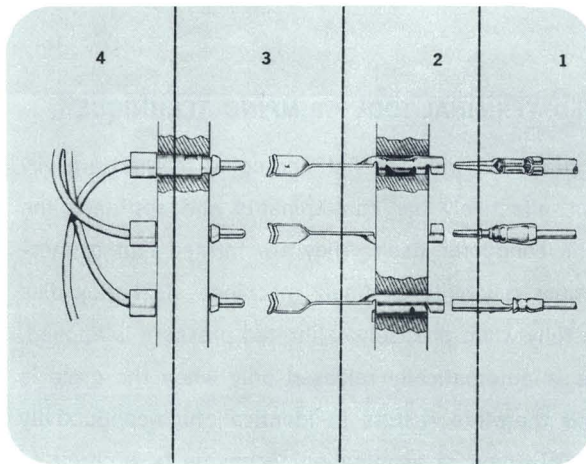


FIGURE 1

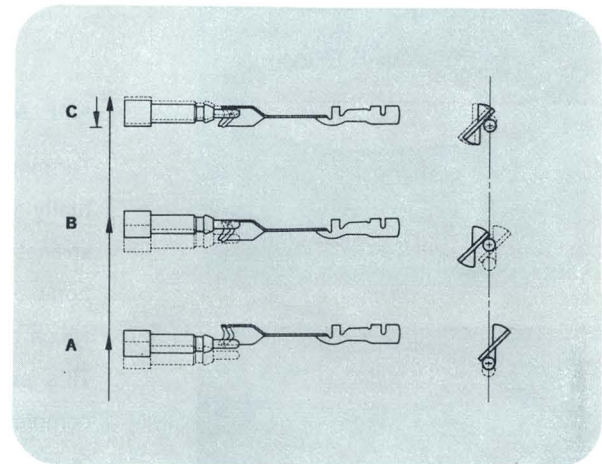


FIGURE 2

AMP's double wiping action

The most critical of the connections referred to above is the contact between the contact springs of the permanent rear board and the patchcord pins of the removable board. AMP'S double wiping action incorporates a chevron design with a half-round, shallow V-shaped contact pod stamped in the blade of the contact spring. With a camming action involved when the springs and the patchcord pins are engaged, the 45° twist design of the contact spring causes the pins to slide across the chevrons. This action, under contact pressure of six to eight ounces, completely removes lint, dust and other surface contaminants from the contact areas of the springs and pins, thus assuring positive contact.

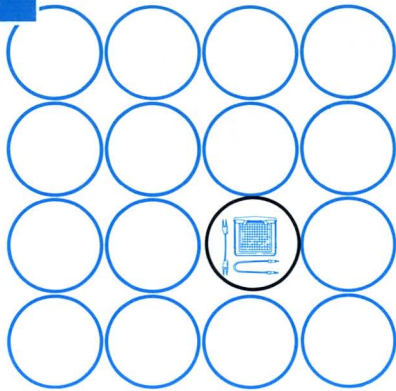
The action may be described as follows: (See fig. 2.)

- A. With the engagement of the operating handle of the system, the patchcord pin moves upward to engage the chevron on the contact spring.
- B. The pin then moves upward and across the chevron to attain maximum travel while the unique design of the chevron wipes the core pin from back to front.
- C. Now the pin moves back from the point of maximum travel and rests in a previously wiped position.

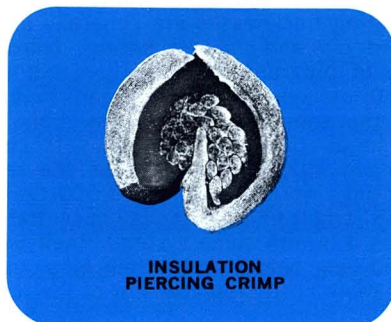
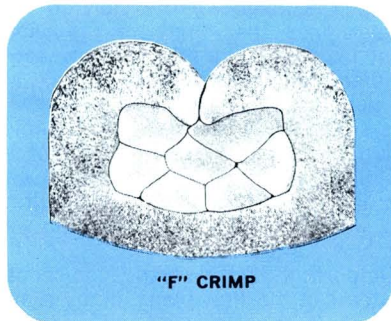
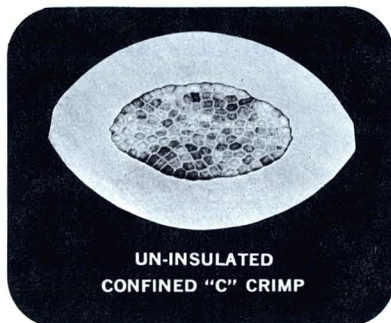
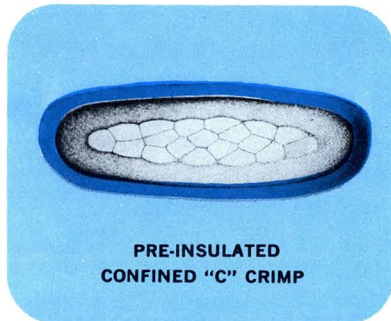
Another advantage of the double wiping action is that the AMP design provides wiping action on a relatively

small area on the patchcord pin and a large area of the contact spring. The height of the chevron from base to apex determines the length of the wiping action of the patchcord pins, and the cam action determines the distance the pin travels back and forth along the length of the chevron. Since the chevron height is shallow and the system mechanism displacement relatively large, the total travel of the patchcord pins along the springs is compressed within a small linear distance on the pin. This results in maximum plating wear to the pin and minimum wear to the permanently mounted spring.

Why is this an important factor in the choice of a programming system? In the first place, many removable patchcords are frequently used with a single rear assembly. Secondly, the same contact metals and the same plating thicknesses are generally used for the patchcord pin and contact spring. Thirdly, frequent change of programming may demand, for example, that 10 patchboards be engaged to and separated from the same rear frame assembly as many as 1,000 times. In that case, each patchcord pin would be wiped 1,000 times whereas the rear board contact springs would be wiped 10,000 times. This means that if engagement wear is concentrated on the springs, as it is with some systems, their useful life would end long before that of the pins, thus necessitating far more costly replacement of the rear, fully wired board.



AMP's matched terminal-tool crimping technique



AMP MATCHED TERMINAL-TOOL CRIMPING TECHNIQUE

Terminations produced with the AMP crimping method are virtually voidless, effectively bar contaminants and approach the strength of the conductor itself. They are formed into connections of optimum reliability by finely machined steel-alloy dies which bottom fully when precisely calibrated pressure is applied. This pressure is automatically released only when the cycle is completed and therefore results in identical, high-conductivity terminations. This type of termination technique is superior to thermal and other binding methods because: there is no danger of insulation burns or wire embrittlement; both solid wire and stranded wire are more readily and quickly crimped than soldered; crimped connections are more resistant than other types to shock, vibration and other environmental hazards; crimping with AMP automatic tooling is faster — results in lower installed costs; and the AMP crimping method permits the ultimate flexibility in production procedures.

These advantages are supplemented by the most important consideration of all: The superiority of AMP crimp terminations over thermal and wrap types. Unlike other methods with their human and mechanical variants and limitations, AMP compression crimping produces connections that are identical in appearance and performance. Consistent testing also indicates that AMP crimp terminations possess high tensile strength, low milli-volt drop, high resistance to corrosion, and relative immunity to vibration.

Components of AMP Universal Patchcord Programming Products

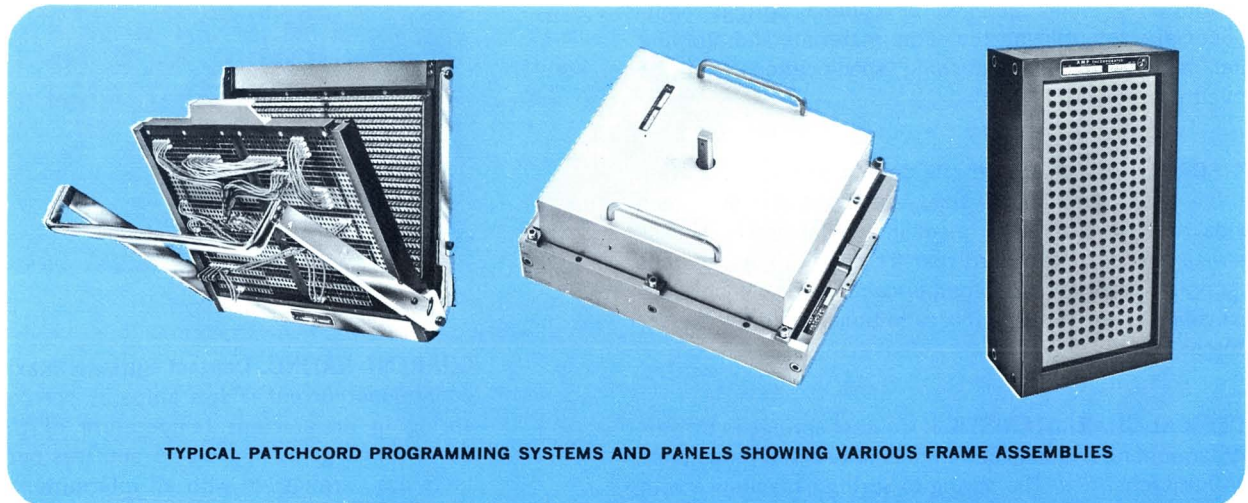
The merits of any electronic programming equipment are traceable to superiority of design, the materials used, exclusive advantageous features and the degree of precision applied in the manufacturing processes. All these values are combined in A-MP Patchcord

Programming Products. The same all-encompassing concept applies to every component used in both systems and panels. The following section contains descriptive material on these components as a guide for evaluation and comparison.

FRAMES Unless otherwise specified, the frames enclosing both the permanent and removable boards of AMP Programming Systems and Panels are made of either stainless steel or aluminum. Aluminum is recommended for its weight saving factor. To assure

long life and good mechanical performance, steel is specified for operating linkages.

The frames of AMP Anti-Vibration Systems are considerably heavier than the standard types. They are constructed to provide extra vibration and shock resist-



TYPICAL PATCHCORD PROGRAMMING SYSTEMS AND PANELS SHOWING VARIOUS FRAME ASSEMBLIES

ance under stresses well beyond maximum rated severity of any environment for which they are designed.

All AMP Systems and Panels, (with the exception of the 240 Panel Mount System) provide a mechanical

interlock that prevents damage to the contact springs. With the same exception, all removable programming patchboards have rails that protrude far enough from the surface of the board to prevent accidental dislodgment of the patchcords.

PATCHBOARDS The materials used in permanent and removable programming boards have been thoroughly tested for their dielectric, mechanical, thermal, and chemical properties. Of the many available, the allyls (diallyl phthalates) and phenolics have been found most adaptable to AMP Programming Systems and Panels. Both are thermosetting types that are hardened into permanent shapes.

THE GENERAL PURPOSE PHENOLICS have good insulation characteristics. They are strong, rigid and dimensionally stable, and are unaffected by most oils, alcohol, weak acids, and a wide variety of solvents. They provide insulation resistance between adjacent contacts at 10^{11} ohms under normal conditions. However, this resistance is affected by moisture; therefore this material should not be selected where stable resistance is a requirement. The phenolic patchboard conforms to requirements of MIL-M-14F, type MFH.

DIALLYL PHTHALATE, with insulation resistance of 10^{13} ohms or better, is recommended for more critical installations. This material is high in arc resistance, has high dielectric strength, low dielectric loss and good mechanical properties. Moreover, it maintains these properties under high temperature and humidity conditions. It is recommended for use wherever stable insulation resistance and fungus immunity are required. The diallyl phthalate conforms to requirements of MIL-M-14F, type MDG.

PERMANENT REAR BOARDS. These boards are available completely loaded with contact springs or with any specified number of holes plugged or contact springs omitted. Special sizes utilizing the same materials and allowing similar latitude in final finishing specifications, will be supplied on request.

SILK SCREENING. Standard silk screen legends are available for each patchboard size, and special silk screen legends may be ordered to meet individual needs. Unless otherwise specified, standard rear frame spring assemblies are supplied with an alpha-numerical 2 x 2-hole checkerboard silk screen pattern. For additional information see Customer Manual 5175.

ELECTRICAL CHARACTERISTICS. Contact springs in Universal Programming Systems and Panels have a self-inductance of .040 microhenries. The spring-to-spring capacitance with general purpose phenolic boards at 68° F. and relative humidity 50% is approximately 2.8 mmf; with diallyl phthalate boards it approximates 2.4 mmf. Capacitance between any one pin and its eight perimeter pins at 68° F. and relative humidity of 50% approximates 4.2 mmf for general purpose phenolic and 3.6 mmf for diallyl phthalate boards.

Voltage Rating: Recommended maximum operating voltage is 1500 volts DC and 1000 rms volts AC at sea level.



CURRENT RATING. Contact Springs: Maximum continuous current is five amperes per contact spring in an ambient temperature of 68° F. Current ratings as high as 25 amperes per contacts are permissible with an intermittent duty cycle. Where current ratings beyond five amperes are desired, AMP INCORPORATED should be contacted for recommendations.

OPERATING TEMPERATURE. The recommended maximum operating ambient temperature of A-MP Universal Patchcord Systems and Panels is 176° F. Should operation above this temperature be desired, we should be contacted.



TWIN DETENT PATCHCORD



NYLON SLEEVE PATCHCORDS

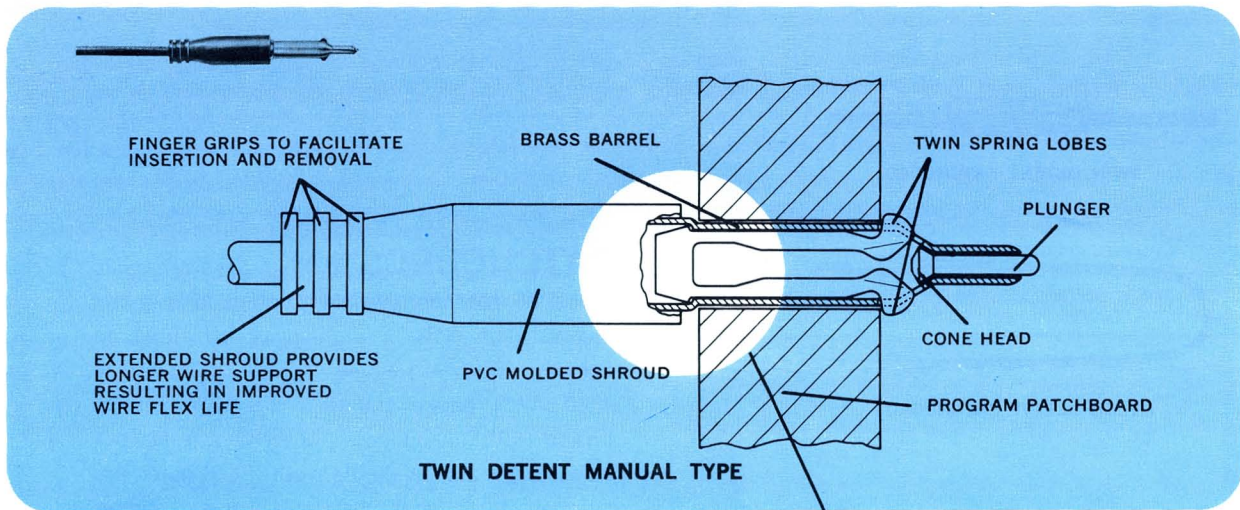


PATCHCORDS AMP supplies two basic types of patchcords—twin detent and nylon sleeve. Both have a number of attributes in common: Standard single, Y, and squids utilize #20 AWG gauge tinned copper wire, each strand .005" in diameter, with 41 strands per lead. Both are available with PVC outer insulation for higher dielectric values, higher temperature applications and the elimination of cord discoloration. Temperature range for this type insulation is -50° to $+105^{\circ}$ C, an ample spread for meeting MIL-W-16878 requirements with voltage rating of 1,000 volts DC. Both are compatible with fungus environments, and available in such special types as shunts, squids, and multiple-plug cords.

TWIN DETENT PATCHCORDS. Two types are available — the manual and semi-permanent versions. Both types come in lengths of 5" to 35" in increments of approximately 2" for the shorter lengths and 5" for the longer sizes.

THE MANUAL VERSION of this type cord permits hand insertion and removal, but under normal conditions, the cord cannot be accidentally dislodged from the patchboard through pressure applied to the tips of the plugs. This

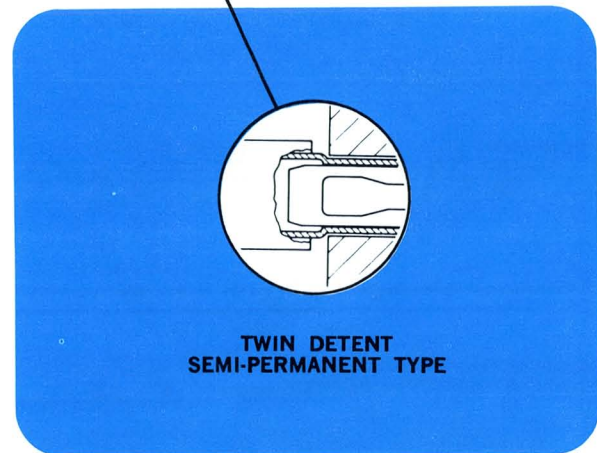
is accomplished with a twin detent spring within the barrel. The design and placement of the spring restricts longitudinal movement between the spring and the barrel. Retention lobes that protrude from the plug barrel are designed to permit normal hand insertion and removal of the plug from the patchboard with moderate pull. While the spring permits easy entry, the lobes once in "lock" position, provide enough detent retention to prevent accidental dislodgment of any pin, even when the board is placed face down on a cluttered work surface.



THE SEMI-PERMANENT VERSION does not confine the twin detent spring within a restricted position in the patchtip barrel. Longitudinal motion of the spring within the barrel is a requisite and is controlled by the length of the openings in the barrel through which the lobes project. When pull is exerted on the wire or patchtip shroud, the barrel moves in direct relation to the movement of the spring which, in turn, causes the plunger that projects from the tip of the pin to be pulled against the lobes. This is the motion that locks the cord firmly in the patchboard. Should the board then be placed on a cluttered work area and subject individual pins to pressure, the plunger of any pin thus affected would be depressed. This permits the cone head of the plunger to cause engagement with the spring lobes—a unique action that forces the lobes outward to prevent dislodgment of the patchtip.

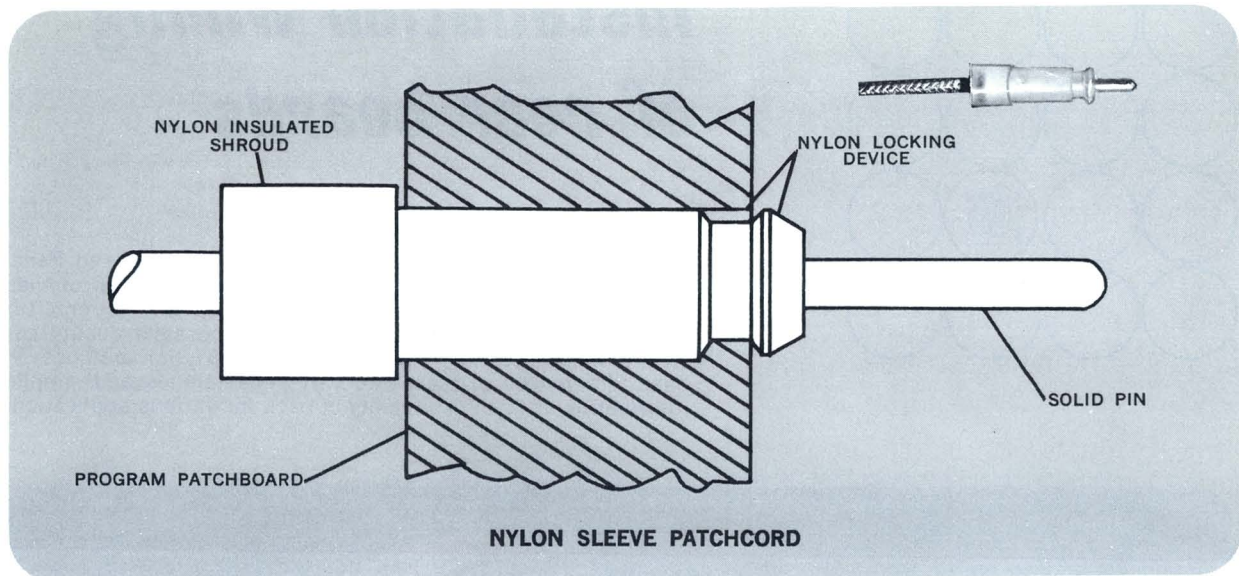
Another advantage of Twin Detent Patchcords with dual spring lobes is that they greatly minimize chipping of the patchboard surface around the edges of the holes that accommodate them. With dual lobes, the plunger force is dissipated over a larger patchboard surface area, thus reducing the pressure of the spring lobes against the vulnerable portion of the patchboard surface.

An extraction tool is required for removing semi-permanent twin detent patchcords. It is inserted over the patchcord pin to depress the spring lobes into the barrel, thus permitting easy removal.



NYLON SLEEVE PATCHCORDS. These cords are available in the same lengths as Twin Detent Patchcords. They are designed for positive seating in the programming board and for rapid, reliable post-patching whenever required. The conductor in Nylon Sleeve Patchcords is insulated with poly-vinyl chloride.

The nylon sleeve snapped over the upper, non-contact portion of the pin assembly serves a double purpose: (1) it effectively insulates the crimped connection; (2) it is made with a beveled shoulder which provides sufficient detent pull resistance in the molded "D" shaped hole of the programming board, after insertion of the patchcord pin.

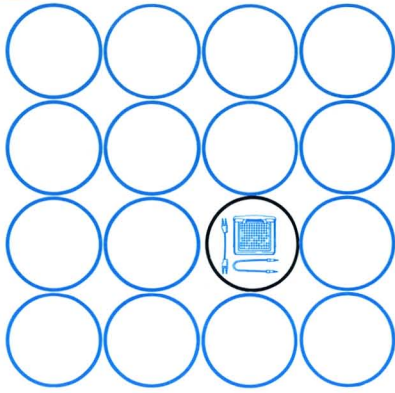


PATCHCORD STYLES. In addition to single conductor patchcords, the following types may be ordered, as required, for any Universal System or Panel: (1) multiple conductor PVC-insulated patchcords with multiple twisted conductors and an overall shield and outer insulating jacket, both ends terminated with PVC-molded, color-coded plugs; (2) shunts consisting of a single-conductor with its two pins molded together for insertion in adjacent holes; (3) "Y" cords with as many as eight leads emanating from a single insulated AMP solderless butt connector; (4) squid patchcords with up to 10 leads attached to a single AMP solderless closed-end connector; (5) dual cords with both tips molded together.

ACCESSORIES. Standard type patchcord accessories are available in a wide variety of adapters to meet every possible requirement. A complete listing is to be found on pages 18-30, 18-31, 18-36 and 18-37.

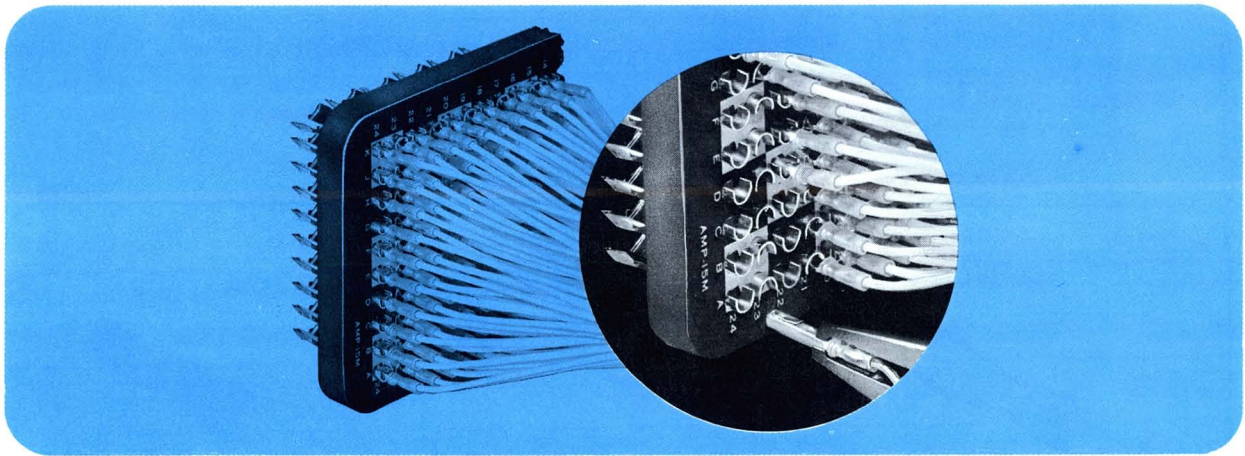
CONTACT RESISTANCE. The average contact resistance between gold-plated patchcord pins and contact springs is rated at approximately .002 ohms, and stability is achieved down to low micro-volt levels. This combination of low resistance and a high stability factor is recommended for critical, low-level patchcord programming, especially when repeated contact resistance is unavoidable and maximum contact life is an important requisite.

At an open circuit voltage greater than 20 volts, in non-critical applications, nickel-plated patchcord pins and tin-plated contact springs provide satisfactory performance. Here the average contact resistance is .005 ohms. This plating is not recommended for application requiring stable contact resistance nor when circuit parameters do not tolerate as much as a .5 volt drop in contact connections.



Installation wiring of rear boards

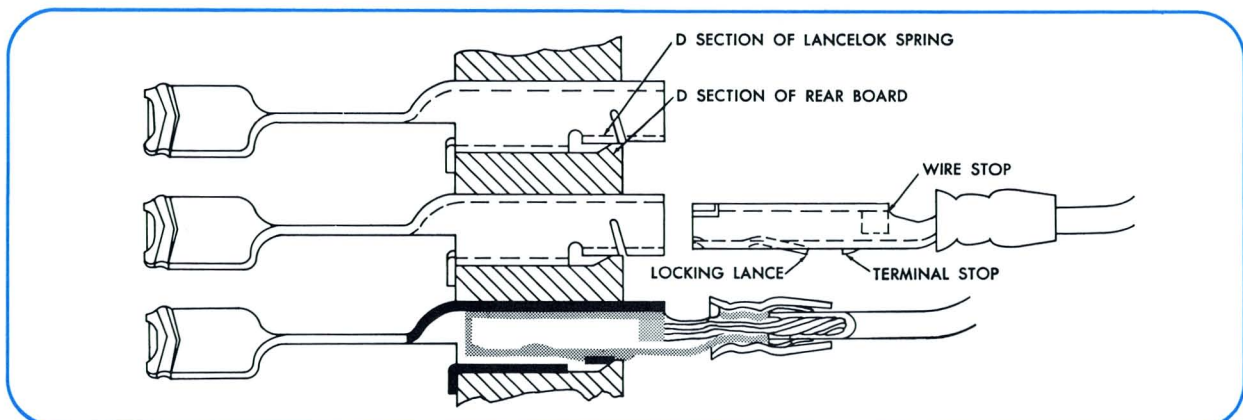
Rear Board wiring of Universal Patchcord Systems and Panels is accomplished with two types of terminations. Each of these — LANCELOK terminals and AMP taper pins — is precision engineered and subjected to the highest possible quality control in manufacturing. The following description outlines the basic differences of these two wiring techniques and supplies information as to the suitability of each for various applications.



LANCELOK TERMINAL The LANCELOK Terminal is recommended for patchcord programming systems subjected to an excess of vibration and shock. The design of this terminal and the LANCELOK spring receptacle provides a multiple contact area which results in excellent electrical performance. The terminal and receptacle are formed of fine-grain spring-tempered brass. A locking lance seats the terminal firmly in the spring receptacle, providing minimum retention force of 20 pounds between the terminal and the board. LANCELOK terminals are available in uninsulated and pre-insulated types. Both designs include insulation support.

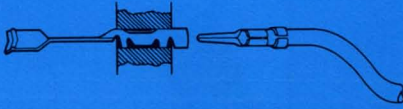
LANCELOK terminals cannot be incorrectly installed; they are mechanically polarized with the "D" shaped section of the contact spring. Over-insertion is prevented through the use of a positive stop in the terminal body.

LANCELOK terminals meet the wire tensile strength and the dielectric (voltage) breakdown requirements of MIL-T-7928.



Versatility in Rear Bay Wiring

AMP Taper Pins

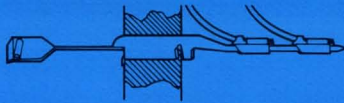


AMP Taper Pins for rear bay contact provide a low-resistance, noise-free wire termination. They incorporate a $3\frac{1}{2}^\circ$ taper which results in a .001" change in diameter for every .016" of length. This precisely calculated wedge provides uniform retention and excellent electrical stability.

Two types of taper pins are available to meet every patchcord

programming need. One is a formed pin available with or without insulation support. The other, designed for critical applications is a PIDG pre-insulated solid pin featuring a closed wire barrel with a bonded nylon sleeve. Both critical and non-critical requirements can therefore be met at a cost consistent with the application.

TERMI-POINT Clip Terminations



Wrap-Type
Wiring

TERMI-POINT Clip Terminations of rear bay point-to-point wiring provide industry with the answer for greater flexibility, density, serviceability and reliability.

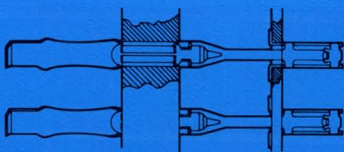
Basically the TERMI-POINT Clip technique is a compression termination which applies the wire to a metal post. The clip acts as a holding device that precisely positions and then firmly grips the wire as it is affixed to the post by hand or automatic tooling. This method provides excellent mechanical and electrical characteristics, yet can be easily disconnected with a simple hand tool without electrically disturbing

adjacent terminations on the same or other posts.

Because the complete procedure—wire preparation and termination—is accomplished in application, significant savings in time and labor are realized. Terminations may be made by hand tool or tape controlled automatic wiring machine. In addition the TERMI-POINT Clip method of point-to-point wiring accepts either stranded or solid wire.

AMP Standard Patchcord Programming Systems are also available with posts for wrap-type wiring.

The AMPMODU Interconnection System



The AMPMODU Interconnection System is ideally suited for back bay wiring technology which calls for a substantial reduction in conductor length between components and the programming system, thus it provides the much desired plug-in, maintainable module approach.

The AMPMODU female contact permits the user to mate the posts of the contact springs on the rear bay directly to printed circuit boards, amplifier modules and similar packages.

The receptacle when cross-sectioned is primarily rectangular

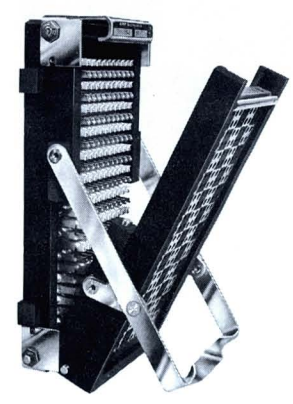
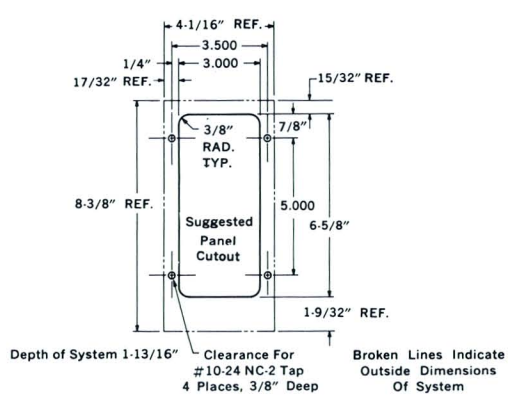
with round corners. Two integral cantilever beam springs contact the mating male post providing redundant contact. Deflection of these spring members is limited by coined stops preventing permanent spring deformation. This allows a wide tolerance in misalignment of the mating contact.

NOTE: When required, both post-type rear bay contact springs are designed to accept wrap-type terminations applied either by manual or automatic wiring devices.

Panel mount systems

240 system

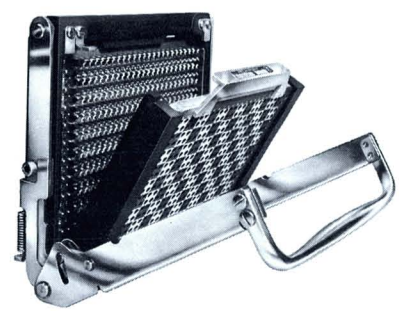
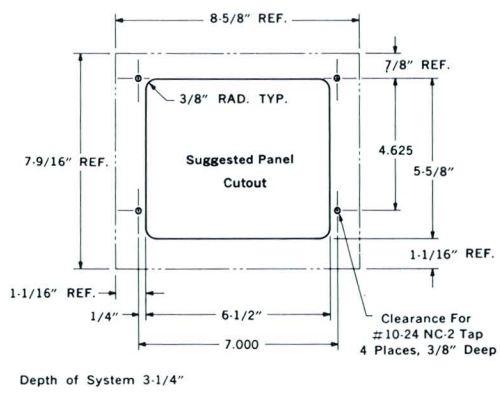
hole arrangement
10 x 24



REAR FRAME AND SPRING ASSEMBLY					REMOVABLE PATCHBOARDS					
BOARD MATERIAL	CONTACT SPRING FINISH	CATALOG NUMBER		NET WEIGHT	BOARD MATERIAL	CATALOG NUMBER WITH "D" HOLES FOR NYLON SLEEVE PATCHCORDS		CATALOG NUMBER WITH ROUND HOLES FOR TWIN DETENT PATCHCORDS		NET WEIGHT
		FOR TAPER PIN WIRING	FOR LANCELOK TERMINAL WIRING			UNSCREENED	STANDARD SCREEN*	UNSCREENED	STANDARD SCREEN*	
General Purpose Phenolic	Tin Plated	595069-1	695672-1	2 lb., 8 oz.	General Purpose Phenolic	395056-1	595368-1	695670-1	695670-3	6 oz.
	Gold Plated	595069-2	695672-2							
Diallyl Phthalate	Tin Plated	595069-3	695672-3	2 lb., 7 oz.	Diallyl Phthalate	395056-2	595368-2	695670-2	695670-4	5 oz.
	Gold Plated	595069-4	695672-4							

480 system

hole arrangement
24 x 20

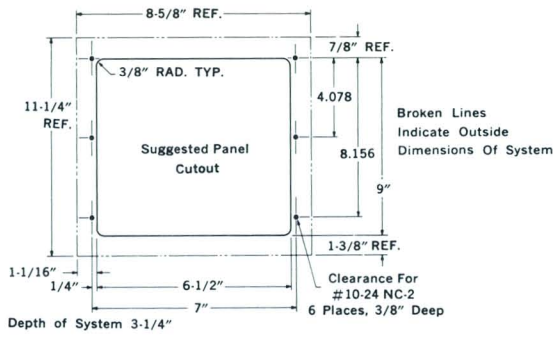


REAR FRAME AND SPRING ASSEMBLY					REMOVABLE PATCHBOARDS					
BOARD MATERIAL	CONTACT SPRING FINISH	CATALOG NUMBER		NET WEIGHT	BOARD MATERIAL	CATALOG NUMBER WITH "D" HOLES FOR NYLON SLEEVE PATCHCORDS		CATALOG NUMBER WITH ROUND HOLES FOR TWIN DETENT PATCHCORDS		NET WEIGHT
		FOR TAPER PIN WIRING	FOR LANCELOK TERMINAL WIRING			UNSCREENED	STANDARD SCREEN*	UNSCREENED	STANDARD SCREEN*	
General Purpose Phenolic	Tin Plated	695305-1	695675-1	4 lb., 1 oz.	General Purpose Phenolic	595350-1	595534-1	695673-1	695673-3	13 oz.
	Gold Plated	695305-4	695675-2							
Diallyl Phthalate	Tin Plated	695305-2	695675-3	4 lb.	Diallyl Phthalate	595350-2	595534-2	695673-2	695673-4	12 oz.
	Gold Plated	695305-3	695675-4							

* Front face of Patchboard is silk screened with alpha-numeric 2 x 2 checkerboard legend.
NOTE: Program Patchboards are recommended only for vertical engagement. Contact AMP for recommendations on other mounting arrangements. Rear frame assemblies are also available with TERMI-POINT, Wrap-Type and AMPMODU posts. Contact AMP INCORPORATED FOR INFORMATION.

816 system

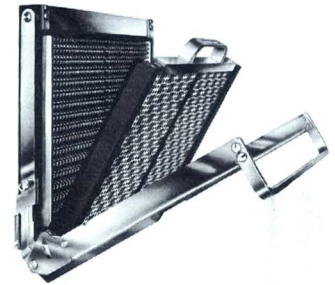
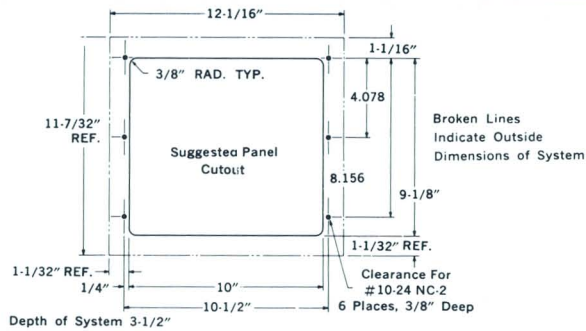
hole arrangement
24 x 34



REAR FRAME AND SPRING ASSEMBLY					REMOVABLE PATCHBOARDS					
BOARD MATERIAL	CONTACT SPRING FINISH	CATALOG NUMBER		NET WEIGHT	BOARD MATERIAL	CATALOG NUMBER WITH "D" HOLES FOR NYLON SLEEVE PATCHCORDS		CATALOG NUMBER WITH ROUND HOLES FOR TWIN DETENT PATCHCORDS		NET WEIGHT
		FOR TAPER PIN WIRING	FOR LANCELOK TERMINAL WIRING			UNSCREENED	STANDARD SCREEN*	UNSCREENED	STANDARD SCREEN*	
General Purpose Phenolic	Tin Plated	695081-1	695678-1	7 lb.	General Purpose Phenolic	595005-1	595369-1	595902-1	595902-3	1 lb., 1 oz.
	Gold Plated	695081-4	695678-2			595005-2	595369-2	595902-2	595902-4	
Diallyl Phthalate	Tin Plated	695081-2	695678-3	6 lb., 15 oz.	Diallyl Phthalate	595005-2	595369-2	595902-2	595902-4	1 lb.
	Gold Plated	695081-3	695678-4							

1224 system

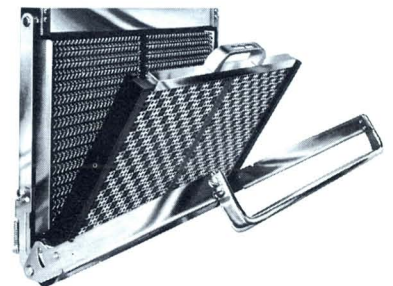
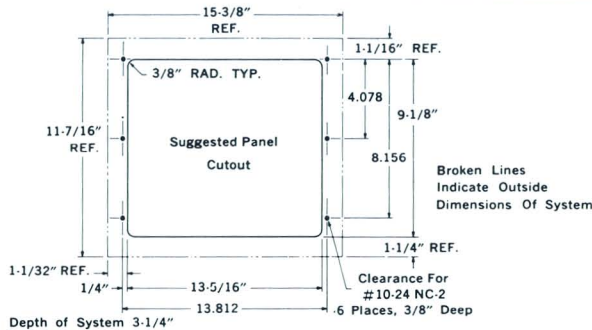
hole arrangement
36 x 34



REAR FRAME AND SPRING ASSEMBLY					REMOVABLE PATCHBOARDS					
BOARD MATERIAL	CONTACT SPRING FINISH	CATALOG NUMBER		NET WEIGHT	BOARD MATERIAL	CATALOG NUMBER WITH "D" HOLES FOR NYLON SLEEVE PATCHCORDS		CATALOG NUMBER WITH ROUND HOLES FOR TWIN DETENT PATCHCORDS		NET WEIGHT
		FOR TAPER PIN WIRING	FOR LANCELOK TERMINAL WIRING			UNSCREENED	STANDARD SCREEN*	UNSCREENED	STANDARD SCREEN*	
General Purpose Phenolic	Tin Plated	695070-4	695681-1	14 lb., 4 oz.	General Purpose Phenolic	595109-1	695315-1	695679-1	695679-3	2 lb., 6 oz.
	Gold Plated	695070-2	695681-2			595109-2	695315-2	695679-2	695679-4	
Diallyl Phthalate	Tin Plated	695070-3	695681-3	14 lb., 2 oz.	Diallyl Phthalate	595109-2	695315-2	695679-2	695679-4	2 lb., 4 oz.
	Gold Plated	695070-1	695681-4							

1632 system

hole arrangement
48 x 34

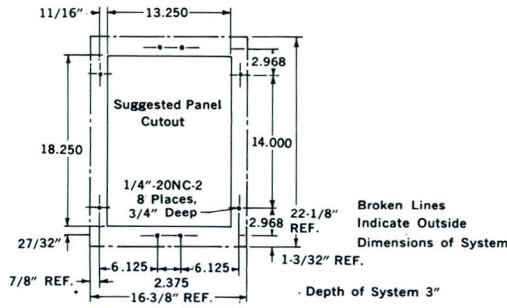


REAR FRAME AND SPRING ASSEMBLY					REMOVABLE PATCHBOARDS					
BOARD MATERIAL	CONTACT SPRING FINISH	CATALOG NUMBER		NET WEIGHT	BOARD MATERIAL	CATALOG NUMBER WITH "D" HOLES FOR NYLON SLEEVE PATCHCORDS		CATALOG NUMBER WITH ROUND HOLES FOR TWIN DETENT PATCHCORDS		NET WEIGHT
		FOR TAPER PIN WIRING	FOR LANCELOK TERMINAL WIRING			UNSCREENED	STANDARD SCREEN*	UNSCREENED	STANDARD SCREEN*	
General Purpose Phenolic	Tin Plated	695010-1	695684-1	17 lb., 12 oz.	General Purpose Phenolic	695009-1	695316-1	695682-1	695682-3	3 lb., 4 oz.
	Gold Plated	695010-2	695684-2			695009-2	695316-2	695682-2	695682-4	
Diallyl Phthalate	Tin Plated	695010-3	695684-3	17 lb., 8 oz.	Diallyl Phthalate	695009-2	695316-2	695682-2	695682-4	3 lb.
	Gold Plated	695010-4	695684-4							

* Front face of Patchboard is silk screened with alpha-numeric 2 x 2 checkerboard legend.
NOTE: Program Patchboards are recommended only for vertical engagement. Contact AMP for recommendations on other mounting arrangements. Rear frame assemblies are also available with TERMI-POINT, Wrap-Type and AMPMODU posts. Contact AMP INCORPORATED FOR INFORMATION.

3264 system

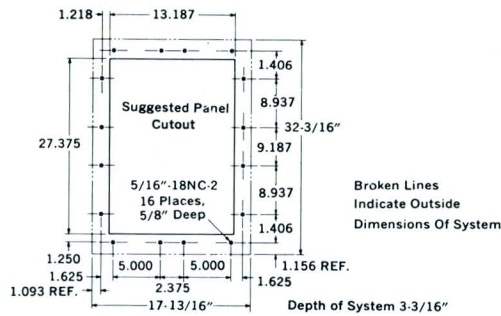
hole arrangement
48 x 68



REAR FRAME AND SPRING ASSEMBLY					REMOVABLE PATCHBOARDS					
BOARD MATERIAL	CONTACT SPRING FINISH	CATALOG NUMBER		NET WEIGHT	BOARD MATERIAL	CATALOG NUMBER WITH "D" HOLES FOR NYLON SLEEVE PATCHCORDS		CATALOG NUMBER WITH ROUND HOLES FOR TWIN DETENT PATCHCORDS		NET WEIGHT
		FOR TAPER PIN WIRING	FOR LANCELOK TERMINAL WIRING			UNSCREENED	STANDARD SCREEN*	UNSCREENED	STANDARD SCREEN*	
General Purpose Phenolic	Tin Plated	695020-1	695657-1	24 lb., 11 oz.	General Purpose Phenolic	695017-1	695317-1	695466-1†	695466-3†	10 lb., 6 oz.
	Gold Plated	695020-2	695657-2			695415-1†	695415-3†			
Diallyl Phthalate	Tin Plated	695020-3	695657-3	24 lb., 3 oz.	Diallyl Phthalate	695017-2	695317-2	695466-2†	695466-4†	9 lb., 14 oz.
	Gold Plated	695020-4	695657-4			695415-2†	695415-4†			

4896 system

hole arrangement
48 x 102

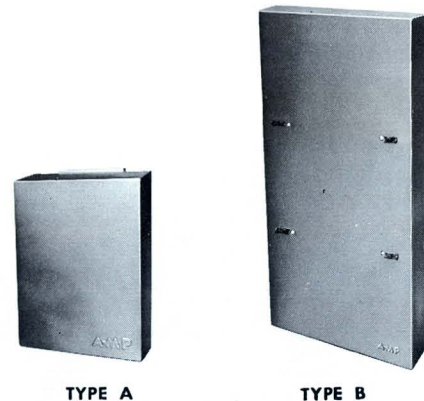


REAR FRAME AND SPRING ASSEMBLY					REMOVABLE PATCHBOARDS					
BOARD MATERIAL	CONTACT SPRING FINISH	CATALOG NUMBER		NET WEIGHT	BOARD MATERIAL	CATALOG NUMBER WITH "D" HOLES FOR NYLON SLEEVE PATCHCORDS		CATALOG NUMBER WITH ROUND HOLES FOR TWIN DETENT PATCHCORDS		NET WEIGHT
		FOR TAPER PIN WIRING	FOR LANCELOK TERMINAL WIRING			UNSCREENED	STANDARD SCREEN*	UNSCREENED	STANDARD SCREEN*	
General Purpose Phenolic	Tin Plated	695021-1	695689-1	53 lb., 14 oz.	General Purpose Phenolic	695019-1	695318-1	695451-1†	695451-3†	18 lb., 2 oz.
	Gold Plated	695021-2	695689-2			695416-1†	695416-3†			
Diallyl Phthalate	Tin Plated	695021-3	695689-3	53 lb., 2 oz.	Diallyl Phthalate	695019-2	695318-2	695451-2†	695451-4†	17 lb., 6 oz.
	Gold Plated	695021-4	695689-4			695416-2†	695416-4†			

*Front face of Patchboard is silk screened with alpha-numeric 2 x 2 checkerboard legend. Removable Program Patchboards are recommended only for vertical engagement. Contact AMP for recommendations on other mounting arrangements.
†Aluminum Alloy Frame.

DUST COVERS FOR REMOVABLE PROGRAM PATCHBOARDS

SYSTEM MODEL NO.	DUST COVER PART NO.	INSIDE DEPTH OF COVER	MATERIAL AND FINISH	TYPE
P240	595100-2	1-1/4"	Aluminum Alloy—Clear Anodized	A
P480	595757-1	2-3/16"	Aluminum Alloy—Clear Anodized	A
P816	595298-1	2-3/16"	Aluminum Alloy—Clear Anodized	A
P1224	695265-1	2-3/16"	Aluminum Alloy—Clear Anodized	A
P1632	695210-1	2-3/16"	Aluminum Alloy—Clear Anodized	B
P3264	695173-1	1-15/16"	Aluminum Alloy—Clear Anodized	B
P4896	695253-1	3-1/2"	Aluminum Alloy—Clear Anodized	B



TYPE A

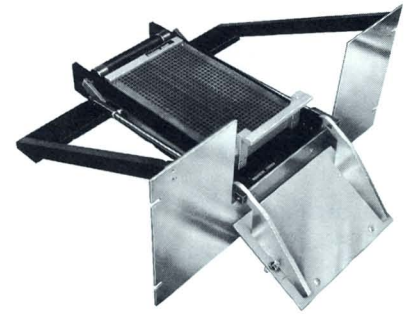
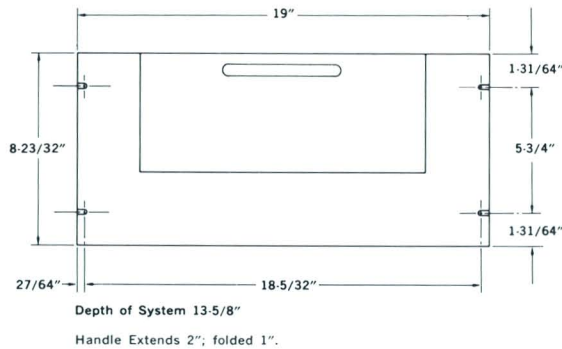
TYPE B

* Front face of Patchboard is silk screened with alpha-numeric 2 x 2 checkerboard legend.
NOTE: Program Patchboards are recommended only for vertical engagement. Contact AMP for recommendations on other mounting arrangements. Rear frame assemblies are also available with TERMI-POINT, Wrap-Type and AMPMODU posts. Contact AMP INCORPORATED FOR INFORMATION.

Rack mount systems

680 system

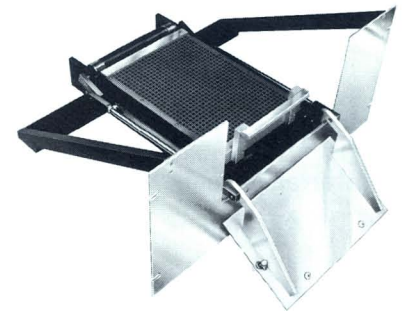
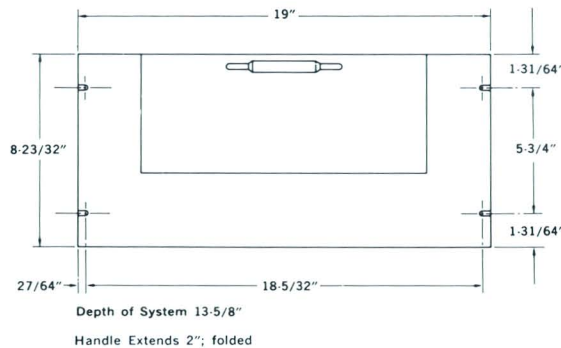
hole arrangement
20 x 34



REAR FRAME AND SPRING ASSEMBLY					REMOVABLE PATCHBOARDS					
BOARD MATERIAL	CONTACT SPRING FINISH	CATALOG NUMBER		NET WEIGHT	BOARD MATERIAL	CATALOG NUMBER WITH "D" HOLES FOR NYLON SLEEVE PATCHCORDS		CATALOG NUMBER WITH ROUND HOLES FOR TWIN DETENT PATCHCORDS		NET WEIGHT
		FOR TAPER PIN WIRING	FOR LANCELOK TERMINAL WIRING			UNSCREENED	STANDARD SCREEN*	UNSCREENED	STANDARD SCREEN*	
General Purpose Phenolic	Tin Plated	497149-1	497149-5	16 lb., 11 oz.	General Purpose Phenolic	497159-1	497159-3	497159-5	497159-7	1 lb., 7 oz.
	Gold Plated	497149-2	497149-6			497159-2	497159-4	497159-6	497159-8	
Diallyl Phthalate	Tin Plated	497149-3	497149-7	16 lb., 10 oz.	Diallyl Phthalate	497159-2	497159-4	497159-6	497159-8	1 lb., 6 oz.
	Gold Plated	497149-4	497149-8							

816 system

hole arrangement
24 x 34



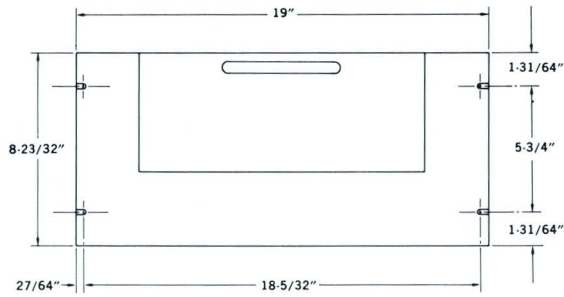
REAR FRAME AND SPRING ASSEMBLY					REMOVABLE PATCHBOARDS					
BOARD MATERIAL	CONTACT SPRING FINISH	CATALOG NUMBER		NET WEIGHT	BOARD MATERIAL	CATALOG NUMBER WITH "D" HOLES FOR NYLON SLEEVE PATCHCORDS		CATALOG NUMBER WITH ROUND HOLES FOR TWIN DETENT PATCHCORDS		NET WEIGHT
		FOR TAPER PIN WIRING	FOR LANCELOK TERMINAL WIRING			UNSCREENED	STANDARD SCREEN*	UNSCREENED	STANDARD SCREEN*	
General Purpose Phenolic	Tin Plated	497129-1	497129-5	17 lb., 6 oz.	General Purpose Phenolic	497128-1	497128-3	497128-5	497128-7	1 lb., 12 oz.
	Gold Plated	497129-2	497129-6			497128-2	497128-4	497128-6	497128-8	
Diallyl Phthalate	Tin Plated	497129-3	497129-7	17 lb., 4 oz.	Diallyl Phthalate	497128-2	497128-4	497128-6	497128-8	1 lb., 10 oz.
	Gold Plated	497129-4	497129-8							

* Front face of Patchboard is silk screened with alpha-numeric 2 x 2 checkerboard legend.

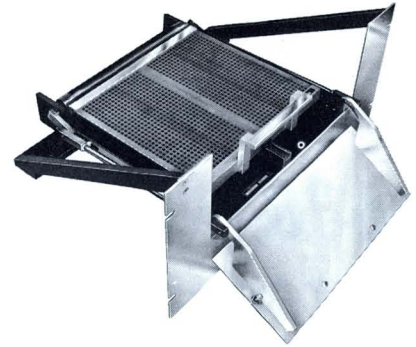
NOTE: Program Patchboards are recommended only for vertical engagement. Contact AMP for recommendations on other mounting arrangements. Rear frame assemblies are also available with TERMI-POINT, Wrap-Type and AMPMODU posts. Contact AMP INCORPORATED FOR INFORMATION.

1224 system

hole arrangement
36 x 34



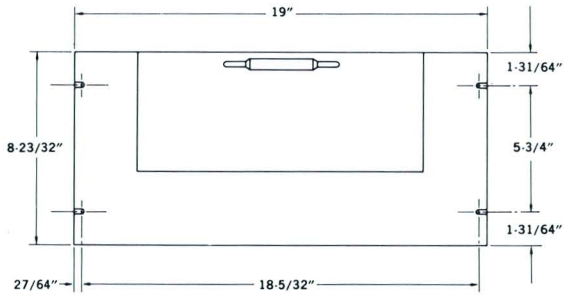
Depth of System 13-5/8"
Handle Extends 2"; folded 1".



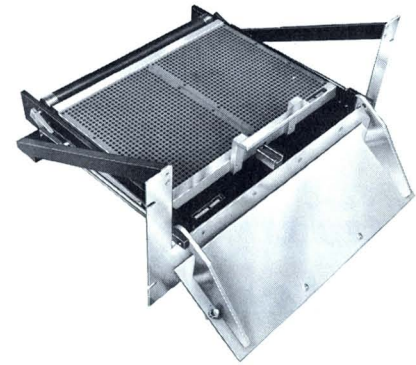
REAR FRAME AND SPRING ASSEMBLY					REMOVABLE PATCHBOARDS					
BOARD MATERIAL	CONTACT SPRING FINISH	CATALOG NUMBER		NET WEIGHT	BOARD MATERIAL	CATALOG NUMBER WITH "D" HOLES FOR NYLON SLEEVE PATCHCORDS		CATALOG NUMBER WITH ROUND HOLES FOR TWIN DETENT PATCHCORDS		NET WEIGHT
		FOR TAPER PIN WIRING	FOR LANCELOK TERMINAL WIRING			UNSCREENED	STANDARD SCREEN*	UNSCREENED	STANDARD SCREEN*	
General Purpose Phenolic	Tin Plated	497141-1	497141-5	20 lb., 2 oz.	General Purpose Phenolic	497142-1	497142-3	497142-5	497142-7	2 lb., 10 oz.
	Gold Plated	497141-2	497141-6							
Diallyl Phthalate	Tin Plated	497141-3	497141-7	19 lb., 5 oz.	Diallyl Phthalate	497142-2	497142-4	497142-6	497142-8	2 lb., 7 oz.
	Gold Plated	497141-4	497141-8							

1632 system

hole arrangement
48 x 34



Depth of System 13-5/8"
Handle Extends 2"; folded 1".



REAR FRAME AND SPRING ASSEMBLY					REMOVABLE PATCHBOARDS					
BOARD MATERIAL	CONTACT SPRING FINISH	CATALOG NUMBER		NET WEIGHT	BOARD MATERIAL	CATALOG NUMBER WITH "D" HOLES FOR NYLON SLEEVE PATCHCORDS		CATALOG NUMBER WITH ROUND HOLES FOR TWIN DETENT PATCHCORDS		NET WEIGHT
		FOR TAPER PIN WIRING	FOR LANCELOK TERMINAL WIRING			UNSCREENED	STANDARD SCREEN*	UNSCREENED	STANDARD SCREEN*	
General Purpose Phenolic	Tin Plated	497095-1	497095-5	22 lb., 2 oz.	General Purpose Phenolic	497086-1	497086-3	497086-5	497086-7	3 lb., 5 oz.
	Gold Plated	497095-2	497095-6							
Diallyl Phthalate	Tin Plated	497095-3	497095-7	21 lb., 14 oz.	Diallyl Phthalate	497086-2	497086-4	497086-6	497086-8	3 lb., 1 oz.
	Gold Plated	497095-4	497095-8							

* Front face of Patchboard is silk screened with alpha-numeric 2 x 2 checkerboard legend.

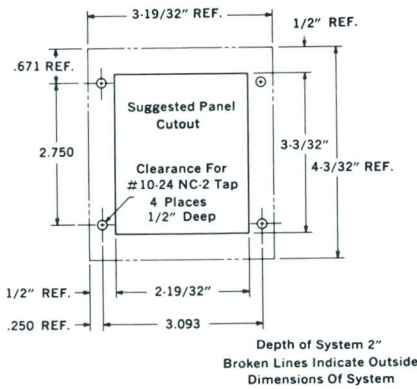
NOTE: Program Patchboards are recommended only for vertical engagement. Contact AMP for recommendations on other mounting arrangements. Rear frame assemblies are also available with TERMI-POINT, Wrap-Type and AMPMODU posts. Contact AMP INCORPORATED FOR INFORMATION.

Fixed panels

120 panel

(10 x 12)

Accepts Nylon Sleeve Patchcords

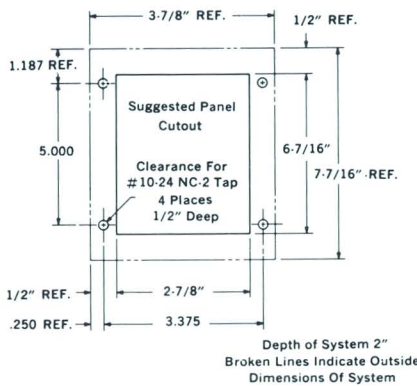


BOARD MATERIAL	CONTACT SPRING FINISH	CATALOG NUMBER		NET WEIGHT
		FOR TAPER PIN REAR WIRING		
General Purpose Phenolic	Tin Plated	495255-1		1 lb., 8 oz.
	Gold Plated	495255-2		
Diallyl Phthalate	Tin Plated	495255-3		1 lb., 8 oz.
	Gold Plated	495255-4		

240 panel

(10 x 24)

Accepts Nylon Sleeve Patchcords

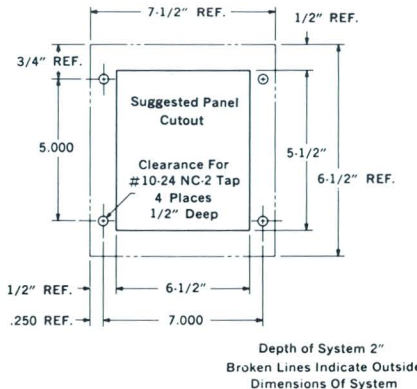


BOARD MATERIAL	CONTACT SPRING FINISH	CATALOG NUMBER		NET WEIGHT
		FOR TAPER PIN REAR WIRING		
General Purpose Phenolic	Tin Plated	595035-1		2 lb., 14 oz.
	Gold Plated	595035-2		
Diallyl Phthalate	Tin Plated	595035-3		2 lb., 13 oz.
	Gold Plated	595035-4		

480 panel

(24 x 20)

Accepts Nylon Sleeve Patchcords

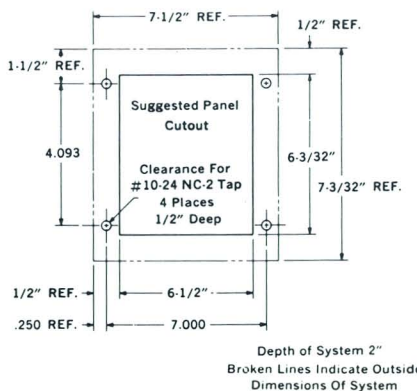


BOARD MATERIAL	CONTACT SPRING FINISH	CATALOG NUMBER		NET WEIGHT
		FOR TAPER PIN REAR WIRING		
General Purpose Phenolic	Tin Plated	595126-1		4 lb., 5 oz.
	Gold Plated	595126-2		
Diallyl Phthalate	Tin Plated	595126-3		4 lb., 3 oz.
	Gold Plated	595126-4		

576 panel

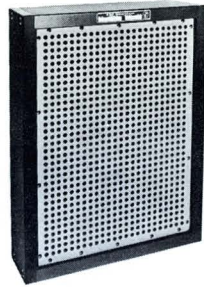
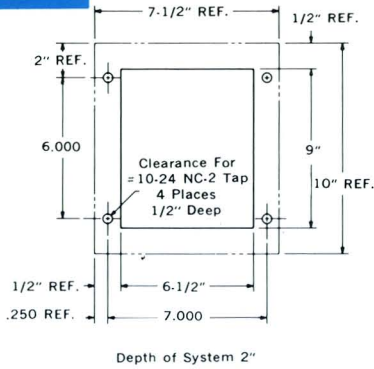
(24 x 24)

Accepts Nylon Sleeve Patchcords



BOARD MATERIAL	CONTACT SPRING FINISH	CATALOG NUMBER		NET WEIGHT
		FOR TAPER PIN REAR WIRING		
General Purpose Phenolic	Tin Plated	595132-1		4 lb., 10 oz.
	Gold Plated	595132-2		
Diallyl Phthalate	Tin Plated	595132-3		4 lb., 7 oz.
	Gold Plated	595132-4		

NOTE: Front face of fixed panels are not silk screened. Special screening or standard AMP alpha-numeric 2 x 2 checker board legend available upon request.



816 panel

(24 x 34)

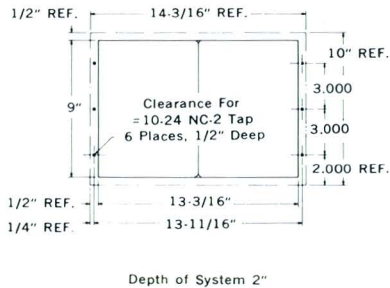
Accepts Nylon Sleeve Patchcords

BOARD MATERIAL	CONTACT SPRING FINISH	CATALOG NUMBER	
		FOR TAPER PIN REAR WIRING	NET WEIGHT
General Purpose Phenolic	Tin Plated	595051-1	6 lb., 14 oz.
	Gold Plated	595051-2	
Diallyl Phthalate	Tin Plated	595051-3	6 lb., 10 oz.
	Gold Plated	595051-4	

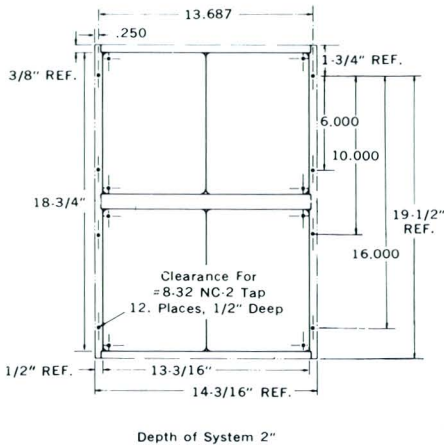
1632 panel

(48 x 34)

Accepts Nylon Sleeve Patchcords



BOARD MATERIAL	CONTACT SPRING FINISH	CATALOG NUMBER	
		FOR TAPER PIN REAR WIRING	NET WEIGHT
General Purpose Phenolic	Tin Plated	695142-1	13 lb., 4 oz.
	Gold Plated	695142-2	
Diallyl Phthalate	Tin Plated	695142-3	12 lb., 12 oz.
	Gold Plated	695142-4	

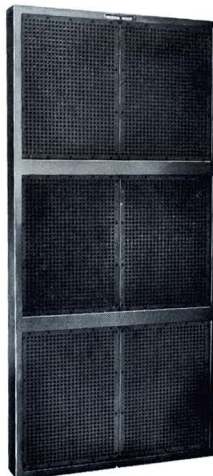
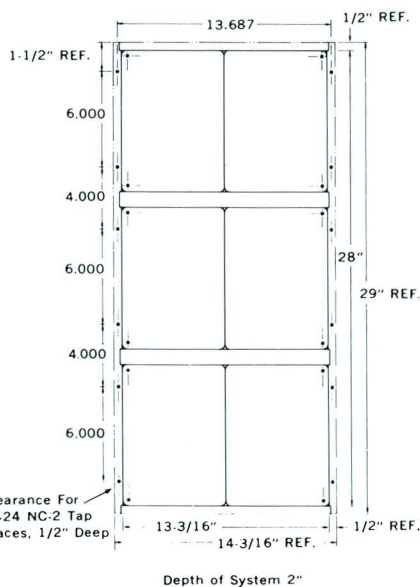


3264 panel

(48 x 68)

Accepts Nylon Sleeve Patchcords

BOARD MATERIAL	CONTACT SPRING FINISH	CATALOG NUMBER	
		FOR TAPER PIN REAR WIRING	NET WEIGHT
General Purpose Phenolic	Tin Plated	421083-1	20 lb., 13 oz.
	Gold Plated	421083-2	
Diallyl Phthalate	Tin Plated	421083-3	19 lb., 13 oz.
	Gold Plated	421083-4	



4896 panel

(48 x 102)

Accepts Nylon Sleeve Patchcords

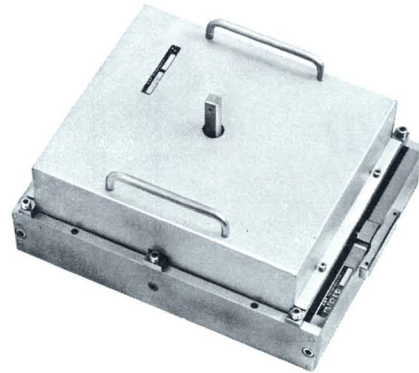
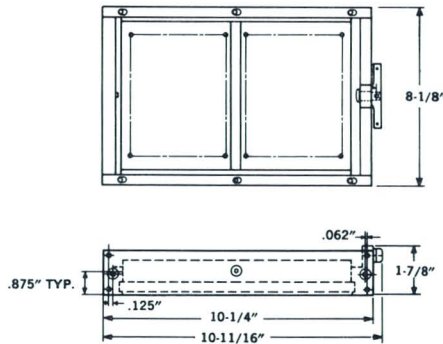
BOARD MATERIAL	CONTACT SPRING FINISH	CATALOG NUMBER	
		FOR TAPER PIN REAR WIRING	NET WEIGHT
General Purpose Phenolic	Tin Plated	421084-1	30 lb., 9 oz.
	Gold Plated	421084-2	
Diallyl Phthalate	Tin Plated	421084-3	29 lb., 1 oz.
	Gold Plated	421084-4	

NOTE: Front face of fixed panels are not silk screened. Special screening or standard AMP alpha-numeric 2 x 2 checker board legend available upon request.

Anti-vibration systems

806 system

hole arrangement
31 x 26

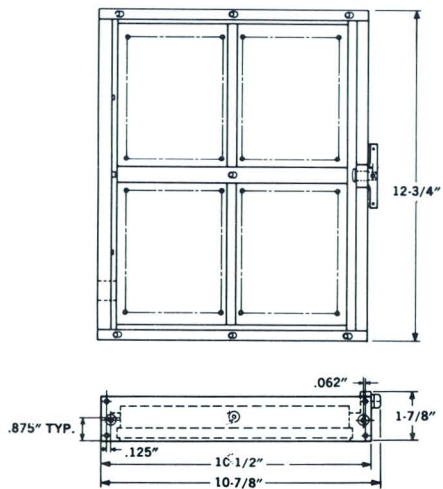


Accepts Twin Detent Patchcords

REAR FRAME AND SPRING ASSEMBLY				REMOVABLE PATCHBOARDS			DUST COVER		
BOARD MATERIAL	CONTACT SPRING FINISH	CATALOG NUMBER FOR LANCELOK TERMINAL WIRING	NET WEIGHT	BOARD MATERIAL	CATALOG NUMBER	NET WEIGHT	CATALOG NUMBER	MATERIAL & FINISH	NET WEIGHT
Diallyl Phthalate	Gold Plated	421299-2	8 lb. 4 oz.	Diallyl Phthalate	421300-2	2 lb. 5 oz.	421301-1	Clear Anodized Aluminum	12 1/2 oz.

1280 system

hole arrangement
32 x 40



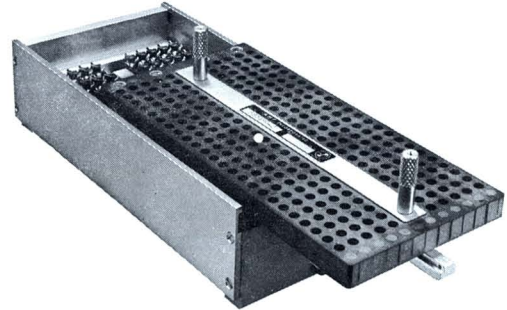
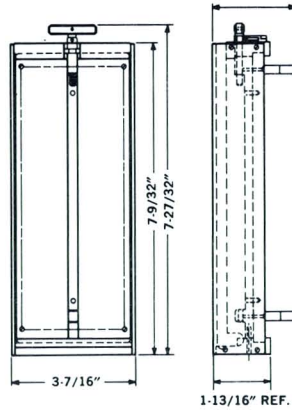
Accepts Twin Detent Patchcords

REAR FRAME AND SPRING ASSEMBLY				REMOVABLE PATCHBOARDS			DUST COVER		
BOARD MATERIAL	CONTACT SPRING FINISH	CATALOG NUMBER FOR LANCELOK TERMINAL WIRING	NET WEIGHT	BOARD MATERIAL	CATALOG NUMBER	NET WEIGHT	CATALOG NUMBER	MATERIAL & FINISH	NET WEIGHT
Diallyl Phthalate	Gold Plated	421302-2	19 lb.	Diallyl Phthalate	421303-2	6 lb.	421304-1	Stainless Steel	2 lb.

Airborne Systems

240 system

hole arrangement
10 x 24

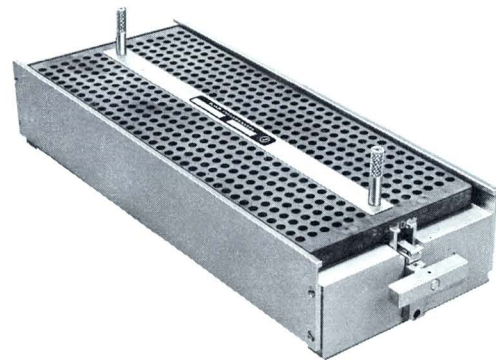
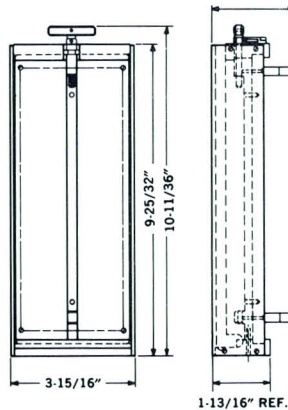


Accepts Nylon Sleeve Patchcords

REAR FRAME AND SPRING ASSEMBLY				REMOVABLE PATCHBOARDS "D" HOLE FOR NYLON SLEEVE PATCHCORDS			DUST COVER	
BOARD MATERIAL	CONTACT SPRING FINISH	CATALOG NUMBER FOR TAPER PIN WIRING	NET WEIGHT	BOARD MATERIAL	CATALOG NUMBER	NET WEIGHT	CATALOG NUMBER	MATERIAL & FINISH
General Purpose Phenolic	Tin Plated	595195-1	1 lb. 10 oz.	General Purpose Phenolic	595194-1	10 oz.	595179-1	Aluminum
	Gold Plated	595195-2						
Diallyl Phthalate	Tin Plated	595195-3	1 lb. 10 oz.	Diallyl Phthalate	595194-2	10 oz.	595179-2	Aluminum
	Gold Plated	595195-4						

408 system

hole arrangement
12 x 34

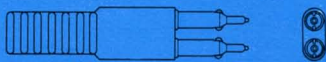
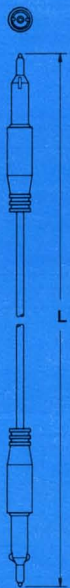


Accepts Nylon Sleeve Patchcords

REAR FRAME AND SPRING ASSEMBLY				REMOVABLE PATCHBOARDS "D" HOLE FOR NYLON SLEEVE PATCHCORDS			DUST COVER	
BOARD MATERIAL	CONTACT SPRING FINISH	CATALOG NUMBER FOR TAPER PIN WIRING	NET WEIGHT	BOARD MATERIAL	CATALOG NUMBER	NET WEIGHT	CATALOG NUMBER	MATERIAL & FINISH
General Purpose Phenolic	Tin Plated	420848-1	2 lb. 12 oz.	General Purpose Phenolic	420856-1	1 lb. 1 oz.		
	Gold Plated	420848-2						
Diallyl Phthalate	Tin Plated	420848-3	2 lb. 12 oz.	Diallyl Phthalate	420856-2	1 lb. 1 oz.		
	Gold Plated	420848-4						

**Twin Detent
Patchcords (For use with Round Hole Front Boards Only)**

**Single Conductor Patchcords—
PVC Insulated**



FULLY MOLDED SHUNT

Patchcord Dual Conductor

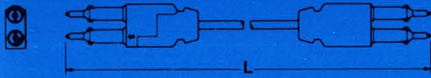


Length (L)	Pin Finish	Catalog No. Manual Type	Catalog No. Semi-Permanent Type	Insulation Color Code
5"	Gold	695640-9	595903-9	Red
7"	Gold	695640-1	595903-1	Gray
9"	Gold	695640-2	595903-2	Blue
11"	Gold	695640-3	595903-3	Green
13"	Gold	695640-4	595903-4	Yellow
15"	Gold	695640-5	595903-5	Orange
19"	Gold	695640-6	595903-6	Black
27"	Gold	695640-7	595903-7	Brown
35"	Gold	695640-8	595903-8	Red
Fully Molded Shunt	Gold	397347-1 (Gray)	397348-1 (Red)	

Length (L)	Pin Finish	Catalog No. Manual Type	Catalog No. Semi-Permanent Type	Insulation Color Code
7"	Gold	421100-1	421101-1	Gray & Black
9"	Gold	421100-2	421101-2	Blue & Black
11"	Gold	421100-3	421101-3	Green & Black
13"	Gold	421100-4	421101-4	Yellow & Black
15"	Gold	421100-5	421101-5	Orange & Black
19"	Gold	421100-6	421101-6	White & Black
27"	Gold	421100-7	421101-7	Brown & Black
35"	Gold	421100-8	421101-8	Red & Black

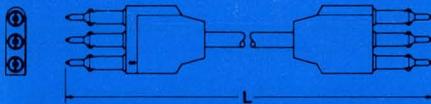
Twin Detent Patchcords (cont'd)

Single Conductor Plus Shield Patchcords—PVC Insulated



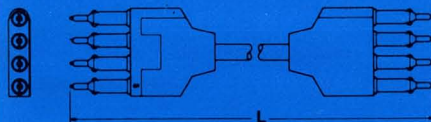
Length (L)	Pin Finish	Catalog No. Manual Type	Catalog No. Semi-Permanent Type	Insulation Color Code
7"	Gold	695644-1	695477-1	Gray
9"	Gold	695644-2	695477-2	Blue
11"	Gold	695644-3	695477-3	Green
13"	Gold	695644-4	695477-4	Yellow
15"	Gold	695644-5	695477-5	Orange
19"	Gold	695644-6	695477-6	Black
27"	Gold	695644-7	695477-7	Brown
35"	Gold	695644-8	695477-8	Red

Two Conductor Plus Shield Patchcords—PVC Insulated



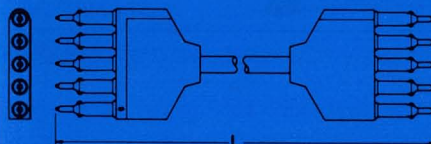
Length (L)	Pin Finish	Catalog No. Manual Type	Catalog No. Semi-Permanent Type	Insulation Color Code
7"	Gold	397351-1	397353-1	Black
9"	Gold	397351-2	397353-2	Black
11"	Gold	397351-3	397353-3	Black
13"	Gold	397351-4	397353-4	Black
15"	Gold	397351-5	397353-5	Black
19"	Gold	397351-6	397353-6	Black
27"	Gold	397351-7	397353-7	Black
35"	Gold	397351-8	397353-8	Black
45"	Gold	397351-9	397353-9	Black

Three Conductor Plus Shield Patchcords—PVC Insulated



Length (L)	Pin Finish	Catalog No. Manual Type	Catalog No. Semi-Permanent Type	Insulation Color Code
9"	Gold	695641-1	595905-1	Black
11"	Gold	695641-2	595905-2	Black
13"	Gold	695641-3	595905-3	Black
15"	Gold	695641-4	595905-4	Black
19"	Gold	695641-5	595905-5	Black
24"	Gold	695641-6	595905-6	Black
27"	Gold	695641-7	595905-7	Black
40"	Gold	695641-8	595905-8	Black

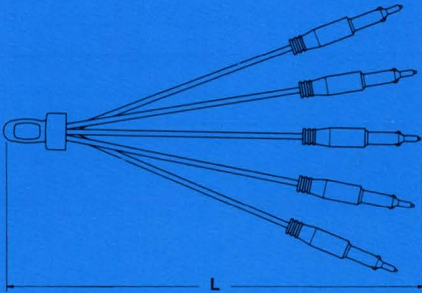
Four Conductor Plus Shield Patchcords—PVC Insulated



Length (L)	Pin Finish	Catalog No. Manual Type	Catalog No. Semi-Permanent Type	Insulation Color Code
9"	Gold	397357-1	397359-1	Black
11"	Gold	397357-2	397359-2	Black
13"	Gold	397357-3	397359-3	Black
15"	Gold	397357-4	397359-4	Black
19"	Gold	397357-5	397359-5	Black
24"	Gold	397357-6	397359-6	Black
27"	Gold	397357-7	397359-7	Black
40"	Gold	397357-8	397359-8	Black

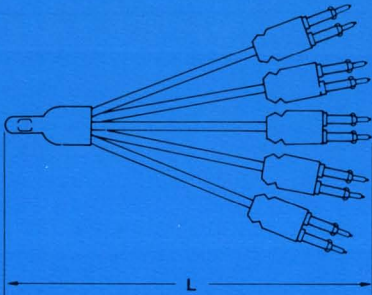
Twin Detent Patchcords (cont'd)

Squid Patchcords—PVC Insulated



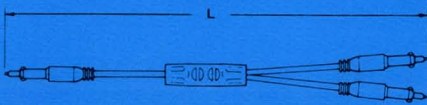
Length (L)	Pin Finish	Pin Type	Catalog Numbers						Insulation Color Code
			3 Pin	4 Pin	5 Pin	6 Pin	7 Pin	8 Pin	
3"	Gold	Manual Semi-Perm.	695650-1 695472-1	397361-1 695769-1	397362-1 397041-1	397363-1 397366-1	397364-1 397367-1	397365-1 397368-1	Orange
5"	Gold	Manual Semi-Perm.	695650-2 695472-2	397361-2 695769-2	397362-2 397041-2	397363-2 397366-2	397364-2 397367-2	397365-2 397368-2	Red
7"	Gold	Manual Semi-Perm.	695650-3 695472-3	397361-3 695769-3	397362-3 397041-3	397363-3 397366-3	397364-3 397367-3	397365-3 397368-3	Gray
9"	Gold	Manual Semi-Perm.	695650-4 695472-4	397361-4 695769-4	397362-4 397041-4	397363-4 397366-4	397364-4 397367-4	397365-4 397368-4	Blue
11"	Gold	Manual Semi-Perm.	695650-5 695472-5	397361-5 695769-5	397362-5 397041-5	397363-5 397366-5	397364-5 397367-5	397365-5 397368-5	Green

Single Conductor & Shield Squids



Length (L)	Pin Finish	Pin Type	3 Legs	4 Legs	5 Legs	6 Legs	7 Legs	8 Legs	Insulation Color Code
7"	Gold Tips	Semi-Perm. Manual	497304-1 420929-1	497305-1 421102-1	497321-1 421103-1	421106-1 421107-1	497342-1 421104-1	497340-1 421105-1	Grey
9"	Gold Tips	Semi-Perm. Manual	497304-2 420929-2	497305-2 421102-2	497321-2 421103-2	421106-2 421107-2	497342-2 421104-2	497340-2 421105-2	Blue
11"	Gold Tips	Semi-Perm. Manual	497304-3 420929-3	497305-3 421102-3	497321-3 421103-3	421106-3 421107-3	497342-3 421104-3	497340-3 421105-3	Green
13"	Gold Tips	Semi-Perm. Manual	497304-4 420929-4	497305-4 421102-4	497321-4 421103-4	421106-4 421107-4	497342-4 421104-4	497340-4 421105-4	Yellow
15"	Gold Tips	Semi-Perm. Manual	497304-5 420929-5	497305-5 421102-5	497321-5 421103-5	421106-5 421107-5	497342-5 421104-5	497340-5 421105-5	Orange
19"	Gold Tips	Semi-Perm. Manual	497304-6 420929-6	497305-6 421102-6	497321-6 421103-6	421106-6 421107-6	497342-6 421104-6	497340-6 421105-6	Black
27"	Gold Tips	Semi-Perm. Manual	497304-7 420929-7	497305-7 421102-7	497321-7 421103-7	421106-7 421107-7	497342-7 421104-7	497340-7 421105-7	Brown

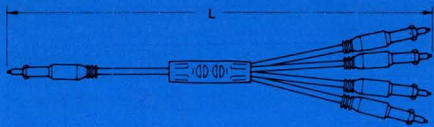
"Y" Patchcord—3 Pin Common (Semi-Permanent)



Length in Inches	Pin Finish	Part Number	Insulation Color
9"	Gold	397728-1	Blue
15"	Gold	397728-2	Orange

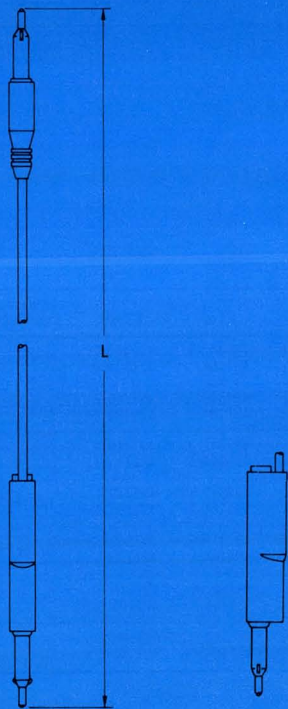
Twin Detent Patchcords (cont'd)

"Y" Patchcord—5 Pin Common (Semi-Permanent)



Length in Inches	Pin Finish	Part Number	Insulation Color
9"	Gold	397733-1	Blue
15"	Gold	397733-2	Orange

Patchcord Receptacle (Manual)

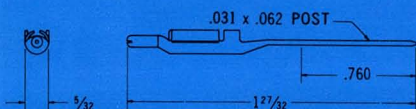


Length (L)	Tip Finish	Catalog No.	Insulation Color
27"	Gold	424248-8	Black
19"	Gold	424248-7	Black
15"	Gold	424248-6	Orange
13"	Gold	424248-5	Yellow
11"	Gold	424248-4	Green
9"	Gold	424248-3	Blue
7"	Gold	424248-2	Grey
5"	Gold	424248-1	Red



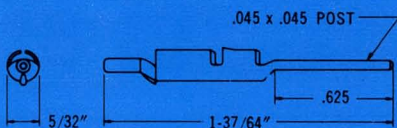
Accessories For Twin Detent Patchcords

TERMI-POINT Post Adapter



Catalog No.	Finish
425257-2	Gold Plated

Wrap-Type Post Adapter For wrap-type connections.

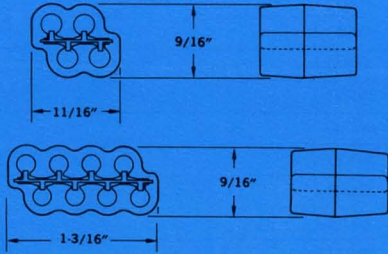


Catalog No.	Finish
497474-3	Gold Plated
497474-2	Tin Plated

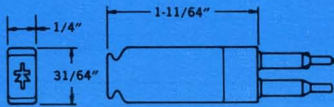
Accessories
For Twin Detent
Patchcords (cont'd)

Commoning Block

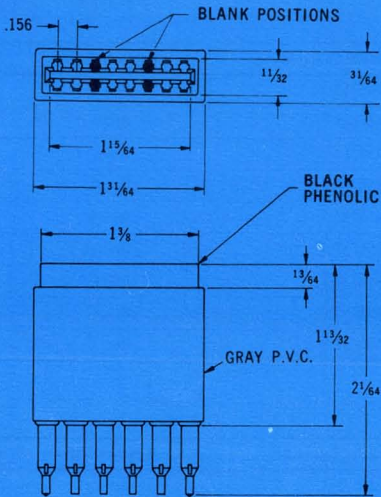
For electrical commoning of two or more patchtips.



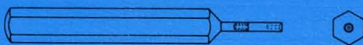
**Diode Patchcord Shunt
(Semi-Permanent)**



**Patchtip and Printed
Circuit Board Connector
(6 Dual Positions)**



Extraction Tool & Spare Tips
For semi-permanent Twin Detent
patchtips (Tip included)



No. of Holes	Catalog No.	Finish
4	397805-1	Gold Plated
8	397806-1	Gold Plated

Catalog No.	Finish
497477	Gold Plated

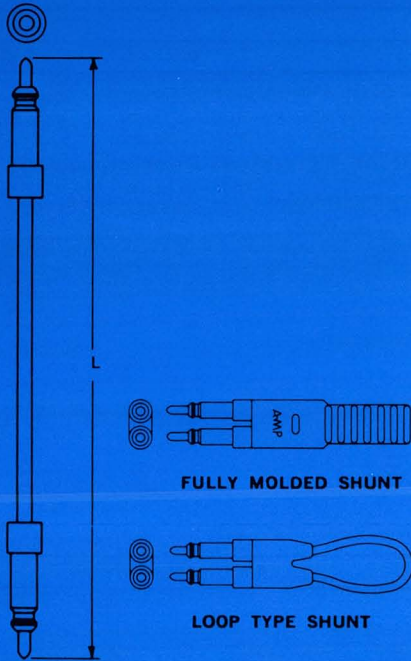
No. of Dual Pos.	Catalog No.	Finish
8	435170-1	Gold Plated

Tip Length	Catalog No.	Tip No.
3/8"	695880-1	695879-1
4"	695880-2	420878

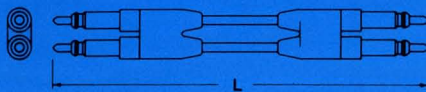
Nylon Sleeve Patchcords

(for use with "D" hole front boards only)

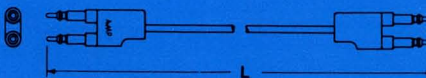
Single Conductor Patchcords



Dual Conductor Patchcords



Patchcords (1/4") Single Conductor—Coaxial



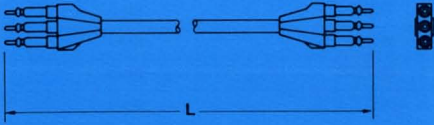
Length (L)	Tip Finish	PVC Insulated Catalog No.	Insulation Color
3"	Nickel	395633-2	Orange
	Gold	395633-1	
5"	Nickel	395330-1	Red
	Gold	395223-2	
7"	Nickel	395330-2	Grey
	Gold	395223-3	
9"	Nickel	395330-3	Blue
	Gold	395223-1	
11"	Nickel	395330-4	Green
	Gold	395223-4	
13"	Nickel	395330-5	Yellow
	Gold	395223-5	
15"	Nickel	395330-6	Orange
	Gold	395223-6	
19"	Nickel	395330-7	Black
	Gold	395223-7	
27"	Nickel	395330-8	Black
	Gold	395223-8	
35"	Nickel	395330-9	Red
	Gold	395223-9	
Fully Molded Shunt	Nickel	395481-1	Black
	Gold	395481-2	
Loop Type Shunt	Nickel	397298-2	Red
	Gold	397298-1	

Length (L)	Tip Finish	PVC Insulated Catalog No.	Insulation Color
5"	Gold	495753-1	Red
7"	Gold	495753-2	Grey
9"	Gold	495753-3	Blue
11"	Gold	495753-4	Green
13"	Gold	495753-5	Yellow
15"	Gold	495753-6	Orange
19"	Gold	495753-7	Black
27"	Gold	495753-8	Black
35"	Gold	495753-9	Red

Length (L)	Tip Finish	PVC Insulated Catalog No.	Insulation Color
6"	Gold	395575-1	Brown
9"	Gold	395575-6	Red
12"	Gold	395575-2	Orange
15"	Gold	395575-7	Yellow
18"	Gold	395575-3	Green
21"	Gold	395575-8	Blue
24"	Gold	395575-4	Violet
36"	Gold	395575-5	Grey
45"	Gold	395575-9	White

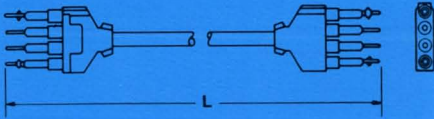
Nylon Sleeve Patchcords (cont'd)

Two Conductor Plus Shield Patchcords



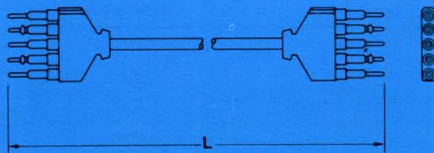
Length (L)	Tip Finish	PVC Insulated Catalog No.	Insulation Color
7"	Gold	497598-1	Black
9"	Gold	497598-2	Black
11"	Gold	497598-3	Black
13"	Gold	497598-4	Black
15"	Gold	497598-5	Black
19"	Gold	497598-6	Black
27"	Gold	497598-7	Black
24"	Gold	497598-8	Black
45"	Gold	497598-9	Black

Three Conductor Plus Shield Patchcords (Non-Polarized)



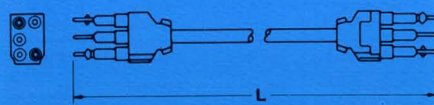
Length (L)	Tip Finish	PVC Insulated Catalog No.	Insulation Color
7"	Gold	495547-1	Black
9"	Gold	495547-2	Black
11"	Gold	495547-3	Black
13"	Gold	495547-4	Black
15"	Gold	495547-5	Black
19"	Gold	495547-6	Black
24"	Gold	495547-8	Black
27"	Gold	495547-7	Black
40"	Gold	495547-9	Black

Four Conductor Plus Shield Patchcords



Length (L)	Tip Finish	PVC Insulated Catalog No.	Insulation Color
7"	Gold	397751-1	Black
9"	Gold	397751-2	Black
11"	Gold	397751-3	Black
13"	Gold	397751-4	Black
15"	Gold	397751-5	Black
19"	Gold	397751-6	Black
24"	Gold	397751-7	Black
27"	Gold	397751-8	Black
45"	Gold	397751-9	Black

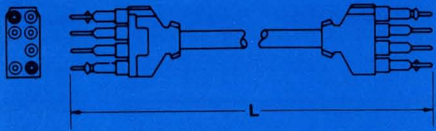
Four Conductor Plus Shield Patchcords (Domino Type)



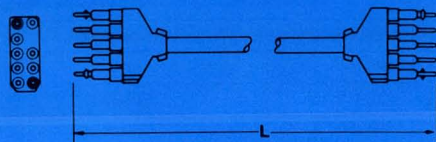
Length (L)	Tip Finish	PVC Insulated Catalog No.	Insulation Color
9"	Gold	495732-4	Black
13"	Gold	495732-5	Black
15"	Gold	495732-6	Black
19"	Gold	495732-1	Black
27"	Gold	495732-7	Black
36"	Gold	495732-8	Black
40"	Gold	495732-2	Black
45"	Gold	495732-9	Black
70"	Gold	495732-3	Black

Nylon Sleeve Patchcords (cont'd)

Six Conductor Plus Shield Patchcords (Domino Type)

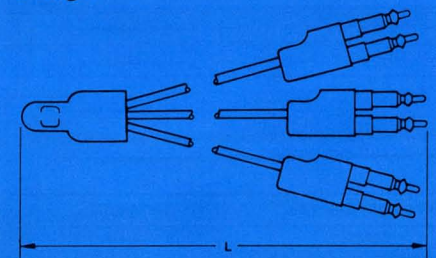


Eight Conductor Plus Shield (Domino Type)

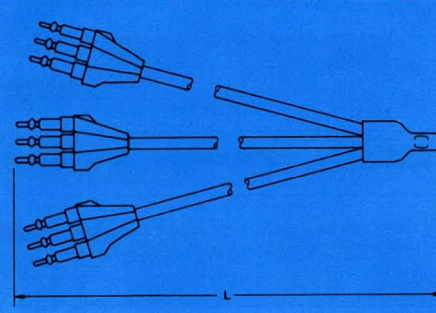


SQUID PATCHCORDS

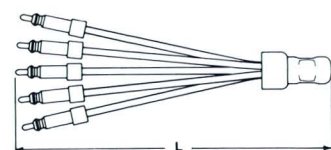
Single Conductor Plus Shield—3 Legs



Two Conductor Plus Shield—3 Legs



Squid Patchcords—(PVC Insulated)



Length (L)	Tip Finish	PVC Insulated Catalog No.	Insulation Color
9"	Gold	495733-4	Black
13"	Gold	495733-5	Black
15"	Gold	495733-6	Black
19"	Gold	495733-1	Black
27"	Gold	495733-7	Black
36"	Gold	495733-8	Black
40"	Gold	495733-2	Black
45"	Gold	495733-9	Black
70"	Gold	495733-3	Black

Length (L)	Tip Finish	PVC Insulated Catalog No.	Insulation Color
12"	Gold	397679-1	Black
18"	Gold	397679-2	Black
24"	Gold	397679-3	Black
36"	Gold	397679-4	Black
48"	Gold	397679-5	Black

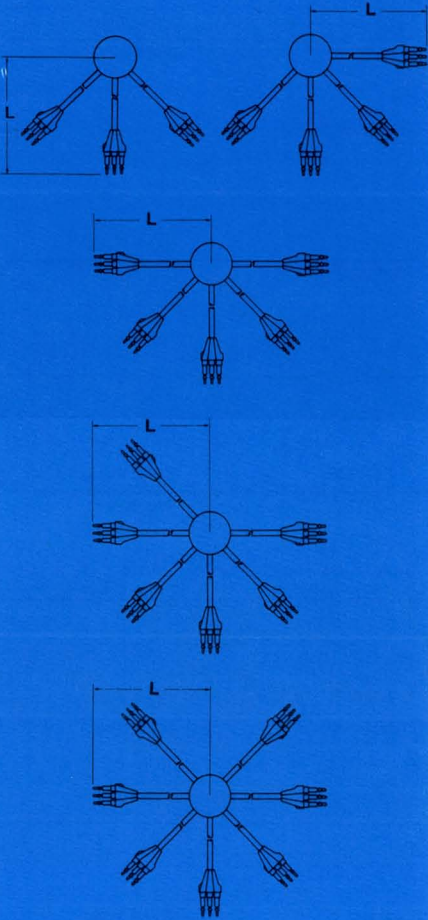
Length (L)	Tip Finish	Catalog No.	Insulation Color
11"	Gold	695786-1	Orange
16"	Gold	695786-2	Yellow

Length (L)	Tip Finish	Catalog No.	Insulation Color
7"	Gold	695793-1	Black
9"	Gold	695793-2	Black
11"	Gold	695793-3	Black
13"	Gold	695793-4	Black
16"	Gold	695793-5	Black
19"	Gold	695793-6	Black
27"	Gold	695793-7	Black
24"	Gold	695793-8	Black
45"	Gold	695793-9	Black

Length (L)	Tip Finish	Catalog Number								Insulation Color
		3 Pin Common	4 Pin Common	5 Pin Common	6 Pin Common	7 Pin Common	8 Pin Common	9 Pin Common	10 Pin Common	
3"	Gold	495296-1	495297-1	495298-1	495299-1	495300-4	495301-4	495302-5	495303-4	Orange
5"	Gold	495296-6	495297-3	495298-3	495299-3	495300-5	495301-5	495302-4	495303-5	Red
7"	Gold	495296-5	495297-4	495298-4	495299-5	495300-1	495301-1	495302-1	495303-1	Grey
9"	Gold	495296-3	495297-2	495298-5	495299-4	495300-2	495301-2	495302-2	495303-2	Blue
11"	Gold	495296-2	495297-5	495298-2	495299-6	495300-3	495301-3	495302-3	495303-3	Green

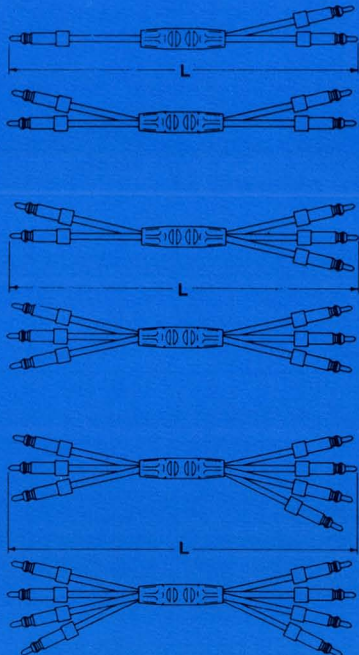
Nylon Sleeve Patchcords (cont'd)

Ball Squid Two Conductor and Shielded



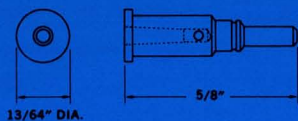
Length (L)	Tip Finish	3 Legs	4 Legs	5 Legs	6 Legs	7 Legs	Color of Ball
16"	Gold	497487-1	497488-1	497489-1	497490-1	497491-1	Orange
16"	Gold	497487-2	497488-2	497489-2	497490-2	497491-2	Yellow
16"	Gold	497487-3	497488-3	497489-3	497490-3	497491-3	Blue
16"	Gold	497487-4	497488-4	497489-4	497490-4	497491-4	Green
16"	Gold	497487-5	497488-5	497489-5	497490-5	497491-5	Red
27"	Gold	497487-6	497488-6	497489-6	497490-6	497491-6	Blue

"Y" Patchcords—(PVC Insulated)



Length (L)	Tip Finish	Catalog Number						Insulation Color
		3 Pin Common	4 Pin Common	5 Pin Common	6 Pin Common	7 Pin Common	8 Pin Common	
7"	Nickel	495390-1	495391-1	495392-1	495393-1	495394-1	495395-1	Gray
7"	Gold	495396-1	495397-1	495398-1	495399-1	495400-1	495401-1	Grey
9"	Nickel	495390-2	495391-2	495392-2	495393-2	495394-2	495395-2	Blue
9"	Gold	495396-2	495397-2	495398-2	495399-2	495400-2	495401-2	Blue
11"	Nickel	495390-3	495391-3	495392-3	495393-3	495394-3	495395-3	Green
11"	Gold	495396-3	495397-3	495398-3	495399-3	495400-3	495401-3	Green
13"	Nickel	495390-4	495391-4	495392-4	495393-4	495394-4	495395-4	Yellow
13"	Gold	495396-4	495397-4	495398-4	495399-4	495400-4	495401-4	Yellow
15"	Nickel	495390-5	495391-5	495392-5	495393-5	495394-5	495395-5	Orange
15"	Gold	495396-5	495397-5	495398-5	495399-5	495400-5	495401-5	Orange
19"	Nickel	495390-6	495391-6	495392-6	495393-6	495394-6	495395-6	Black
19"	Gold	495396-6	495397-6	495398-6	495399-6	495400-6	495401-6	Black
27"	Nickel	495390-7	495391-7	495392-7	495393-7	495394-7	495395-7	Black
27"	Gold	495396-7	495397-7	495398-7	495399-7	495400-7	495401-7	Black

Accessories For Nylon Sleeve Patchcords



13/64" DIA.

Uninsulated Taper Pin Adapter
(“C” Washer Retention)*
Accepts Series 53 Taper Pins

Catalog No.

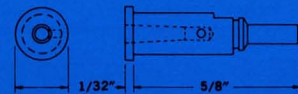
Finish

395511-1

Nickel Plated

395511-2

Gold Plated



13/64" DIA.

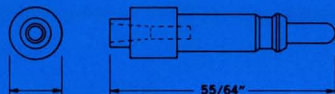
Uninsulated Taper Pin Adapter
(Non-Rotating “C” Washer Retention)*
Accepts Series 53 Taper Pin

395552-1

Nickel Plated

395552-2

Gold Plated



13/64" DIA.

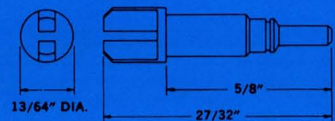
Insulated Taper Pin Adapter
Accepts Series 53 Taper Pin
(Can be post-patched)

395187-1

Nickel Plated

395187-2

Gold Plated



13/64" DIA.

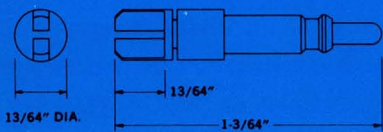
Uninsulated Edge Connector Adapter
(“C” Washer Retention)*
For Soldered Connections Where
Wrapping the Conductor is
Impractical

395516-1

Nickel Plated

395516-2

Gold Plated



13/64" DIA.

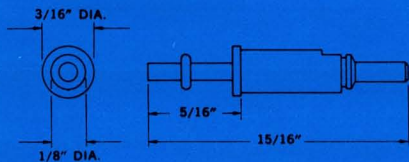
Insulated Edge Connector Adapter
For Soldered Connections Where
Wrapping the Conductor is
Impractical (Can be post-patched)

395647-1

Nickel Plated

395647-2

Gold Plated



1/8" DIA.

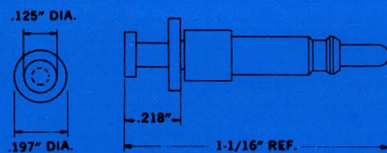
**Uninsulated Turret Lug Adapter,
Single Turret**
(Non-Rotating “C” Washer Retention)*
For Soldered Connections

395938-1

Nickel Plated

395938-2

Gold Plated



.197" DIA.

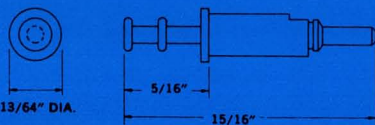
**Insulated Turret Lug Adapter,
Single Turret**
(Can be post-patched)
For Soldered Connections

421111-1

Nickel Plated

421111-2

Gold Plated



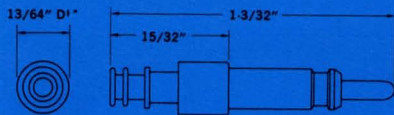
13/64" DIA.

**Uninsulated Turret Lug Adapter,
Double Turret**
(Non-Rotating “C” Washer Retention)*
For Soldered Connections

395645-2

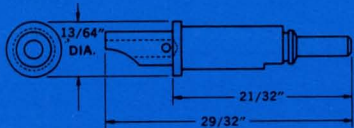
Gold Plated

Accessories For Nylon Sleeve Patchcords (cont'd)



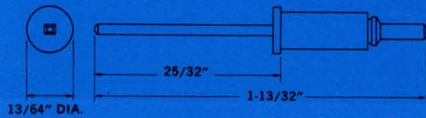
Insulated Taper Pin Turret Lug Adapter
(Can be post-patched)
For Soldered Connections or Series 53 Taper Pin, or Combination of Both

Catalog No.	Finish
495839-1	Nickel Plated
495839-2	Gold Plated



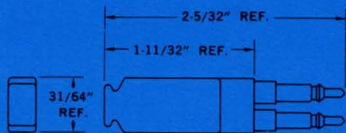
Uninsulated Solder Tube Adapter
(Non-Rotating "C" Washer Retention)*
For Soldered Connection with Larger Conductors

395809-1	Nickel Plated
395809-2	Gold Plated



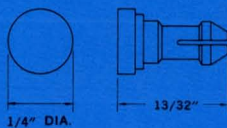
Wrap-Type Post Adapter
(Non-Rotating "C" Washer Retention)*
For wrap-type connections.

397550-1	Nickel Plated
397550-2	Gold Plated



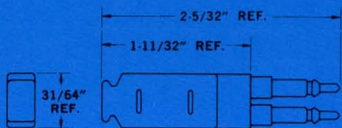
Resistor Plug

595680	Gold Plated
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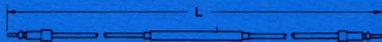
Marker Plug
For temporary marking of patchcord hole, aluminum marker plug is inserted in contact hole in front board assembly.

395348-1	Clear Anodize
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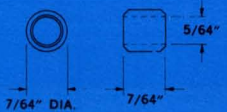
Diode Plug
Anode—White Sleeve
Cathode—Red Sleeve
Nylon Sleeves

595857-1	Gold Plated
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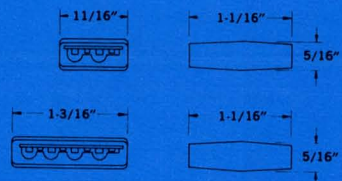
Patchcord with Diode

420403	Nickel Plated
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Bushing for Permanent Patching

Catalog No.	Material
395149-1	Red Nylon



Commoning Block
For Electrical Commoning of Two or More Patchtaps

No. of Holes	Catalog No.	Finish
4	495894-1	Gold Plated
	495894-2	Nickel Plated
8	495895-1	Gold Plated
	495895-2	Nickel Plated



Test Probe Assembly

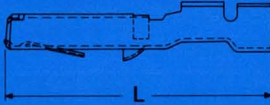
Catalog No.	Length	Color
397029-1	72"	Black
397029-2	48"	Black
397029-3	48"	Red
397029-4	48"	Black
397029-5	48"	Red

*Request same quantity of (C) washers, Part No. 395544 to be included in each order.

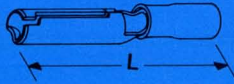
Rear Bay Wiring

LANCELOK Terminals

Uninsulated—Formed



Pre-Insulated—Formed



TAPER PINS

Insulated Support—Formed Pins



Wire Size	L.P. Catalog Number	Insulation Dia. Range	Overall Length (L)	Finish	Hand Tool	AMP-TAPEMATIC Tools 69359-2, 69370 and 69118-1
						Die Number
24-20	2-328969-1	.065-.080	.781	Gold	69323	69416
	2-328969-2	.065-.080	.781	Tin	69323	69416
	330371	.040-.065	.781	Gold	69323	69415
18-16	329321	.100-.130	.812	Gold	69323	69418
	2-329321-1	.100-.130	.812	Tin	69323	69418
	330370	.075-.100	.812	Gold	69323	69417

Insertion Tool—Part No. 69421. Extraction Tool: 69261-3

Wire Size	L.P. Catalog Number	Insulation Dia. Range	Overall Length (L)	Finish	Hand Tool	AMP-TAPEMATIC Tools 69118-1, 69359-2 & 69370	68075, 69875 Tool Die Number
						Die Number	
24-22	329317	.040-.080	.875	Gold	69256	69345	69896
	2-329317-1	.040-.080	.875	Tin	69256	69345	69896
20-18	329334	.060-.090	.875	Gold	69257	69346	69933
	2-329334-1	.060-.090	.875	Tin	69257	69346	69933
16	329335	.080-.110	.937	Gold	69258	69347	69934
	2-329335-1	.080-.110	.937	Tin	69258	69347	69934

Insertion Tool—Part Number 69421. Extraction Tool—Part Number 69261-1.

Pin Information					Tooling Information		
Wire Size	Catalog Number	Insulation Dia. Range	Overall Length	Finish(a)	Double Action Hand Tool	Straight Action Hand Tool	Pull Test Insertion Tool†
24-22	41278	.040-.055	.540	Tin ¹	48698		497652-1
	41640	.040-.055	.540	Silver ²	48698		497652-1
	41646	.040-.055	.540	Gold ³	48698		497652-1
	42600-1	.040-.055	.540	Gold ⁶	48698		497652-1
	42600-2	.040-.055	.540	Gold ⁵	48698		497652-1
	66091-2	.040-.060	.540	Tin ¹	48698		497652-1
	66091-3	.040-.060	.540	Gold ³	48698		497652-1
	66113-1	.040-.060	.590	Gold ³	48698		497652-1
	66113-2	.040-.060	.590	Silver ²	48698		497652-1
	66113-3	.040-.060	.590	Tin ¹	48698		497652-1
	66033-1	.065-.080	.600	Gold ⁵	47042		497652-2
	41647	.065-.080	.600	Tin ¹	47042		497652-2
	41648	.065-.080	.600	Silver ²	47042		497652-2
	41649	.065-.080	.600	Gold ³	47042		497652-2

(a) Finish Code: —¹.0002 Tin, ².0002 Silver, ³.00003 Gold over .00005 Nickel, ⁴.0001 Gold over .0001 Silver, ⁵.0002 Gold over .00005 Nickel, ⁶.00005 Gold over .00005 Nickel.

†Extension for Pull Test Insertion Tool—Part No. 397989-1. Extraction Tool No. 380305-1.

Rear Bay Wiring (cont'd)

Insulation Support—Formed Pins (Continued)

Wire Size	Pin Information				Tooling Information		
	Catalog Number	Insulation Dia. Range	Overall Length	Finish(a)	Double Action Hand Tool	Straight Action Hand Tool	Pull Test Insertion Tool †
20-18	42229-1	.060-.080	.667	Tin ¹	90189-1		497652-2
	42229-2	.060-.080	.667	Silver ²	90189-1		497652-2
	42229-3	.060-.080	.667	Gold ³	90189-1		497652-2
	42229-7	.060-.080	.667	Gold ⁶	90189-1		497652-2
	66200-1	.060-.080	.667	Tin ¹	90189-1		497652-2
	41650	.080-.100	.667	Tin ¹	47043-LH* 90010-SH*		497652-2
	41651	.080-.100	.667	Silver ²	47043-LH 90010-SH		497652-2
	41652	.080-.100	.667	Gold ³	47043-LH 90010-SH		497652-2
	42773-1	.080-.100	.667	Tin ¹	47043-LH 90010-SH		497652-2
	42773-2	.080-.100	.667	Silver ²	47043-LH 90010-SH		497652-2
	42773-3	.080-.100	.667	Gold ³	47043-LH 90010-SH		497652-2
	60183-1	.080-.100	.667	Gold ⁵	47043-LH 90010-SH		497652-2
	60066-1	.070-.100	.667	Tin ¹		90198-1	497652-2
	60066-2	.070-.100	.667	Silver ²		90198-1	497652-2
	60066-3	.070-.100	.667	Gold ³		90198-1	497652-2
18-16	41656	.100-.140	.667	Tin ¹	90024-LH 47044-SH	90007	497652-2
	41657	.100-.140	.667	Silver ²	90024-LH 47044-SH	90007	497652-2
	41658	.100-.140	.667	Gold ³	90024-LH 47044-SH	90007	497652-2
	42774-1	.100-.140	.667	Tin ¹	90024-LH 47044-SH		497652-2
	42774-2	.100-.140	.667	Silver ²	90024-LH 47044-SH		497652-2
	42774-3	.100-.140	.667	Gold ³	90024-LH 47044-SH		497652-2
	60184-1	.100-.140	.667	Gold ⁵	90024-LH 47044-SH	90007	497652-2
	66202-1	.100-.140	.667	Tin ¹		90007	497652-2

*LH = Long handle tool.

SH = short handle tool.

(a) Finish Code:—¹.0002 Tin, ².0002 Silver, ³.00003 Gold over .00005 Nickel, ⁴.0001 Gold over .0001 Silver, ⁵.0002 Gold over .00005 Nickel, ⁶.00005 Gold over .00005 Nickel.

†Extension for Pull Test Insertion Tool—Part No. 397989-1. Extraction Tool No. 380305-1.

Rear Bay Wiring (cont'd)

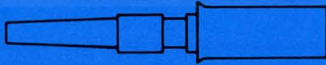
Insulation Piercing—Formed Pins



Wire Size	Catalog Number	Insulation Dia. Range	Overall Length	Finish(a)	Double Action Hand Tool
24-22	41279	.055-.060	.520	Tin ¹	47106†—47150
	41744	.055-.060	.520	Gold ³	47106†—47150

†This tool does not have CERTI-CRIMP ratchet.

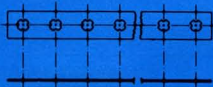
Pre-Insulated—Solid Long Shoulder Pins



Wire Size	Catalog Number	Insulation Dia. Range	Nylon Insulation Color Code	Overall Length	Finish(a)	Tooling Information		
						Double Action Hand Tool		69118-1 AMP-TAPEMATIC Tool Die Number
						Long Handle	Short Handle	
26	66059-1	.040-.080	Blue	.830	Tin ¹	90015	46222	45306
	66059-2	.040-.080	Blue	.830	Silver ²	90015	46222	45306
	66059-3	.040-.080	Blue	.830	Gold ³	90015	46222	45306
	66129-2	.080-.115	Black	.850	Silver ²	90016	46223	45305
	66129-3	.080-.115	Black	.850	Gold ³	90016	46223	45305
24-22	42633-1	.040-.080	Yellow	.830	Tin ¹	90015	46222	45306
	42633-2	.040-.080	Yellow	.830	Silver ²	90015	46222	45306
	42633-3	.040-.080	Yellow	.830	Gold ³	90015	46222	45306
20-18	66070-3	.080-.115	Black	.850	Gold ³	90016	46223	45305
	42634-1	.060-.100	Natural	.850	Tin ¹	90016	46223	45305
	42634-2	.060-.100	Natural	.850	Silver ²	90016	46223	45305
16	42634-3	.060-.100	Natural	.850	Gold ³	90016	46223	45305
	42646-1	.080-.115	Black	.850	Tin ¹	90016	46223	45305
	42646-2	.080-.115	Black	.850	Silver ²	90016	46223	45305
	42646-3	.080-.115	Black	.850	Gold ³	90016	46223	45305

Pull Test Insertion Tool—Part No. 497652-3, Extension for Pull Test Insertion Tool—Part No. 397989-1. Extraction Tool No. 380305-1.

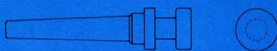
Accessories for Taper Pins (use as a set)



Commencing Strips

For Electrical Commencing of Contact Springs (Use with 397589)

No. of Contacts	Catalog No.	Finish
To Be Specified By Customer	397576-1	Gold Plated
	397576-3	Tin Plated



Commencing Pin (Use with 397576)

Catalog No.	Finish
397589-3	Gold Plated



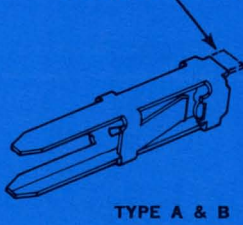
Commencing Pin (Use with 397576) For Series "53" Taper Receptacle

Catalog No.	Finish
397589-5	Nickel Plated
397589-2	Gold Plated

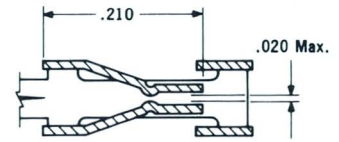
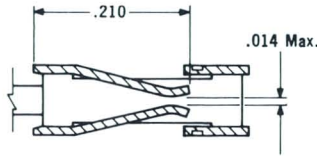
AMPMODU Female Receptacles

**Mod. I—.031 x .062
Board Mount Receptacles**
Material: Phosphor Bronze

Tab on Part Nos.
86031, 86455 & 86444



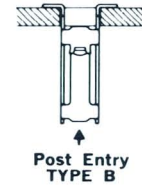
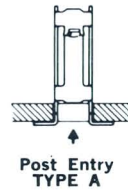
Mod. I—Receptacle Contact Styles



STANDARD PRESSURE				HIGH PRESSURE			T	Board Thickness
Standard Pressure		High Pressure						
Part No. (Strip Form)* Rectangular Hole		Part No. (Strip Form)* Round Hole		Part No. (Strip Form)* Rectangular Hole		Finish	T	Board Thickness
Type A	Type B	Type A	Type B	Type A	Type B			
85485-5	85486-5	—	—	—	—	.000030 Gold over .000050 Nickel	.145	3/32" Max.
85485-6	85486-6	86465-2	87004-2	86446-1	86433-1	Tin Plate		
85485-7	85486-7	—	87004-1	—	—	.000030 Gold ¹ over .000050 Nickel		
85485-8	—	86465-1	—	—	—	.000015 Gold over .000050 Nickel	.112	1/16" Max.
85488-5	85489-5	—	—	—	—	.000030 Gold over .000050 Nickel		
85488-6	85489-6	86477-3	87003-2	86442-1	86448-1	Tin Plate		
85488-7	85489-7	86477-2	87003-1	—	—	.000030 Gold over .000050 Nickel		
85488-8	—	86477-1	—	—	—	.000015 Gold over .000050 Nickel	.120	1/16" Max.
86031-1	—	86455-1	—	86444-1	—	Tin Plate		

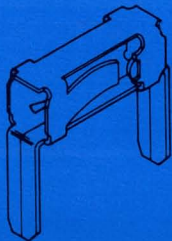
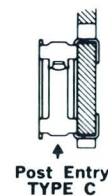
*Specify LP after part number for loose piece contacts. (Part Nos. shown are reeled for miniature applicator).
¹Specified gold thickness on contact area only; remainder of terminal is gold flashed.

Vertical Receptacles



Type C Board Mount Receptacles (Round Holes)				
Standard Pressure Part No. (Strip Form)*	High Pressure Part No. (Strip Form)*	Finish	T	Board Thickness
85487-2	86432-4	.000030 Gold over .000050 Nickel	.145	3/32" Max.
85487-3	86432-1	Tin Plate		
85487-4	—	.000030 Gold ¹ over .000050 Nickel		
85487-5	—	.000015 Gold over .000050 Nickel		
—	—	—		

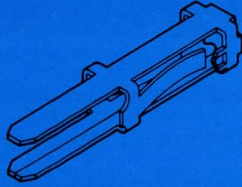
Horizontal Receptacles



TYPE C

AMPMODU Female Receptacles (cont'd)

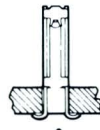
Mod. II—.025 x .025
Board Mount Receptacles
Material: Phosphor Bronze



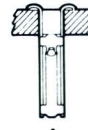
Mates with .025 x .025 Post

Type A Part No. (Strip Form)*	Type B Part No. (Strip Form)*	Type C Part No. (Strip Form)*	Finish	Board Thickness
85861-2	85862-2	85863-2	.000030 Gold over .000050 Nickel	1/16" Max.
85861-3	85862-3	85863-3	Tin Plate	
85861-4	85862-4	85863-4	.000030 Gold ¹ over .000050 Nickel	

*Specify LP after part number for loose piece contacts. (Part Nos. shown are reeled for miniature applicator.)
¹Specified gold thickness on contact area only; remainder of terminal is gold flashed.



Post Entry
Type A



Post Entry
Type B



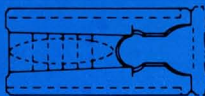
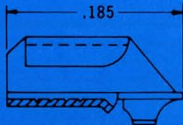
Post Entry
Type C

TERMI-POINT Clips & Tools

(for point-to-point wiring—.031 x .062 Posts)

Pneumatic Tool No. 265575-1 (2800 Clips per Reel)

Wire Size Solid or Stranded (7 Str)*	Insulation Dia. Range	Mandrel Number	Clip Number			Mandrel and Clip Color Code
			Electro-Tin Plated	Gold Plated	Tin-Nickel Plated	
22	.036-.045	265070-1				Orange
	.046-.055	265070-2	4-330495-2	4-330495-9	6-330495-8	
	.056-.065	265070-3				
24	.034-.045	265070-4				Red
	.046-.055	265070-5	2-330495-1	2-330495-2	6-330495-4	
	.056-.065	265070-6				
26	.030-.045	265070-7				Brown
	.046-.055	265070-8	1-330495-3	1-330495-8	8-330495-4	
	.022-.033	265070-9				
28	.022-.033	265070-9	3-330495-5	9-330495-6	8-330495-8	Black
	.034-.045	1-265070-0				



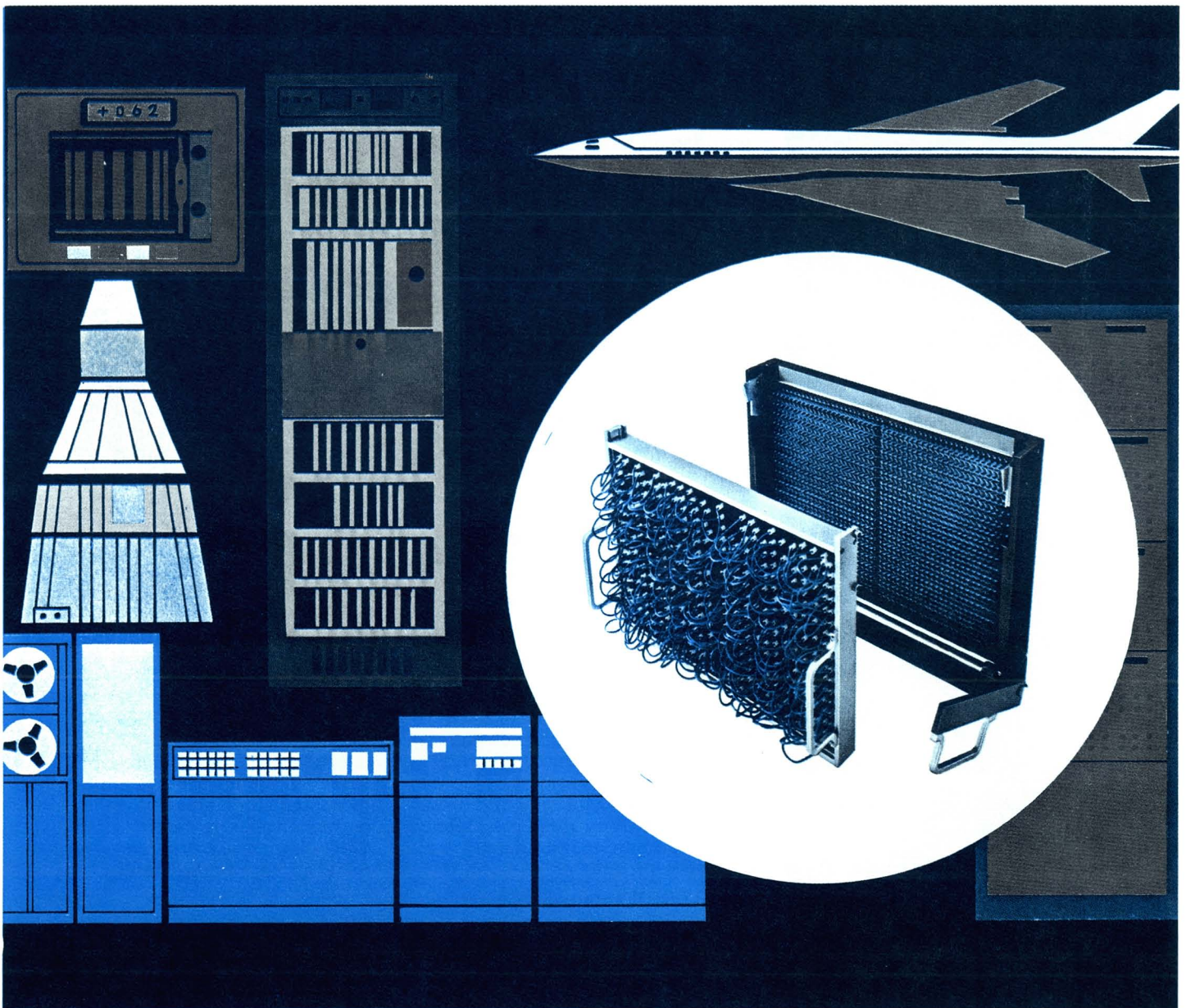
Reel Fed Manual Service Tool No. 69526-2 (1000 Clips per Reel)

Wire Size Solid or Stranded (7 Str)	Insulation Dia. Range	Mandrel Number	Clip Number			Mandrel and Clip Color Code
			Electro-Tin Plated	Gold Plated	Tin-Nickel Plated	
22	.036-.045	6 9551-8				Orange
	.046-.065	1-69411-4	6-330495-1	6-330495-2	6-330495-7	
24	.034-.045	69551-9				Red
	.046-.065	1-69411-3	5-330495-3	1-330495-9	6-330495-3	
26	.022-.045	69551-6				Brown
	.046-.055	1-69411-9	5-330495-5	9-330495-8	8-330495-6	
28	.022-.045	69551-5	5-330495-9	330495-3	9-330495-0	Black

Strip Fed Manual Service Tool No. 69525-1 (40 Strips of 25 Clips per Strip)

Wire Size Solid or Stranded (7 Str)	Insulation Dia. Range	Mandrel Number	Clip Number			Mandrel and Clip Color Code
			Electro-Tin Plated	Gold Plated	Tin-Nickel Plated	
22	.036-.045	69551-4				Orange
	.046-.065	69411-4	4-330495-4	5-330495-1	6-330495-9	
24	.034-.045	69551-2				Red
	.046-.065	69411	2-330495-4	4-330495-8	330495-4	
26	.022-.045	69551-1				Brown
	.046-.055	1-69411-1	1-330495-5	9-330495-9	8-330495-5	
28	.022-.045	69551	3-330495-7	330495-1	8-330495-9	Black

STANDARD PATCHCORD PROGRAMMING SYSTEMS



Versatility in Rear Bay Wiring

LANCELOK Terminals

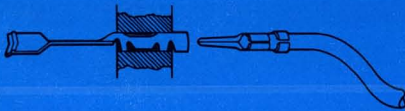


LANCELOK Terminals are recommended for patchcord programming systems subjected to excessive shock and vibration. The design of these terminals and their matching LANCELOK spring receptacles provide multiple areas of contact resulting in excellent electrical performance.

Locking lances on each terminal seat them firmly in the spring receptacles, providing a minimum retention force of 20 pounds between the terminal and the board.

These terminals meet the wire tensile strength and the dielectric breakdown requirements of MIL-T-7928. Mechanically polarized with a "D" shaped section in the contact spring, they can not be incorrectly installed. Over-insertion is prevented through the use of a positive stop in the terminal body. Available in pre-insulated and uninsulated types, both with insulation support.

AMP Taper Pins

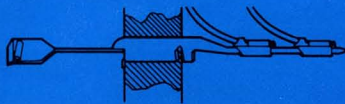


AMP Taper Pins for rear bay contact provide a low-resistance, noise-free wire termination. They incorporate a $3\frac{1}{2}^\circ$ taper which results in a .001" change in diameter for every .016" of length. This precisely calculated wedge provides uniform retention and excellent electrical stability.

Two types of taper pins are available to meet every patchcord

programming need. One is a formed pin available with or without insulation support. The other, designed for critical applications is a PIDG pre-insulated solid pin featuring a closed wire barrel with a bonded nylon sleeve. Both critical and non-critical requirements can therefore be met at a cost consistent with the application.

TERMI-POINT Clip Terminations



Wrap-Type
Wiring

TERMI-POINT Clip Terminations of rear bay point-to-point wiring provide industry with the answer for greater flexibility, density, serviceability and reliability.

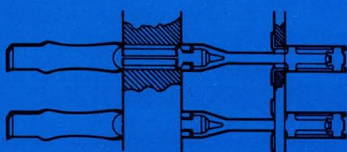
Basically the TERMI-POINT Clip technique is a compression termination which applies the wire to a metal post. The clip acts as a holding device that precisely positions and then firmly grips the wire as it is affixed to the post by hand or automatic tooling. This method provides excellent mechanical and electrical characteristics, yet can be easily disconnected with a simple hand tool without electrically disturbing

adjacent terminations on the same or other posts.

Because the complete procedure—wire preparation and termination—is accomplished in application, significant savings in time and labor are realized. Terminations may be made by hand tool or tape controlled automatic wiring machine. In addition the TERMI-POINT Clip method of point-to-point wiring accepts either stranded or solid wire.

AMP Standard Patchcord Programming Systems are also available with posts for wrap-type wiring.

The AMPMODU Interconnection System



The AMPMODU Interconnection System is ideally suited for back bay wiring technology which calls for a substantial reduction in conductor length between components and the programming system, thus it provides the much desired plug-in, maintainable module approach.

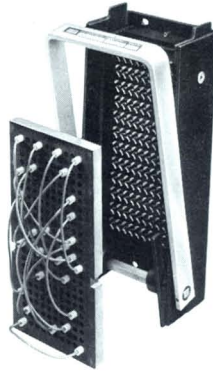
The AMPMODU female contact permits the user to mate the posts of the contact springs on the rear bay directly to printed circuit boards, amplifier modules and similar packages.

The receptacle when cross-sectioned is primarily rectangular

with round corners. Two integral cantilever beam springs contact the mating male post providing redundant contact. Deflection of these spring members is limited by coined stops preventing permanent spring deformation. This allows a wide tolerance in misalignment of the mating contact.

NOTE: When required, both post-type rear bay contact springs are designed to accept wrap-type terminations applied either by manual or automatic wiring devices.

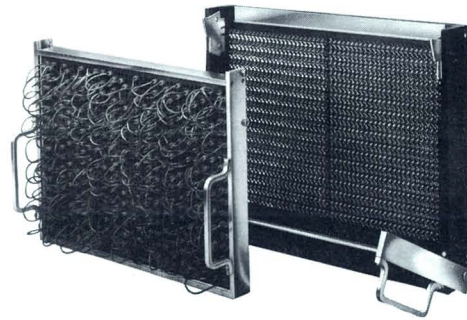
Wide Range
of Systems



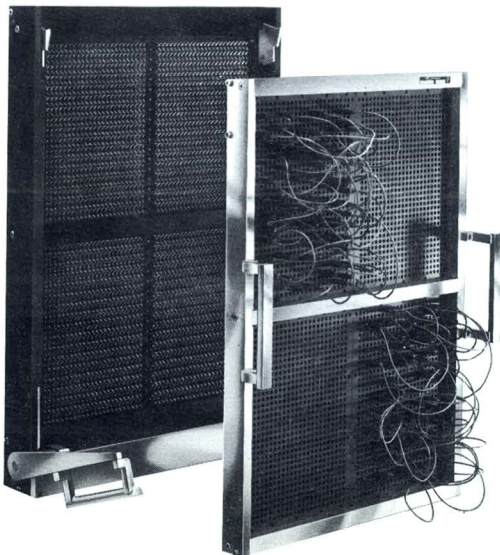
240 & 480



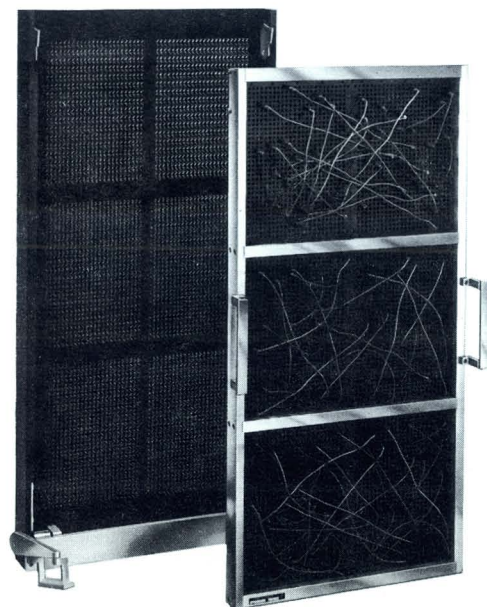
612 & 816



1224, 1632 & 1768
(1632 shown)



3264



4896

**Electrical
Characteristics****Contact Resistance**

Maximum contact resistance between patchcord pin and spring contact at 68°F ambient temperature after 50,000 cycles is 6.5 milliohms, with an average of 3.0 milliohms measured at 25 milliamps closed circuit current and 50 millivolts open circuit voltage with a contact pressure of 8 ounces. Current Rating—5 amps continuous, non-switching, at an ambient temperature of 70°F.

Capacitance (at 1.6 + 1% KHZ)

Front Board—1.0 pf max. between adjacent holes
Rear Frame—2.5 pf max. between adjacent springs

Insulation Resistance (at 500 VDC, 70°F Ambient Temperature and 55% Humidity)

Front Board— 5×10^{12} ohms min. between holes and between holes and frame
Rear Frame— 5×10^{12} ohms min. between springs and between springs and frame

Dielectric Breakdown Voltage

Front Board—AC Breakdown voltage 4.0 KVAC, hole to hole and hole to frame
DC breakdown voltage—5.0 KVDC, hole to hole and hole to frame
Rear Frame—AC breakdown voltage 2.0 KVAC min. between springs, 3.5 KVAC spring to frame
DC breakdown voltage 3.0 KVDC min. between springs, 4.5 KVDC spring to frame
Self Inductance—any contact spring is .04 microhenries at 1 MHZ.

**Mechanical
Characteristics**

Front patchboards and rear bay boards are diallyl phthalate per MIL-M-14F, type MDG unless specified otherwise.

Materials

Contact Springs are fine grain, full hard brass per Federal Specification QQ-B-613.

Plating (Gold): .000050" min. average gold over .0001 min. average nickel on the bar or chevron per MIL-G-45204, type II, class I.

Frame members are 6061 or 6063 aluminum alloy, anodized per MIL-A-8265.

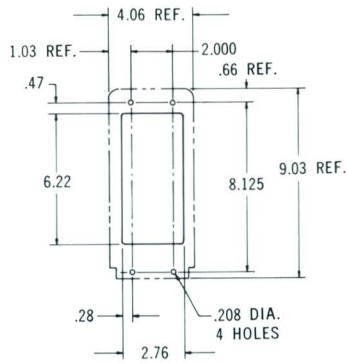
All stainless steel parts are passivated per MIL-F-14072-E200. Steel components are cadmium plated per Federal Specification QQ-P-416.

Environment

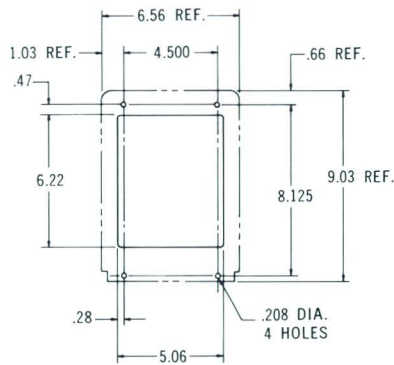
Storage temperature range:
—55°F to + 190°F
Operating temperature range:
—40°F to + 176°F

Rear Bay Assemblies

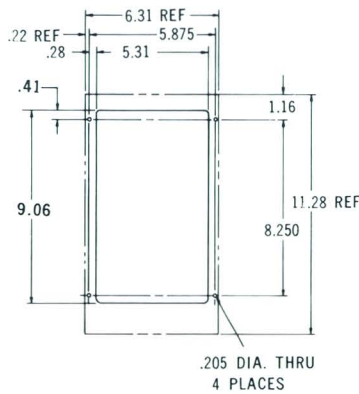
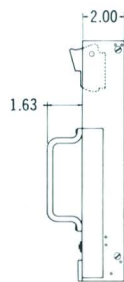
240 System (hole arrangement 10 x 24)



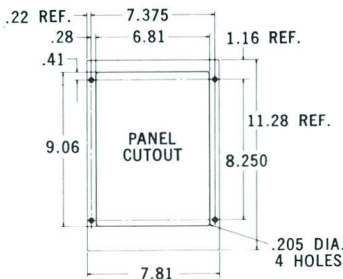
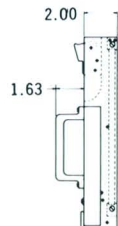
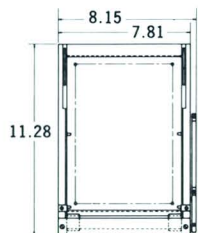
480 System (hole arrangement 20 x 24)



612 System (hole arrangement 18 x 34)



816 System (hole arrangement 24 x 34)



Catalog Number	Rear Bay Wiring Method	Mates with Front Board Assembly
425413-1	Taper Pins	
425413-2	LANCELOK Terminals	
425413-3	AMPMODU Receptacles* (.031 x .062 Posts)	
425413-4	TERMI-POINT Clips* (.031 x .062 Posts)	425930-2, 1, 6, & 5
425413-5	Wrap-Type Wiring (.045 x .045 Posts)	
425413-6	TERMI-POINT Clips* (.022 x .036 Posts)	
425413-7	Wrap-Type Wiring and AMPMODU Receptacles (.025 x .025 Posts)	

*Can be used for wrap-type wiring.

Catalog Number	Rear Bay Wiring Method	Mates with Front Board Assembly
425414-1	Taper Pins	
425414-2	LANCELOK Terminals	
425414-3	AMPMODU Receptacles* (.031 x .062 Posts)	
425414-4	TERMI-POINT Clips* (.031 x .062 Posts)	425930-4, 3, 8, & 7
425414-6	Wrap-Type Wiring (.045 x .045 Posts)	
425414-7	TERMI-POINT Clips* (.022 x .036 Posts)	
425414-8	Wrap-Type Wiring and AMPMODU Receptacles (.025 x .025 Posts)	

*Can be used for wrap-type wiring.

Catalog Number	Rear Bay Wiring Method	Mates with Front Board Assembly
435067-1	Taper Pins	
435067-2	LANCELOK Terminals	
435067-3	AMPMODU Receptacles* (.031 x .062 Posts)	
435067-4	TERMI-POINT Clips* (.031 x .062 Posts)	435068
435067-6	Wrap-Type Wiring (.045 x .045 Posts)	
435067-7	TERMI-POINT Clips* (.022 x .036 Posts)	
435067-5	Wrap-Type Wiring and AMPMODU Receptacles (.025 x .025 Posts)	

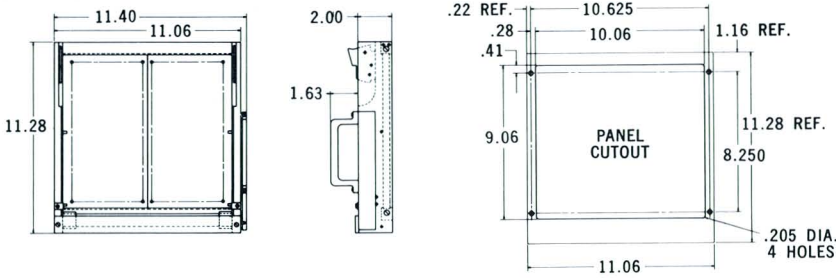
*Can be used for wrap-type wiring.

Catalog Number	Rear Bay Wiring Method	Mates with Front Board Assembly
425566-1	Taper Pins	
425566-2	LANCELOK Terminals	
425566-3	AMPMODU Receptacles* (.031 x .062 Posts)	
425566-4	TERMI-POINT Clips* (.031 x .062 Posts)	425567
425566-5	Wrap-Type Wiring (.045 x .045 Posts)	
425566-6	TERMI-POINT Clips* (.022 x .036 Posts)	
425566-7	Wrap-Type Wiring and AMPMODU Receptacles (.025 x .025 Posts)	

*Can be used for wrap-type wiring.

Rear Bay Assemblies (cont'd)

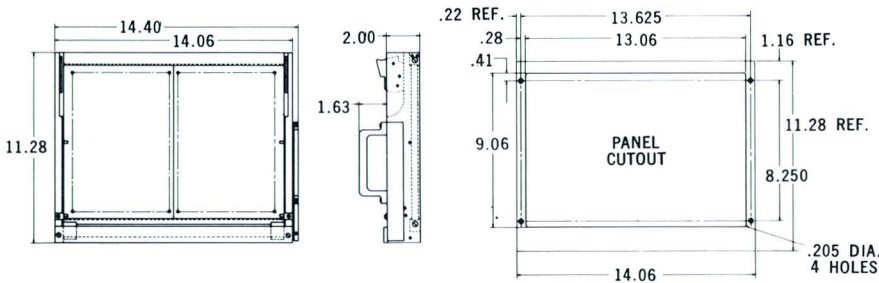
1224 System (hole arrangement 36 x 34)



Catalog Number	Rear Bay Wiring Method	Mates with Front Board Assembly
425568-1	Taper Pins	425569
425568-2	LANCELOK Terminals	
425568-3	AMPMODU Receptacles* (.031 x .062 Posts)	
425568-4	TERMI-POINT Clips* (.031 x .062 Posts)	
425568-5	Wrap-Type Wiring (.045 x .045 Posts)	
425568-6	TERMI-POINT Clips* (.022 x .036 Posts)	
425568-7	Wrap-Type Wiring and AMPMODU Receptacles (.025 x .025 Posts)	

*Can be used for wrap-type wiring.

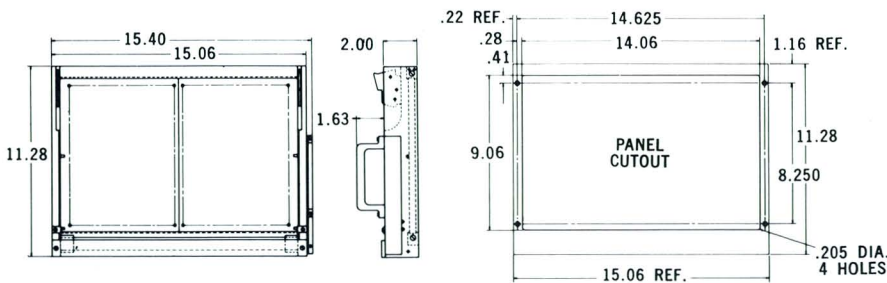
1632 System (hole arrangement 48 x 34)



Catalog Number	Rear Bay Wiring Method	Mates with Front Board Assembly
425570-1	Taper Pins	425571
425570-2	LANCELOK Terminals	
425570-3	AMPMODU Receptacles* (.031 x .062 Posts)	
425570-4	TERMI-POINT Clips* (.031 x .062 Posts)	
425570-5	Wrap-Type Wiring (.045 x .045 Posts)	
425570-7	TERMI-POINT Clips* (.022 x .036 Posts)	
425570-8	Wrap-Type Wiring and AMPMODU Receptacles (.025 x .025 Posts)	

*Can be used for wrap-type wiring.

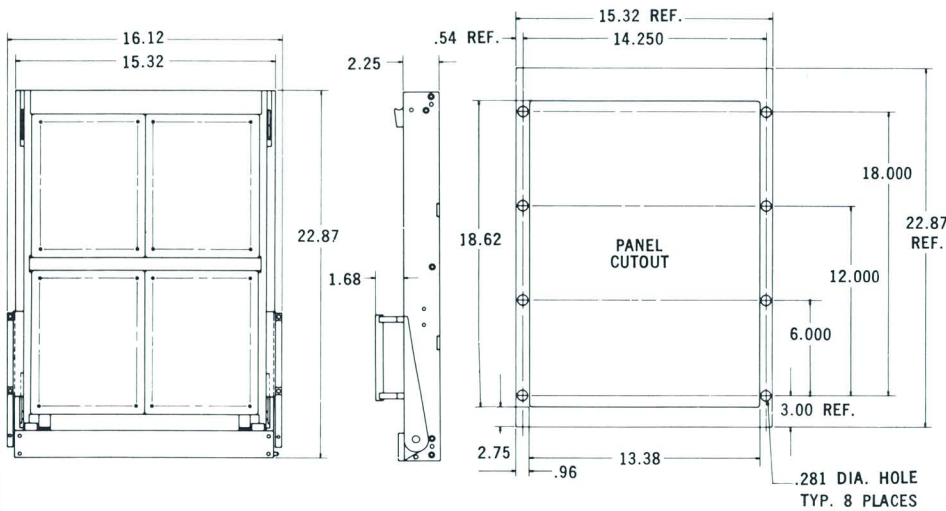
1768 System (hole arrangement 52 x 34)



Catalog Number	Rear Bay Wiring Method	Mates with Front Board Assembly
425572-1	Taper Pins	425573
425572-2	LANCELOK Terminals	
425572-3	AMPMODU Receptacles* (.031 x .062 Posts)	
425572-4	TERMI-POINT Clips* (.031 x .062 Posts)	
425572-5	Wrap-Type Wiring (.045 x .045 Posts)	
425572-6	TERMI-POINT Clips* (.022 x .036 Posts)	
425572-7	Wrap-Type Wiring and AMPMODU Receptacles (.025 x .025 Posts)	

*Can be used for wrap-type wiring.

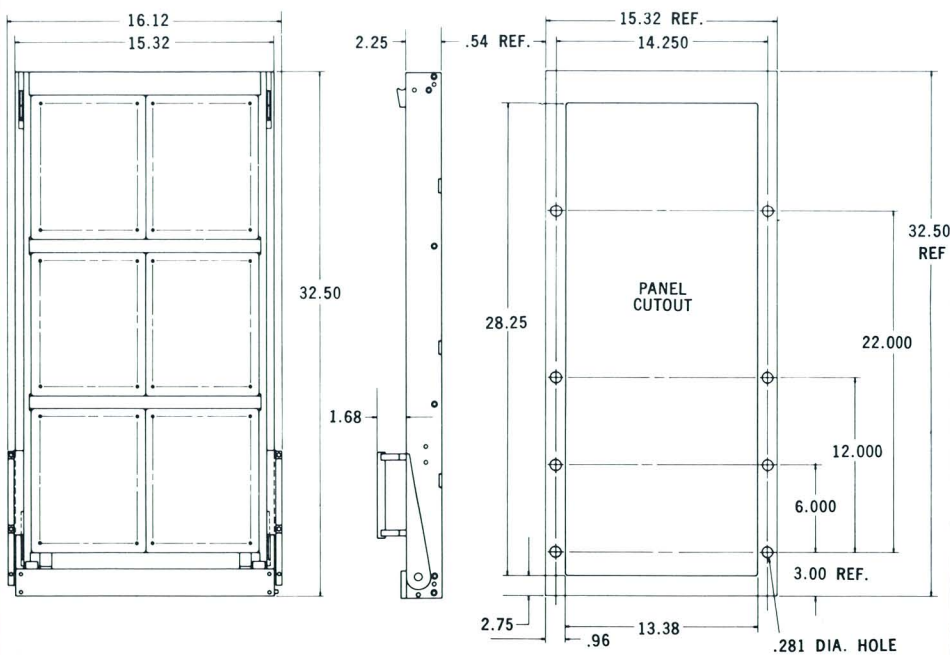
3264 System (hole arrangement 48 x 68)



Catalog Number	Rear Bay Wiring Method	Mates with Front Board Assembly
425574-1	Taper Pins	
425574-2	LANCELOK Terminals	
425574-3	AMPMODU Receptacles* (.031 x .062 Posts)	
425574-4	TERMI-POINT Clips* (.031 x .062 Posts)	425575
425747-1	Wrap-Type Wiring (.045 x .045 Posts)	
425574-5	TERMI-POINT Clips* (.022 x .036 Posts)	
425574-6	Wrap-Type Wiring and AMPMODU Receptacles (.025 x .025 Posts)	

*Can be used for wrap-type wiring.

4896 System (hole arrangement 48 x 102)

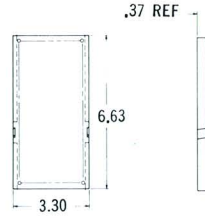


Catalog Number	Rear Bay Wiring Method	Mates with Front Board Assembly
425576-1	Taper Pins	
425576-2	LANCELOK Terminals	
425576-3	AMPMODU Receptacles* (.031 x .062 Posts)	
425576-4	TERMI-POINT Clips* (.031 x .062 Posts)	425577
425576-5	Wrap-Type Wiring (.045 x .045 Posts)	
425576-6	TERMI-POINT Clips* (.022 x .036 Posts)	
425576-7	Wrap-Type Wiring and AMPMODU Receptacles (.025 x .025 Posts)	

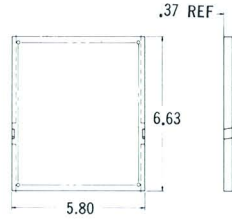
*Can be used for wrap-type wiring.

Front Board Assemblies

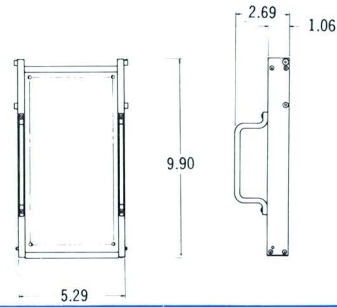
240 System
(hole arrangement 10 x 24)



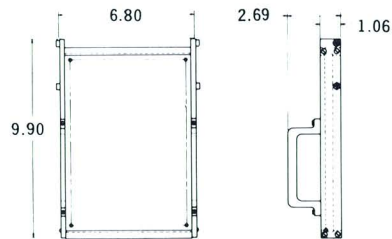
480 System
(hole arrangement 20 x 24)



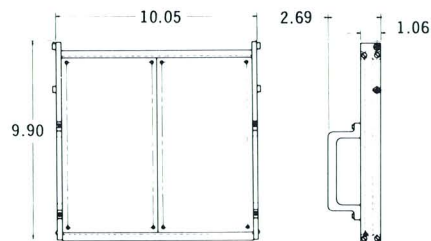
612 System
(hole arrangement 18 x 34)



816 System
(hole arrangement 24 x 34)

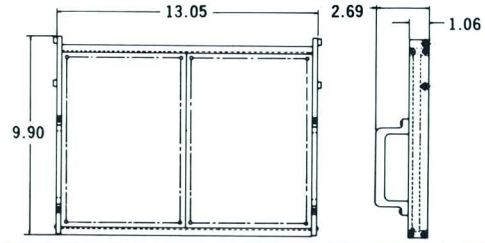


1224 System
(hole arrangement 36 x 34)

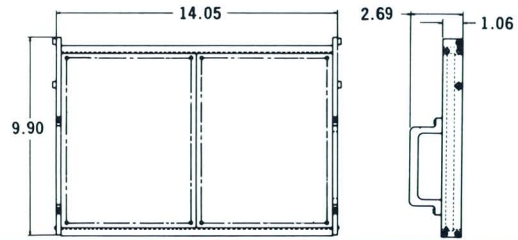


System	Catalog Number with "D" Holes for Nylon Sleeve Patchcord		Catalog Number with Round Holes for Twin Detent Patchcord		Dust Cover
	Screened	Unscreened	Screened	Unscreened	
240	425930-2	425930-1	425930-6	425930-5	—
480	425930-4	425930-3	425930-8	425930-7	—
612	435068-2	435068-1	435068-4	435068-3	—
816	425567-2	425567-1	425567-4	425567-3	1-425647-1
1224	425569-2	425569-1	425569-4	425569-3	1-425648-1

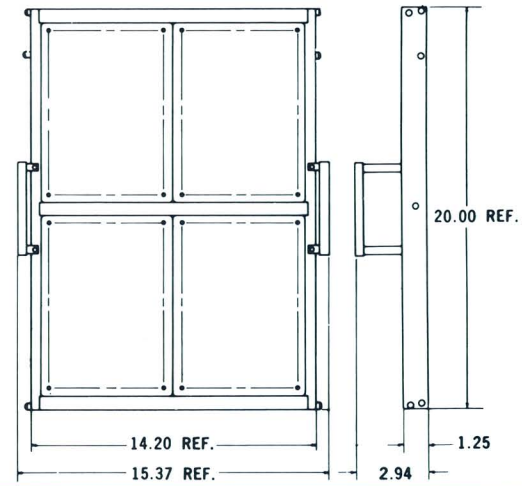
1632 System
(hole arrangement 48 x 34)



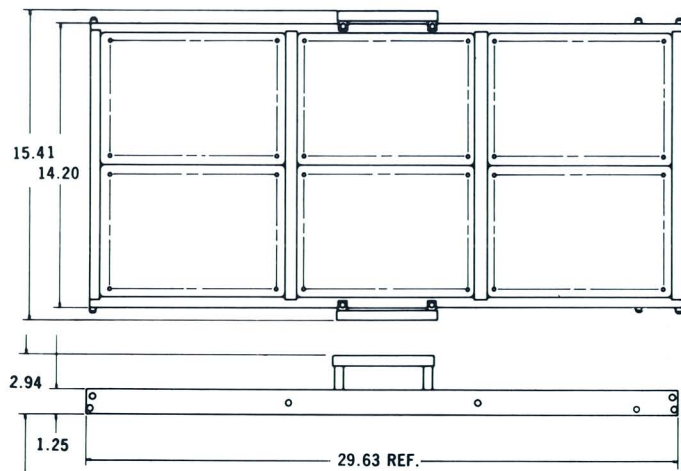
1768 System
(hole arrangement 52 x 34)



3264 System
(hole arrangement 48 x 68)



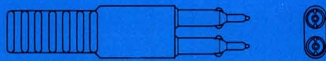
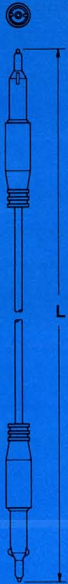
4896 System
(hole arrangement 48 x 102)



System	Catalog Number with "D" Holes for Nylon Sleeve Patchcord		Catalog Number with Round Holes for Twin Detent Patchcord		Dust Cover
	Screened	Unscreened	Screened	Unscreened	
1632	425571-2	425571-1	425571-4	425571-3	1-425649-1
1768	425573-2	425573-1	425573-4	425573-3	1-425650-1
3264	425575-2	425575-1	425575-4	425575-3	425660-1
4896	425577-2	425577-1	425577-4	425577-3	425661-1

Twin Detent Patchcords (For Use With Round Hole Front Boards Only)

Single Conductor Patchcords— PVC Insulated



FULLY MOLDED SHUNT

Length (L)	Pin Finish	Catalog No. Manual Type	Catalog No. Semi-Permanent Type	Insulation Color Code
5"	Gold	695640-9	595903-9	Red
7"	Gold	695640-1	595903-1	Gray
9"	Gold	695640-2	595903-2	Blue
11"	Gold	695640-3	595903-3	Green
13"	Gold	695640-4	595903-4	Yellow
15"	Gold	695640-5	595903-5	Orange
19"	Gold	695640-6	595903-6	Black
27"	Gold	695640-7	595903-7	Brown
35"	Gold	695640-8	595903-8	Red
Fully Molded Shunt	Gold	397347-1 (Gray)	397348-1 (Red)	

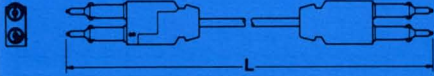
Patchcord Dual Conductor



Length (L)	Pin Finish	Catalog No. Manual Type	Catalog No. Semi-Permanent Type	Insulation Color Code
7"	Gold	421100-1	421101-1	Gray & Black
9"	Gold	421100-2	421101-2	Blue & Black
11"	Gold	421100-3	421101-3	Green & Black
13"	Gold	421100-4	421101-4	Yellow & Black
15"	Gold	421100-5	421101-5	Orange & Black
19"	Gold	421100-6	421101-6	White & Black
27"	Gold	421100-7	421101-7	Brown & Black
35"	Gold	421100-8	421101-8	Red & Black

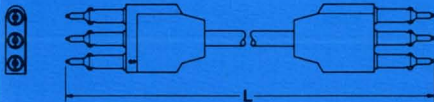
**Twin Detent
Patchcords (cont'd)**

**Single Conductor Plus Shield
Patchcords—PVC Insulated**



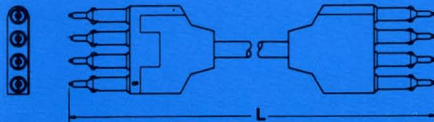
Length (L)	Pin Finish	Catalog No. Manual Type	Catalog No. Semi-Permanent Type	Insulation Color Code
7"	Gold	695644-1	695477-1	Gray
9"	Gold	695644-2	695477-2	Blue
11"	Gold	695644-3	695477-3	Green
13"	Gold	695644-4	695477-4	Yellow
15"	Gold	695644-5	695477-5	Orange
19"	Gold	695644-6	695477-6	Black
27"	Gold	695644-7	695477-7	Brown
35"	Gold	695644-8	695477-8	Red

**Two Conductor Plus Shield
Patchcords—PVC Insulated**



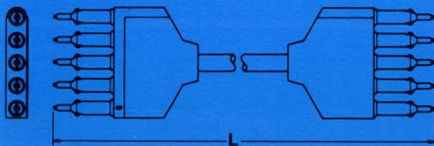
Length (L)	Pin Finish	Catalog No. Manual Type	Catalog No. Semi-Permanent Type	Insulation Color Code
7"	Gold	397351-1	397353-1	Black
9"	Gold	397351-2	397353-2	Black
11"	Gold	397351-3	397353-3	Black
13"	Gold	397351-4	397353-4	Black
15"	Gold	397351-5	397353-5	Black
19"	Gold	397351-6	397353-6	Black
27"	Gold	397351-7	397353-7	Black
35"	Gold	397351-8	397353-8	Black
45"	Gold	397351-9	397353-9	Black

**Three Conductor Plus Shield
Patchcords—PVC Insulated**



Length (L)	Pin Finish	Catalog No. Manual Type	Catalog No. Semi-Permanent Type	Insulation Color Code
9"	Gold	695641-1	595905-1	Black
11"	Gold	695641-2	595905-2	Black
13"	Gold	695641-3	595905-3	Black
15"	Gold	695641-4	595905-4	Black
19"	Gold	695641-5	595905-5	Black
24"	Gold	695641-6	595905-6	Black
27"	Gold	695641-7	595905-7	Black
40"	Gold	695641-8	595905-8	Black

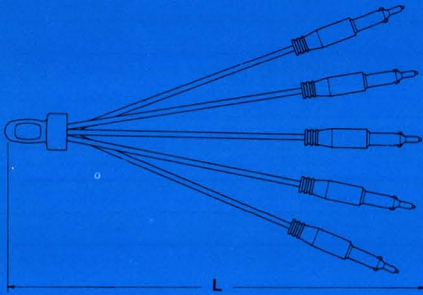
**Four Conductor Plus Shield
Patchcords—PVC Insulated**



Length (L)	Pin Finish	Catalog No. Manual Type	Catalog No. Semi-Permanent Type	Insulation Color Code
9"	Gold	397357-1	397359-1	Black
11"	Gold	397357-2	397359-2	Black
13"	Gold	397357-3	397359-3	Black
15"	Gold	397357-4	397359-4	Black
19"	Gold	397357-5	397359-5	Black
24"	Gold	397357-6	397359-6	Black
27"	Gold	397357-7	397359-7	Black
40"	Gold	397357-8	397359-8	Black

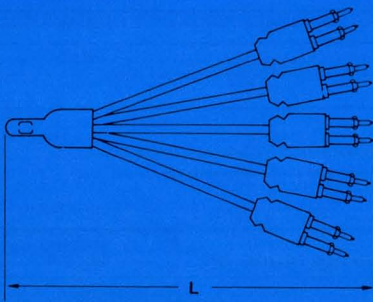
Twin Detent Patchcords (cont'd)

Squid Patchcords—PVC Insulated



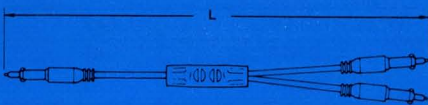
Length (L)	Pin Finish	Pin Type	Catalog Numbers						Insulation Color Code
			3 Pin	4 Pin	5 Pin	6 Pin	7 Pin	8 Pin	
3"	Gold	Manual Semi-Perm.	695650-1	397361-1	397362-1	397363-1	397364-1	397365-1	Orange
			695472-1	695769-1	397041-1	397366-1	397367-1	397368-1	
5"	Gold	Manual Semi-Perm.	695650-2	397361-2	397362-2	397363-2	397364-2	397365-2	Red
			695472-2	695769-2	397041-2	397366-2	397367-2	397368-2	
7"	Gold	Manual Semi-Perm.	695650-3	397361-3	397362-3	397363-3	397364-3	397365-3	Gray
			695472-3	695769-3	397041-3	397366-3	397367-3	397368-3	
9"	Gold	Manual Semi-Perm.	695650-4	397361-4	397362-4	397363-4	397364-4	397365-4	Blue
			695472-4	695769-4	397041-4	397366-4	397367-4	397368-4	
11"	Gold	Manual Semi-Perm.	695650-5	397361-5	397362-5	397363-5	397364-5	397365-5	Green
			695472-5	695769-5	397041-5	397366-5	397367-5	397368-5	

Single Conductor & Shield Squids



Length (L)	Pin Finish	Pin Type	3 Legs	4 Legs	5 Legs	6 Legs	7 Legs	8 Legs	Insulation Color Code
7"	Gold Tips	Semi-Perm. Manual	497304-1	497305-1	497321-1	421106-1	497342-1	497340-1	Grey
			420929-1	421102-1	421103-1	421107-1	421104-1	421105-1	
9"	Gold Tips	Semi-Perm. Manual	497304-2	497305-2	497321-2	421106-2	497342-2	497340-2	Blue
			420929-2	421102-2	421103-2	421107-2	421104-2	421105-2	
11"	Gold Tips	Semi-Perm. Manual	497304-3	497305-3	497321-3	421106-3	497342-3	497340-3	Green
			420929-3	421102-3	421103-3	421107-3	421104-3	421105-3	
13"	Gold Tips	Semi-Perm. Manual	497304-4	497305-4	497321-4	421105-4	497342-4	497340-4	Yellow
			420929-4	421102-4	421103-4	421107-4	421104-4	421105-4	
15"	Gold Tips	Semi-Perm. Manual	497304-5	497305-5	497321-5	421106-5	497342-5	497340-5	Orange
			420929-5	421102-5	421103-5	421107-5	421104-5	421105-5	
19"	Gold Tips	Semi-Perm. Manual	497304-6	497305-6	497321-6	421106-6	497342-6	497340-6	Black
			420929-6	421102-6	421103-6	421107-6	421104-6	421105-6	
27"	Gold Tips	Semi-Perm. Manual	497304-7	497305-7	497321-7	421106-7	497342-7	497340-7	Brown
			420929-7	421102-7	421103-7	421107-7	421104-7	421105-7	

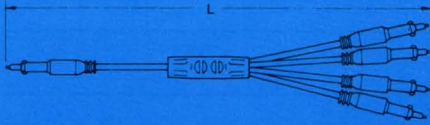
"Y" Patchcord—3 Pin Common (Semi-Permanent)



Length in Inches	Pin Finish	Part Number	Insulation Color
9"	Gold	397728-1	Blue
15"	Gold	397728-2	Orange

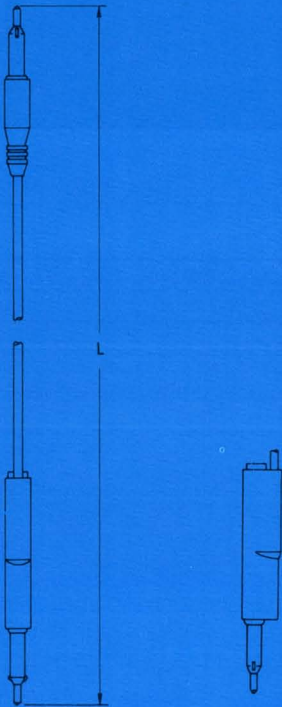
Twin Detent Patchcords (cont'd)

"Y" Patchcord—5 Pin Common (Semi-Permanent)



Length in Inches	Pin Finish	Part Number	Insulation Color
9"	Gold	397733-1	Blue
15"	Gold	397733-2	Orange

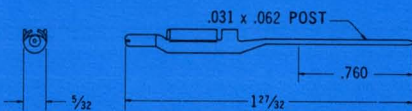
Patchcord Receptacle (Manual)



Length (L)	Tip Finish	Catalog No.	Insulation Color
27"	Gold	424248-8	Black
19"	Gold	424248-7	Black
15"	Gold	424248-6	Orange
13"	Gold	424248-5	Yellow
11"	Gold	424248-4	Green
9"	Gold	424248-3	Blue
7"	Gold	424248-2	Grey
5"	Gold	424248-1	Red



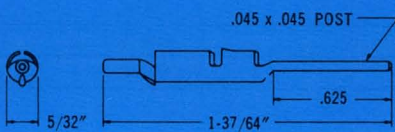
TERMI-POINT Post Adapter



Accessories For Twin Detent Patchcords

Catalog No.	Finish
425257-2	Gold Plated

Wrap-Type Post Adapter For wrap-type connections.

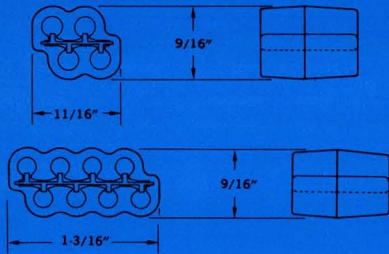


Catalog No.	Finish
497474-3	Gold Plated
497474-2	Tin Plated

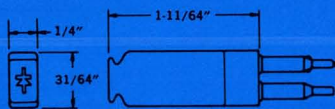
Accessories For Twin Detent Patchcords (cont'd)

Commoning Block

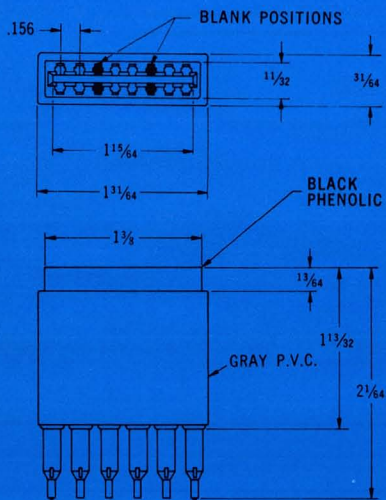
For electrical commoning of two or more patchtips.



Diode Patchcord Shunt (Semi-Permanent)



Patchtip and Printed Circuit Board Connector (6 Dual Positions)



Extraction Tool & Spare Tips For semi-permanent Twin Detent patchtips (Tip included)



No. of Holes	Catalog No.	Finish
4	397805-1	Gold Plated
8	397806-1	Gold Plated

Catalog No.	Finish
497477	Gold Plated

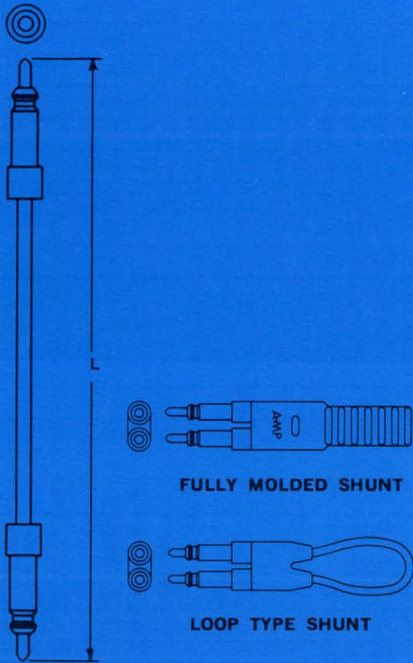
No. of Dual Pos.	Catalog No.	Finish
8	435170-1	Gold Plated

Tip Length	Catalog No.	Tip No.
5/8"	695880-1	695879-1
4"	695880-2	420878

Nylon Sleeve Patchcords

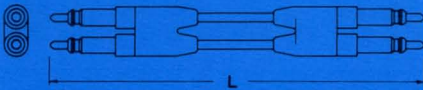
(for use with "D" hole front boards only)

Single Conductor Patchcords



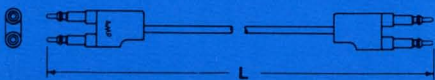
Length (L)	Tip Finish	PVC Insulated Catalog No.	Insulation Color
3"	Nickel	395633-2	Orange
	Gold	395633-1	
5"	Nickel	395330-1	Red
	Gold	395223-2	
7"	Nickel	395330-2	Grey
	Gold	395223-3	
9"	Nickel	395330-3	Blue
	Gold	395223-1	
11"	Nickel	395330-4	Green
	Gold	395223-4	
13"	Nickel	395330-5	Yellow
	Gold	395223-5	
15"	Nickel	395330-6	Orange
	Gold	395223-6	
19"	Nickel	395330-7	Black
	Gold	395223-7	
27"	Nickel	395330-8	Black
	Gold	395223-8	
35"	Nickel	395330-9	Red
	Gold	395223-9	
Fully Molded Shunt	Nickel	395481-1	Black
	Gold	395481-2	
Loop Type Shunt	Nickel	397298-2	Red
	Gold	397298-1	

Dual Conductor Patchcords



Length (L)	Tip Finish	PVC Insulated Catalog No.	Insulation Color
5"	Gold	495753-1	Red
7"	Gold	495753-2	Grey
9"	Gold	495753-3	Blue
11"	Gold	495753-4	Green
13"	Gold	495753-5	Yellow
15"	Gold	495753-6	Orange
19"	Gold	495753-7	Black
27"	Gold	495753-8	Black
35"	Gold	495753-9	Red

Patchcords (1/4") Single Conductor—Coaxial



Length (L)	Tip Finish	PVC Insulated Catalog No.	Insulation Color
6"	Gold	395575-1	Brown
9"	Gold	395575-6	Red
12"	Gold	395575-2	Orange
15"	Gold	395575-7	Yellow
18"	Gold	395575-3	Green
21"	Gold	395575-8	Blue
24"	Gold	395575-4	Violet
36"	Gold	395575-5	Grey
45"	Gold	395575-9	White

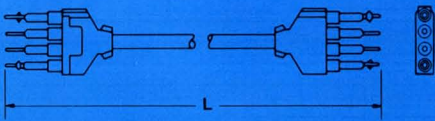
Nylon Sleeve Patchcords (cont'd)

Two Conductor Plus Shield Patchcords



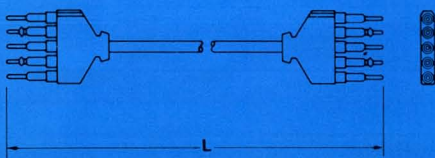
Length (L)	Tip Finish	PVC Insulated Catalog No.	Insulation Color
7"	Gold	497598-1	Black
9"	Gold	497598-2	Black
11"	Gold	497598-3	Black
13"	Gold	497598-4	Black
15"	Gold	497598-5	Black
19"	Gold	497598-6	Black
27"	Gold	497598-7	Black
24"	Gold	497598-8	Black
45"	Gold	497598-9	Black

Three Conductor Plus Shield Patchcords (Non-Polarized)



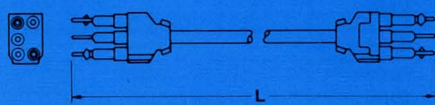
Length (L)	Tip Finish	PVC Insulated Catalog No.	Insulation Color
7"	Gold	495547-1	Black
9"	Gold	495547-2	Black
11"	Gold	495547-3	Black
13"	Gold	495547-4	Black
15"	Gold	495547-5	Black
19"	Gold	495547-6	Black
24"	Gold	495547-8	Black
27"	Gold	495547-7	Black
40"	Gold	495547-9	Black

Four Conductor Plus Shield Patchcords



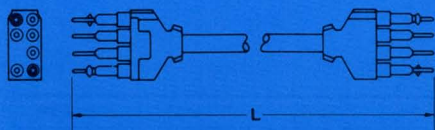
Length (L)	Tip Finish	PVC Insulated Catalog No.	Insulation Color
7"	Gold	397751-1	Black
9"	Gold	397751-2	Black
11"	Gold	397751-3	Black
13"	Gold	397751-4	Black
15"	Gold	397751-5	Black
19"	Gold	397751-6	Black
24"	Gold	397751-7	Black
27"	Gold	397751-8	Black
45"	Gold	397751-9	Black

Four Conductor Plus Shield Patchcords (Domino Type)

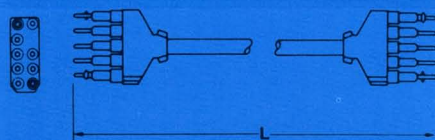


Length (L)	Tip Finish	PVC Insulated Catalog No.	Insulation Color
9"	Gold	495732-4	Black
13"	Gold	495732-5	Black
15"	Gold	495732-6	Black
19"	Gold	495732-1	Black
27"	Gold	495732-7	Black
36"	Gold	495732-8	Black
40"	Gold	495732-2	Black
45"	Gold	495732-9	Black
70"	Gold	495732-3	Black

Six Conductor Plus Shield Patchcords (Domino Type)

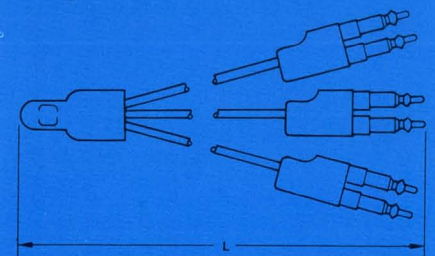


Eight Conductor Plus Shield (Domino Type)

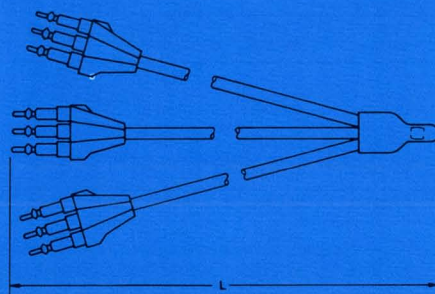


SQUID PATCHCORDS

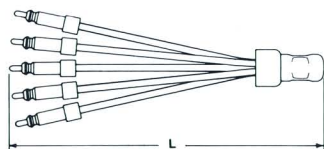
Single Conductor Plus Shield—3 Legs



Two Conductor Plus Shield—3 Legs



Squid Patchcords—(PVC Insulated)



Length (L)	Tip Finish	PVC Insulated Catalog No.	Insulation Color
9"	Gold	495733-4	Black
13"	Gold	495733-5	Black
15"	Gold	495733-6	Black
19"	Gold	495733-1	Black
27"	Gold	495733-7	Black
36"	Gold	495733-8	Black
40"	Gold	495733-2	Black
45"	Gold	495733-9	Black
70"	Gold	495733-3	Black

Length (L)	Tip Finish	PVC Insulated Catalog No.	Insulation Color
12"	Gold	397679-1	Black
18"	Gold	397679-2	Black
24"	Gold	397679-3	Black
36"	Gold	397679-4	Black
48"	Gold	397679-5	Black

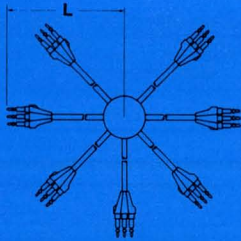
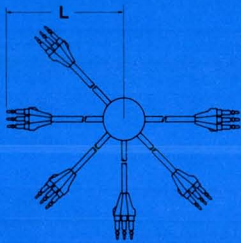
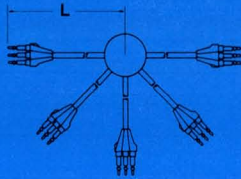
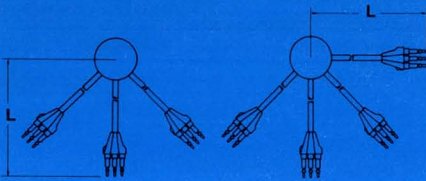
Length (L)	Tip Finish	Catalog No.	Insulation Color
11"	Gold	695786-1	Orange
16"	Gold	695786-2	Yellow

Length (L)	Tip Finish	Catalog No.	Insulation Color
7"	Gold	695793-1	Black
9"	Gold	695793-2	Black
11"	Gold	695793-3	Black
13"	Gold	695793-4	Black
16"	Gold	695793-5	Black
19"	Gold	695793-6	Black
27"	Gold	695793-7	Black
24"	Gold	695793-8	Black
45"	Gold	695793-9	Black

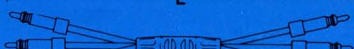
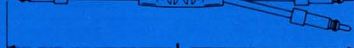
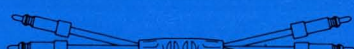
Length (L)	Tip Finish	Catalog Number								Insulation Color
		3 Pin Common	4 Pin Common	5 Pin Common	6 Pin Common	7 Pin Common	8 Pin Common	9 Pin Common	10 Pin Common	
3"	Gold	495296-1	495297-1	495298-1	495299-1	495300-4	495301-4	495302-5	495303-4	Orange
5"	Gold	495296-6	495297-3	495298-3	495299-3	495300-5	495301-5	495302-4	495303-5	Red
7"	Gold	495296-5	495297-4	495298-4	495299-5	495300-1	495301-1	495302-1	495303-1	Grey
9"	Gold	495296-3	495297-2	495298-5	495299-4	495300-2	495301-2	495302-2	495303-2	Blue
11"	Gold	495296-2	495297-5	495298-2	495299-6	495300-3	495301-3	495302-3	495303-3	Green

Nylon Sleeve Patchcords (cont'd)

Ball Squid Two Conductor and Shielded

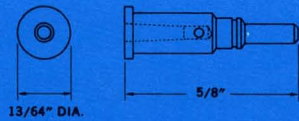


“Y” Patchcords—(PVC Insulated)



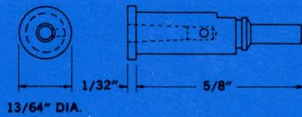
Length (L)	Tip Finish	3 Legs	4 Legs	5 Legs	6 Legs	7 Legs	Color of Ball
16"	Gold	497487-1	497488-1	497489-1	497490-1	497491-1	Orange
16"	Gold	497487-2	497488-2	497489-2	497490-2	497491-2	Yellow
16"	Gold	497487-3	497488-3	497489-3	497490-3	497491-3	Blue
16"	Gold	497487-4	497488-4	497489-4	497490-4	497491-4	Green
16"	Gold	497487-5	497488-5	497489-5	497490-5	497491-5	Red
27"	Gold	497487-6	497488-6	497489-6	497490-6	497491-6	Blue

Length (L)	Tip Finish	Catalog Number						Insulation Color
		3 Pin Common	4 Pin Common	5 Pin Common	6 Pin Common	7 Pin Common	8 Pin Common	
7"	Nickel	495390-1	495391-1	495392-1	495393-1	495394-1	495395-1	Gray
7"	Gold	495396-1	495397-1	495398-1	495399-1	495400-1	495401-1	Grey
9"	Nickel	495390-2	495391-2	495392-2	495393-2	495394-2	495395-2	Blue
9"	Gold	495396-2	495397-2	495398-2	495399-2	495400-2	495401-2	Blue
11"	Nickel	495390-3	495391-3	495392-3	495393-3	495394-3	495395-3	Green
11"	Gold	495396-3	495397-3	495398-3	495399-3	495400-3	495401-3	Green
13"	Nickel	495390-4	495391-4	495392-4	495393-4	495394-4	495395-4	Yellow
13"	Gold	495396-4	495397-4	495398-4	495399-4	495400-4	495401-4	Yellow
15"	Nickel	495390-5	495391-5	495392-5	495393-5	495394-5	495395-5	Orange
15"	Gold	495396-5	495397-5	495398-5	495399-5	495400-5	495401-5	Orange
19"	Nickel	495390-6	495391-6	495392-6	495393-6	495394-6	495395-6	Black
19"	Gold	495396-6	495397-6	495398-6	495399-6	495400-6	495401-6	Black
27"	Nickel	495390-7	495391-7	495392-7	495393-7	495394-7	495395-7	Black
27"	Gold	495396-7	495397-7	495398-7	495399-7	495400-7	495401-7	Black



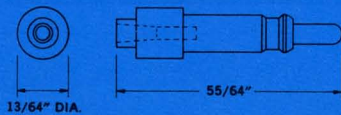
Uninsulated Taper Pin Adapter
("C" Washer Retention)*
Accepts Series 53 Taper Pins

Catalog No.	Finish
395511-1	Nickel Plated
395511-2	Gold Plated



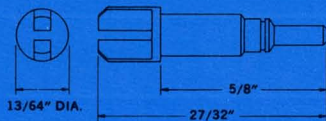
Uninsulated Taper Pin Adapter
(Non-Rotating "C" Washer Retention)*
Accepts Series 53 Taper Pin

395552-1	Nickel Plated
395552-2	Gold Plated



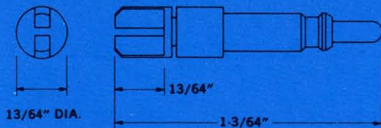
Insulated Taper Pin Adapter
Accepts Series 53 Taper Pin
(Can be post-patched)

395187-1	Nickel Plated
395187-2	Gold Plated



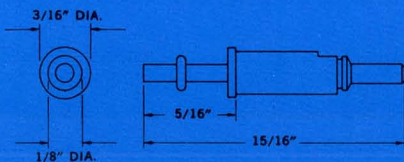
Uninsulated Edge Connector Adapter
("C" Washer Retention)*
For Soldered Connections Where
Wrapping the Conductor is
Impractical

395516-1	Nickel Plated
395516-2	Gold Plated



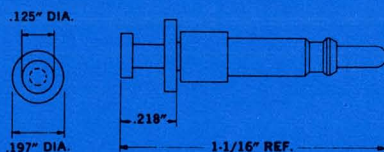
Insulated Edge Connector Adapter
For Soldered Connections Where
Wrapping the Conductor is
Impractical (Can be post-patched)

395647-1	Nickel Plated
395647-2	Gold Plated



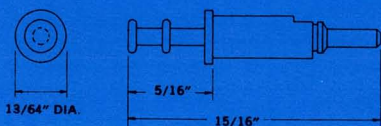
**Uninsulated Turret Lug Adapter,
Single Turret**
(Non-Rotating "C" Washer Retention)*
For Soldered Connections

395938-1	Nickel Plated
395938-2	Gold Plated



**Insulated Turret Lug Adapter,
Single Turret**
(Can be post-patched)
For Soldered Connections

421111-1	Nickel Plated
421111-2	Gold Plated

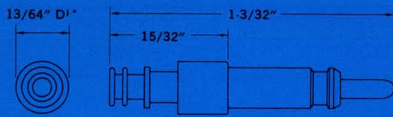


**Uninsulated Turret Lug Adapter,
Double Turret**
(Non-Rotating "C" Washer Retention)*
For Soldered Connections

395645-2	Gold Plated
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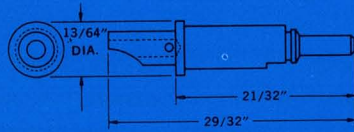
*Request same quantity of (C) washers, Part No. 395544 to be included in each order.

Accessories For Nylon Sleeve Patchcords (cont'd)



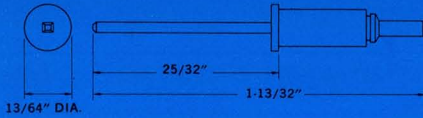
Insulated Taper Pin Turret Lug Adapter
(Can be post-patched)
For Soldered Connections or Series 53 Taper Pin, or Combination of Both

Catalog No.	Finish
495839-1	Nickel Plated
495839-2	Gold Plated



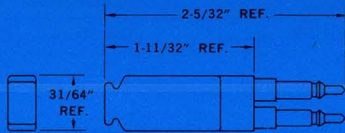
Uninsulated Solder Tube Adapter
(Non-Rotating "C" Washer Retention)*
For Soldered Connection with Larger Conductors

395809-1	Nickel Plated
395809-2	Gold Plated



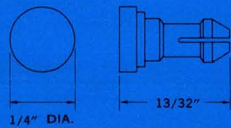
Wrap-Type Post Adapter
(Non-Rotating "C" Washer Retention)*
For wrap-type connections.

397550-1	Nickel Plated
397550-2	Gold Plated



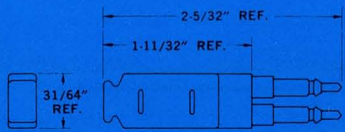
Resistor Plug

595680	Gold Plated
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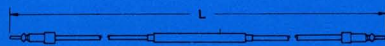
Marker Plug
For temporary marking of patchcord hole, aluminum marker plug is inserted in contact hole in front board assembly.

395348-1	Clear Anodize
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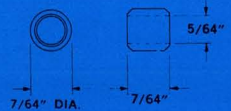
Diode Plug
Anode—White Sleeve
Cathode—Red Sleeve
Nylon Sleeves

595857-1	Gold Plated
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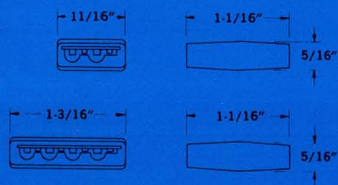
Patchcord with Diode

420403	Nickel Plated
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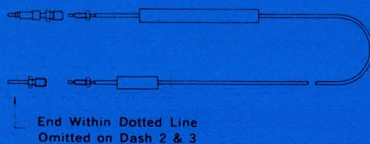
Bushing for Permanent Patching

Catalog No.	Material
395149-1	Red Nylon



Commoning Block
For Electrical Commoning of Two or More Patchtips

No. of Holes	Catalog No.	Finish
4	495894-1	Gold Plated
	495894-2	Nickel Plated
8	495895-1	Gold Plated
	495895-2	Nickel Plated

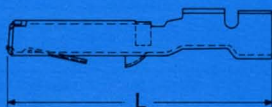


Test Probe Assembly

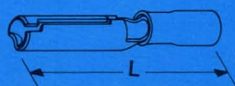
Catalog No.	Length	Color
397029-1	72"	Black
397029-2	48"	Black
397029-3	48"	Red
397029-4	48"	Black
397029-5	48"	Red

LANCELOK Terminals

Uninsulated—Formed



Pre-Insulated—Formed



TAPER PINS

Insulated Support—Formed Pins



Wire Size	L.P. Catalog Number	Insulation Dia. Range	Overall Length (L)	Finish	Hand Tool	AMP-TAPEMATIC Tools 69359-2 69370 and 69118-1	
						Die Number	
24-20	2-328969-1	.065-.080	.781	Gold	69323	69416	
	2-328969-2	.065-.080	.781	Tin	69323	69416	
	330371	.040-.065	.781	Gold	69323	69415	
18-16	329321	.100-.130	.812	Gold	69323	69418	
	2-329321-1	.100-.130	.812	Tin	69323	69418	
	330370	.075-.100	.812	Gold	69323	69417	

Insertion Tool—Part No. 69421. Extraction Tool: 69261-3

Wire Size	L.P. Catalog Number	Insulation Dia. Range	Overall Length (L)	Finish	Hand Tool	AMP-TAPEMATIC Tools 69118-1 69359-2 & 69370		68075, 69875 Tool Die Number
						Die Number		
24-22	329317	.040-.080	.875	Gold	69256	69345	69896	
	2-329317-1	.040-.080	.875	Tin	69256	69345	69896	
20-18	329334	.060-.090	.875	Gold	69257	69346	69933	
	2-329334-1	.060-.090	.875	Tin	69257	69346	69933	
16	329335	.080-.110	.937	Gold	69258	69347	69934	
	2-329335-1	.080-.110	.937	Tin	69258	69347	69934	

Insertion Tool—Part Number 69421. Extraction Tool—Part Number 69261-1.

Pin Information				Tooling Information			
Wire Size	Catalog Number	Insulation Dia. Range	Overall Length	Finish(a)	Double Action Hand Tool	Straight Action Hand Tool	Pull Test Insertion Tool†
24-22	41278	.040-.055	.540	Tin ¹	48698		497652-1
	41640	.040-.055	.540	Silver ²	48698		497652-1
	41646	.040-.055	.540	Gold ³	48698		497652-1
	42600-1	.040-.055	.540	Gold ⁶	48698		497652-1
	42600-2	.040-.055	.540	Gold ⁵	48698		497652-1
	66091-2	.040-.060	.540	Tin ¹	48698		497652-1
	66091-3	.040-.060	.540	Gold ³	48698		497652-1
	66113-1	.040-.060	.590	Gold ³	48698		497652-1
	66113-2	.040-.060	.590	Silver ²	48698		497652-1
	66113-3	.040-.060	.590	Tin ¹	48698		497652-1
	66033-1	.065-.080	.600	Gold ⁵	47042		497652-2
	41647	.065-.080	.600	Tin ¹	47042		497652-2
	41648	.065-.080	.600	Silver ²	47042		497652-2
	41649	.065-.080	.600	Gold ³	47042		497652-2

(a) Finish Code:—¹.0002 Tin, ².0002 Silver, ³.00003 Gold over .00005 Nickel, ⁴.0001 Gold over .0001 Silver, ⁵.0002 Gold over .00005 Nickel, ⁶.00005 Gold over .00005 Nickel.

†Extension for Pull Test Insertion Tool—Part No. 397989-1. Extraction Tool No. 380305-1.

Insulation Support—Formed Pins (Continued)

Wire Size	Pin Information				Tooling Information			
	Catalog Number	Insulation Dia. Range	Overall Length	Finish(a)	Double Action Hand Tool	Straight Action Hand Tool	Pull Test Insertion Tool†	
20-18	42229-1	.060-.080	.667	Tin ¹	90189-1		497652-2	
	42229-2	.060-.080	.667	Silver ²	90189-1		497652-2	
	42229-3	.060-.080	.667	Gold ³	90189-1		497652-2	
	42229-7	.060-.080	.667	Gold ⁶	90189-1		497652-2	
	66200-1	.060-.080	.667	Tin ¹	90189-1		497652-2	
	41650	.080-.100	.667	Tin ¹	47043-LH* 90010-SH*		497652-2	
	41651	.080-.100	.667	Silver ²	47043-LH 90010-SH		497652-2	
	41652	.080-.100	.667	Gold ³	47043-LH 90010-SH		497652-2	
	42773-1	.080-.100	.667	Tin ¹	47043-LH 90010-SH		497652-2	
	42773-2	.080-.100	.667	Silver ²	47043-LH 90010-SH		497652-2	
	42773-3	.080-.100	.667	Gold ³	47043-LH 90010-SH		497652-2	
	60183-1	.080-.100	.667	Gold ⁵	47043-LH 90010-SH		497652-2	
	18-16	60066-1	.070-.100	.667	Tin ¹		90198-1	497652-2
		60066-2	.070-.100	.667	Silver ²		90198-1	497652-2
60066-3		.070-.100	.667	Gold ³		90198-1	497652-2	
41656		.100-.140	.667	Tin ¹	90024-LH 47044-SH	90007	497652-2	
41657		.100-.140	.667	Silver ²	90024-LH 47044-SH	90007	497652-2	
41658		.100-.140	.667	Gold ³	90024-LH 47044-SH	90007	497652-2	
42774-1		.100-.140	.667	Tin ¹	90024-LH 47044-SH		497652-2	
42774-2		.100-.140	.667	Silver ²	90024-LH 47044-SH		497652-2	
42774-3		.100-.140	.667	Gold ³	90024-LH 47044-SH		497652-2	
60184-1		.100-.140	.667	Gold ⁵	90024-LH 47044-SH	90007	497652-2	
66202-1		.100-.140	.667	Tin ¹		90007	497652-2	

*LH = Long handle tool.

SH = short handle tool.

(a) Finish Code:—¹.0002 Tin, ².0002 Silver, ³.00003 Gold over .00005 Nickel, ⁴.0001 Gold over .0001 Silver, ⁵.0002 Gold over .00005 Nickel, ⁶.00005 Gold over .00005 Nickel.

†Extension for Pull Test Insertion Tool—Part No. 397989-1. Extraction Tool No. 380305-1.

Rear Bay Wiring (cont'd)

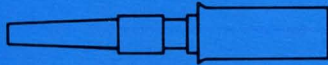
Insulation Piercing—Formed Pins



Wire Size	Catalog Number	Insulation Dia. Range	Overall Length	Finish(a)	Double Action Hand Tool
24-22	41279	.055-.060	.520	Tin ¹	47106†—47150
	41744	.055-.060	.520	Gold ³	47106†—47150

†This tool does not have CERTI-CRIMP ratchet.

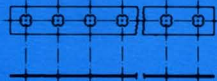
Pre-Insulated—Solid Long Shoulder Pins



Wire Size	Catalog Number	Insulation Dia. Range	Pin Information			Tooling Information		
			Nylon Insulation Color Code	Overall Length	Finish(a)	Double Action Hand Tool		69118-1 AMP-TAPEMATIC Tool Die Number
						Long Handle	Short Handle	
26	66059-1	.040-.080	Blue	.830	Tin ¹	90015	46222	45306
	66059-2	.040-.080	Blue	.830	Silver ²	90015	46222	45306
	66059-3	.040-.080	Blue	.830	Gold ³	90015	46222	45306
	66129-2	.080-.115	Black	.850	Silver ²	90016	46223	45305
	66129-3	.080-.115	Black	.850	Gold ³	90016	46223	45305
24-22	42633-1	.040-.080	Yellow	.830	Tin ¹	90015	46222	45306
	42633-2	.040-.080	Yellow	.830	Silver ²	90015	46222	45306
	42633-3	.040-.080	Yellow	.830	Gold ³	90015	46222	45306
	66070-3	.080-.115	Black	.850	Gold ³	90016	46223	45305
20-18	42634-1	.060-.100	Natural	.850	Tin ¹	90016	46223	45305
	42634-2	.060-.100	Natural	.850	Silver ²	90016	46223	45305
	42634-3	.060-.100	Natural	.850	Gold ³	90016	46223	45305
16	42646-1	.080-.115	Black	.850	Tin ¹	90016	46223	45305
	42646-2	.080-.115	Black	.850	Silver ²	90016	46223	45305
	42646-3	.080-.115	Black	.850	Gold ³	90016	46223	45305

Pull Test Insertion Tool—Part No. 497652-3, Extension for Pull Test Insertion Tool—Part No. 397989-1. Extraction Tool No. 380305-1.

Accessories for Taper Pins (use as a set)



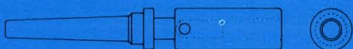
Commoning Strips
For Electrical Commoning of Contact Springs (Use with 397589)

No. of Contacts	Catalog No.	Finish
To Be Specified By Customer	397576-1	Gold Plated
	397576-3	Tin Plated



Commoning Pin
(Use with 397576)

Catalog No.	Finish
397589-3	Gold Plated



Commoning Pin
(Use with 397576)
For Series "53" Taper Receptacle

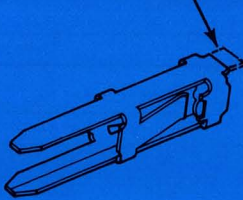
Catalog No.	Finish
397589-5	Nickel Plated
397589-2	Gold Plated

(a) Finish Code:—¹.0002 Tin, ².0002 Silver, ³.00003 Gold over .00005 Nickel, ⁴.0001 Gold over .0001 Silver, ⁵.0002 Gold over .00005 Nickel, ⁶.00005 Gold over .00005 Nickel.

AMPMODU Female Receptacles

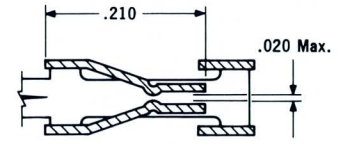
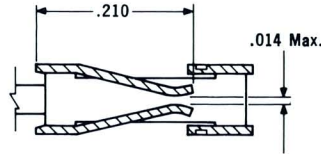
Mod. I—.031 x .062
Board Mount Receptacles
Material: Phosphor Bronze

Tab on Part Nos.
86031, 86455 & 86444



TYPE A & B

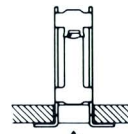
Mod. 1 Receptacle Contact Styles



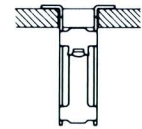
STANDARD PRESSURE				HIGH PRESSURE				T	Board Thickness
Standard Pressure		High Pressure		High Pressure		Finish			
Part No. (Strip Form)* Rectangular Hole	Part No. (Strip Form)* Round Hole	Part No. (Strip Form)* Rectangular Hole	Part No. (Strip Form)* Round Hole	Part No. (Strip Form)* Rectangular Hole	Part No. (Strip Form)* Round Hole				
Type A	Type B	Type A	Type B	Type A	Type B				
85485-5	85486-5	—	—	—	—	.000030 Gold over .000050 Nickel	.145	3/32" Max.	
85485-6	85486-6	86465-2	87004-2	86446-1	86433-1	Tin Plate			
85485-7	85486-7	—	87004-1	—	—	.000030 Gold ¹ over .000050 Nickel			
85485-8	—	86465-1	—	—	—	.000015 Gold over .000050 Nickel			
85488-5	85489-5	—	—	—	—	.000030 Gold over .000050 Nickel	.112	1/16" Max.	
85488-6	85489-6	86477-3	87003-2	86442-1	86448-1	Tin Plate			
85488-7	85489-7	86477-2	87003-1	—	—	.000030 Gold over .000050 Nickel			
85488-8	—	86477-1	—	—	—	.000015 Gold over .000050 Nickel			
86031-1	—	86455-1	—	86444-1	—	Tin Plate	.120	1/16" Max.	

*Specify LP after part number for loose piece contacts. (Part Nos. shown are reeled for miniature applicator).
¹Specified gold thickness on contact area only; remainder of terminal is gold flashed.

Vertical Receptacles



Post Entry
TYPE A



Post Entry
TYPE B

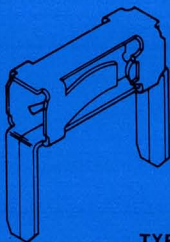
Type C Board Mount Receptacles (Round Holes)

Standard Pressure Part No. (Strip Form)*	High Pressure Part No. (Strip Form)*	Finish	T	Board Thickness
85487-2	86432-4	.000030 Gold over .000050 Nickel	.145	3/32" Max.
85487-3	86432-1	Tin Plate		
85487-4	—	.000030 Gold ¹ over .000050 Nickel		
85487-5	—	.000015 Gold over .000050 Nickel		

Horizontal Receptacles



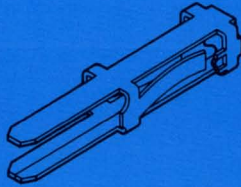
Post Entry
TYPE C



TYPE C

AMPMODU
Female Receptacles (cont'd)

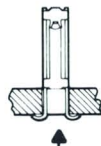
Mod. II—.025 x .025
Board Mount Receptacles
 Material: Phosphor Bronze



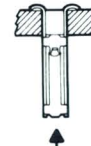
Mates with .025 x .025 Post

Type A Part No. (Strip Form)*	Type B Part No. (Strip Form)*	Type C Part No. (Strip Form)*	Finish	Board Thickness
85861-2	85862-2	85863-2	.000030 Gold over .000050 Nickel	1/16" Max.
85861-3	85862-3	85863-3	Tin Plate	
85861-4	85862-4	85863-4	.000030 Gold ¹ over .000050 Nickel	

*Specify LP after part number for loose piece contacts. (Part Nos. shown are reeled for miniature applicator.)
¹Specified gold thickness on contact area only; remainder of terminal is gold flashed.



Post Entry Type A



Post Entry Type B



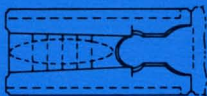
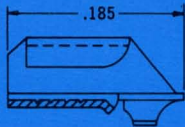
Post Entry Type C

TERMI-POINT
Clips & Tools

(for point-to-point wiring—.031 x .062 Posts)

Pneumatic Tool No. 265575-1 (2800 Clips per Reel)

Wire Size Solid or Stranded (7 Str)*	Insulation Dia. Range	Mandrel Number	Clip Number			Mandrel and Clip Color Code
			Electro-Tin Plated	Gold Plated	Tin-Nickel Plated	
22	.036-.045	265070-1	4-330495-2	4-330495-9	6-330495-8	Orange
	.046-.055	265070-2				
	.056-.065	265070-3				
24	.034-.045	265070-4	2-330495-1	2-330495-2	6-330495-4	Red
	.046-.055	265070-5				
	.056-.065	265070-6				
26	.030-.045	265070-7	1-330495-3	1-330495-8	8-330495-4	Brown
	.046-.055	265070-8				
28	.022-.033	265070-9	3-330495-5	9-330495-6	8-330495-8	Black
	.034-.045	1-265070-0				



Reel Fed Manual Service Tool No. 69526-2 (1000 Clips per Reel)

Wire Size Solid or Stranded (7 Str)	Insulation Dia. Range	Mandrel Number	Clip Number			Mandrel and Clip Color Code
			Electro-Tin Plated	Gold Plated	Tin-Nickel Plated	
22	.036-.045	6 9551-8	6-330495-1	6-330495-2	6-330495-7	Orange
	.046-.065	1-69411-4				
24	.034-.045	69551-9	5-330495-3	1-330495-9	6-330495-3	Red
	.046-.065	1-69411-3				
26	.022-.045	69551-6	5-330495-5	9-330495-8	8-330495-6	Brown
	.046-.055	1-69411-9				
28	.022-.045	69551-5	5-330495-9	330495-3	9-330495-0	Black

Strip Fed Manual Service Tool No. 69525-1 (40 Strips of 25 Clips per Strip)

Wire Size Solid or Stranded (7 Str)	Insulation Dia. Range	Mandrel Number	Clip Number			Mandrel and Clip Color Code
			Electro-Tin Plated	Gold Plated	Tin-Nickel Plated	
22	.036-.045	69551-4	4-330495-4	5-330495-1	6-330495-9	Orange
	.046-.065	69411-4				
24	.034-.045	69551-2	2-330495-4	4-330495-8	330495-4	Red
	.046-.065	69411				
26	.022-.045	69551-1	1-330495-5	9-330495-9	8-330495-5	Brown
	.046-.055	1-69411-1				
28	.022-.045	69551	3-330495-7	330495-1	8-330495-9	Black

Patchcord Programming Systems and Panels



The AMP Coaxial Programming System brings a high in operational parameters to the diverse and versatile line of AMP programming devices. The industry's trend toward higher frequencies and greater noise reduction in complex circuitry predicates an increased use of coaxial cable. Most sophisticated equipment has programming requirements, and therein lies the requisite for coaxial programming capabilities.

Developed for critical, low-level applications, the AMP Coaxial Programming System eliminates the need to change a series of individual or multiple coaxial connectors, and reduces complex switching to the mere changing of a removable program patchboard.

Available in various sizes, the Coaxial Programming System is comprised of a rear-frame assembly and a removable patchboard. The rear-frame assembly consists of a lightweight metal frame, housing a molded board containing individual coaxial spring contacts. One-crimp coaxial contacts are used to connect the system with the internal wiring of the electronic equipment. A camming mechanism in the frame provides AMP's patented double-wiping action. This action removes foreign material from the surfaces of the rear-frame spring contacts and patchcord tips and assures reliable electrical contact. The molded removable front patchboard accepts coaxial patchcords available in various lengths.

Coaxial Patchcord Programming Systems

Features

- Individual coaxial contacts
- Three standard sizes: 506, 1012, 2024
- AMP gold over nickel plating
- Voltage standing wave ratio (VSWR) — 1.2 maximum from DC to 100 megacycles and 1.4 maximum to 600 megacycles
- Post patching capability
- Adjacent circuit cross talk —60db from DC to 100 megacycles; 40db to 600 megacycles
- Contact double wiping action
- Redundant contacts (center contact and shield)
- .375 x .270 contact spacing
- Molded boards — diallyl phthalate

Front Board Assemblies

Materials

Patchboards are available in blue diallyl phthalate per MIL-M-14F, type S.D.G. Patchcord receptacles are made of steel per MIL-S-8143 with .00010" nickel over .000050" copper.

All aluminum parts are clear or

black anodized per MIL-A-8265, Type 1. All stainless steel parts are passivated per MIL-F-14072-E300.

TEMPERATURE RANGE: -40°F to $+176^{\circ}\text{F}$

Identification and Marking

AMP can supply assemblies with or without standard silk screened yellow and natural color checkerboard pattern and alpha-numeric legend. Check tabular data on page 3 for correct AMP part number. If non-standard checkerboard pattern and alpha-

numeric legend are desired, contact AMP Incorporated, Harrisburg, Pennsylvania or your local AMP District Sales Engineer.

Name Plates have nomenclature in accordance with MIL Std. No. 130.

Rear Bay Assemblies

Materials

Patchboards are available in blue diallyl phthalate per MIL-M-14F, type S.D.G.

All aluminum parts are clear or black anodized per MIL-A-8625, type 1. All stainless steel parts are passivated per MIL-F-14072-E300. Plastic parts are acetal resin (black).

Contact receptacles are made of

fine grain 1/2 hard beryllium copper per Federal Specifications QQ-C-533 with .000060" minimum gold over .00010" minimum nickel on contact surface per MIL-G-45204, type II, class I.

TEMPERATURE RANGE: -40°F to $+176^{\circ}\text{F}$

Electrical Characteristics

Each contact is individually shielded between center conductor and shield, the insulation resistance between center conductor and shield is 10^9 ohms minimum. Between adjacent contacts the resistance is 10^{12} ohms for diallyl phthalate boards.

V.S.W.R. — Maximum of 1.2 for frequencies up to 100 megacycles and 1.4 to 600 megacycles using RG-174/U cable.

Cross-Talk — Maximum between adjacent circuits is -60db at frequen-

cies up to 100 megacycles and 40db to 600 megacycles using RG-174/U cable.

Contact Resistance — Maximum between patchcord pin and spring contact at an ambient temperature of 68°F is 10 milliohms for gold over nickel plated spring contacts.

Current Rating — Maximum allowable continuous current is 1.5 ampere per contact spring in an ambient temperature of 68°F during non-switching conditions, that is, without make and break of pin and contact.

Identification and Marking

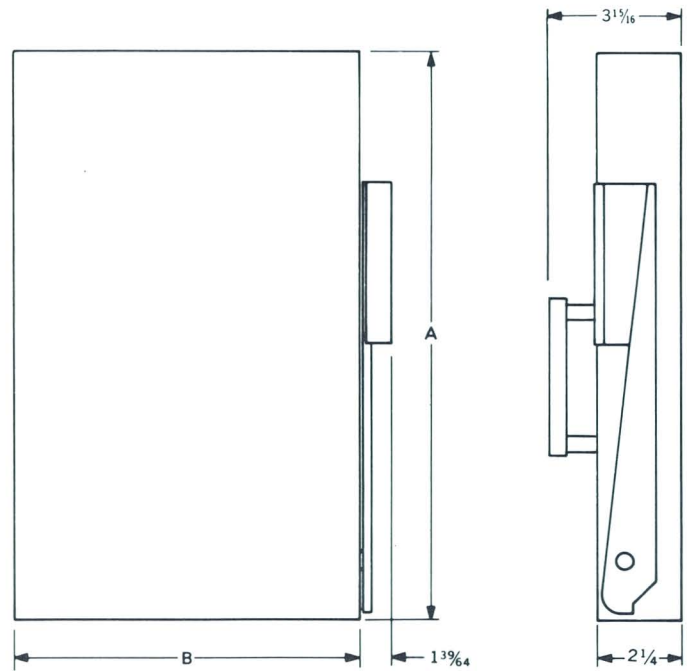
AMP can supply assemblies with or without standard silk screened yellow and natural color checkerboard pattern and alpha-numeric legend. Check tabular data page 3 for part number. If non-standard checkerboard pattern

and alpha-numeric legend are desired, contact AMP Incorporated, Harrisburg, Pennsylvania or your local AMP District Sales Engineer.

Name plates have nomenclature in accordance with MIL Std. No. 130.

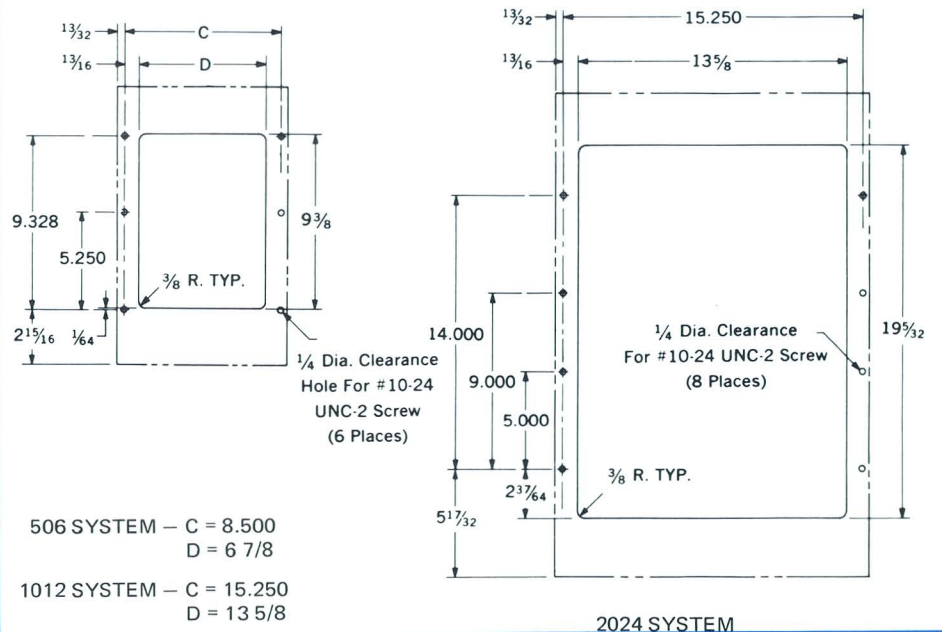
Specifications

Rear Frame Assemblies and Removable Patchboards



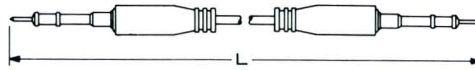
No. of Contacts and Hole Arrangement	Board Material	Rear Frame Assembly			Removable Patchboard		Dimensions		
		Catalog Numbers		Approx. Weight	Catalog Numbers		Approx. Weight	A	B
		Unscreened	Standard Screen		Unscreened	Standard Screen			
506 (22x23)	Diallyl Phthalate	422591-2	422591-4	14 lb	422592-2	422592-4	4 lb., 6 oz.	15	9 13/64
1012 (44x23)		422629-2	422629-4	20 lb.	422630-2	422630-4	6 lb., 4 oz.	15	15 61/64
2024 (44x46)		422608-2	422608-4	32 lb.	422609-2	422609-4	12 lb.	24 13/16	15 61/64

Suggested Panel Cutout



Specifications

Patchcords



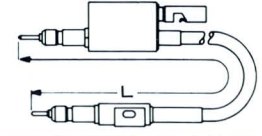
Length (L)	Insulation Color	Catalog No.
6"	Brown	422410-1
9"	Red	422410-2
12"	Orange	422410-3
15"	Yellow	422410-4
18"	Green	422410-5
19"	Black	422410-9
21"	Blue	422410-6
24"	Violet	422410-7
36"	Gray	422410-8

Shorting Plug



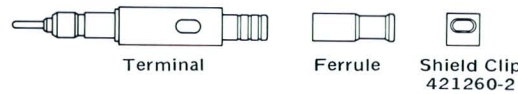
Catalog No. 422671-1 Red Insulation

Commoning Adapter (Rear Bay Only)



Wire Color	Length	Catalog No.
Brown	6"	422639-1
Red	9"	422639-2
Orange	12"	422639-3
Yellow	15"	422639-4
Green	18"	422639-5
Blue	21"	422639-6
Violet	24"	422639-7
White	27"	422639-8

Rear Board Terminals



SELECTION CHART FOR COAXIAL CABLE

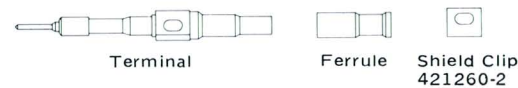
RG/U Cable Number	Inner Conductor		Jacket O.D.	Dielectric O.D. Max.	Kit* No.	Terminal No.	Ferrule No.	Hand Tool No.	Dies for Pneumatic Tool No. 69365-2 or Hand Tool No. 69710-1
	AWG	Max. Dia.							
223	-20	.0375	.216	.119	422395-4	422397-1	330478	403083	403685
58, 58A, 58B, 58C	22-20	.0375	.187-.199	.119	422395-3	422397-1	328663	402658	402951
174, 188	26-22	.025	.095-.110	.063	422392-2	422388-1	329038	402659	402952
178, 178A, 196	32-26	.018	.072-.085	.063	422390-1	422386-1	328666	402039	402953
179A, 187	32-26	.018	.095-.110	.063	422392-1	422386-1	328666	402660	402954
180, 180A, 195	32-26	.018	.137-.155	.119	422394-1	422396-1	328664	402661	402955

SELECTION CHART FOR VARIOUS MANUFACTURERS' CABLES

Inner Conductor AWG	Max. Dia.	Jacket O.D.	Dielectric O.D. Max.	Kit* No.	Terminal No.	Ferrule No.	Hand Tool No.	Dies for Pneumatic Tool No. 69365-2 or Hand Tool No. 69710-1
22-20	.0375	.095-.110	.063	422392-3	422389-1	328666	402660	402954
		.122-.133	.119	422393-2	422397-1	330587	402662	402956
		.137-.155	.119	422394-3	422397-1	328664	402661	402955
26-22	.029	.072-.085	.063	422391-1	422387-1	328666	402039	402953
		.137-.155	.119	422394-2	422398-1	328664	402661	402955
		.187-.199	.119	422395-2	422398-1	328663	402658	402951
32-26	.018	.122-.133	.119	422393-1	422396-1	330587	402662	402956
		.187-.199	.119	422395-1	422396-1	328663	402658	402951

*Kit includes terminal, ferrule and shield clip.

Front Board Terminals, Semi-Permanent



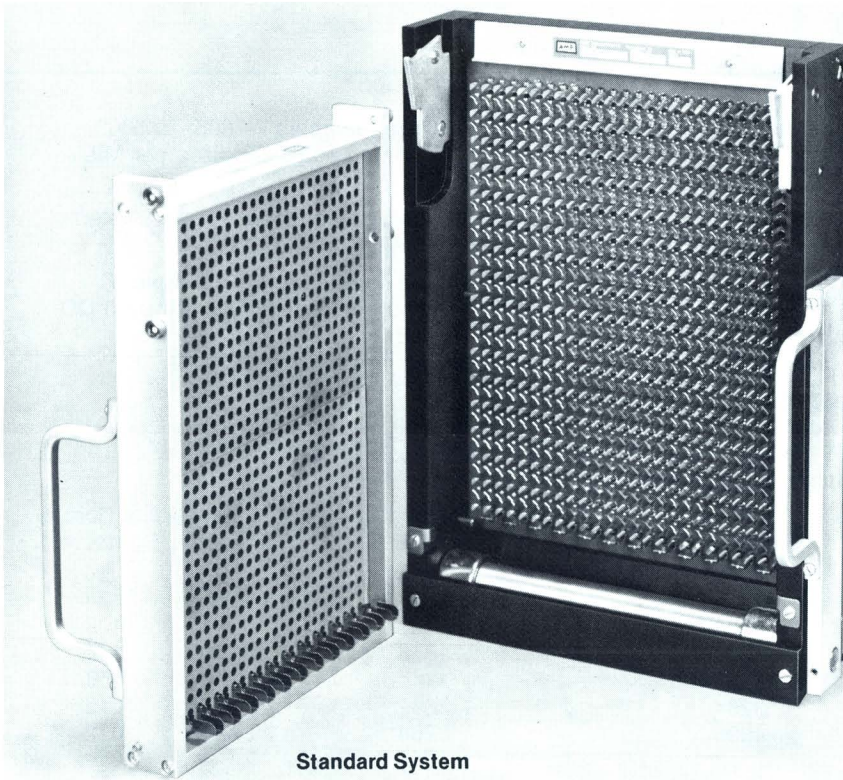
SELECTION CHART

RG/U Cable or Wire	Inner Conductor		Jacket O.D.	Dielectric O.D. Max.	Kit* No.	Terminal No.	Ferrule No.	Hand Tool No.	Dies for Pneumatic Tool No. 69365-2 or Hand Tool No. 69710-1
	AWG	Max. Dia.							
188 174, 316, #24 Shielded	26-22	.025	.095-.110	.063	424635-1	425442-1	328666	402660	402954
195	32-26	.018	.137-.155	.119	424635-2	425442-5	328664	402661	402955
58	22-20	.0375	.187-.199	.119	424635-3	425442-6	328663	402658	402951
#24 Unshielded	26-22	.025	.050	—	425867-1	425442-1	328666	402660	402954
#22 Unshielded	22-20	.0375	.050	—	425867-2	425442-4	328666	402660	402954
#24 Twisted Pair	26-22	.025	.050	—	425867-3	425442-1	328666	402660	402954
#22 Twisted Pair	22-20	.0375	.050	—	425867-4	425442-4	328666	402660	402954
#22 Shielded	22-20	.0375	.050	—	425888-1	425442-4	328666	402660	402954

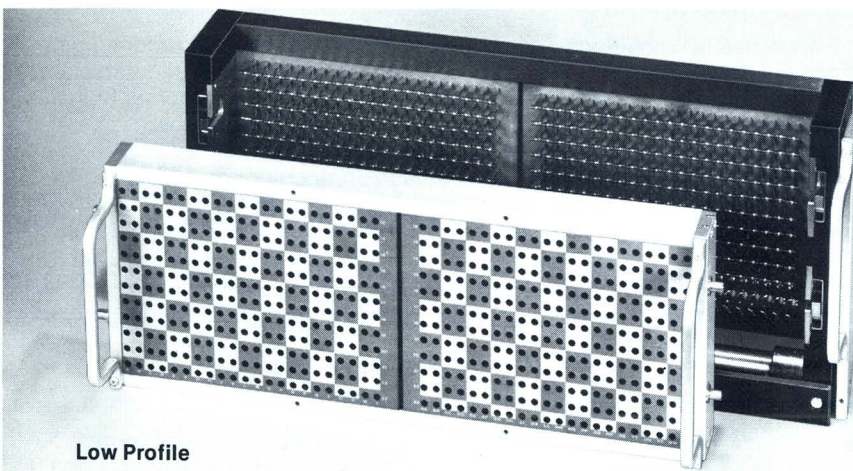
Turret Lugs, Semi-Permanent



Part No. 425890-1 Center Pin Isolated
Part No. 425890-2 Center Pin Shorted To Shield



Standard System



Low Profile

Hybrid Patchcord Programming System

Features

- Contact double wiping action — provides for over-center camming action of the patchcord pins. This action pin wipes the chevron or bar-shaped spring contact to a point of maximum travel, then with a reverse wiping action, recedes to leave the contact clean of contaminants
- Gold over nickel plating — exceeds the requirements of MIL-G-45204, Type II, Class 1
- Simplicity of design — minimum number of parts. This applies to the overall system and both the coaxial and twin detent patchcords
- Easy post-patching — simplified design elements permit rapid post-patching of front boards while equipment remains in operating position
- Versatile wiring capabilities — can be designed to accept AMP LANCELOK or taper pin terminals, TERMI-POINT clip or wrap-type point-to-point wiring or AMPMODU post and receptacle interconnection system
- Engineered and built to exceed standards called for in military specifications and to meet or exceed the most stringent commercial requirements

Dimensioning:

All dimensions in inches.

Specifications subject to change. Consult AMP Incorporated for latest design specifications.

AMP Hybrid Patchcord Programming Systems provide coaxial, signal and power circuit capability in one unit. Each unit uses AMP standard coaxial rear bay contacts and patchcords for the coaxial signal circuits and twin detent rear bay contacts and patchcords for the unshielded or standard signal and power circuits. By combining the coaxial and standard circuits in one unit a substantial cost savings can be realized.

AMP Hybrid Patchcord Programming Systems feature in-line mating action which prevents the front board contacts from damaging the rear bay contacts during installation. A wide range of contact configurations are available depending on your requirements. These include a special low profile version which is designed to occupy six inches of rack height in a standard 19" relay rack or cabinet.

Materials

Front patchboards and rear bay boards — diallyl phthalate per MIL-M-14F, type MDG

Contact springs — .000050 gold over .0001 nickel plating on chevron per MIL-G-45204, Type II, Class 1. Base material — fine grain, full hard brass per Federal Specification QQ-B-613.

Frame members — 6061 or 6063 aluminum alloy, anodized per MIL-A-8265

Stainless steel parts — passivated per MIL-F-14072-E200

Steel components — cadmium plated per Federal Specification QQ-P-416

Contact configurations available include:

Standard Hybrid Systems

System Size	No. of Std. Contacts	No. of Coaxial Contacts
612	396	54
816	528	74
1224	792	108
1632	1056	144
1768	1144	156
3264	1632	1012
4896	3264	1012

Low Profile Hybrid System

This system has 528 positions and uses two (12 rows x 22 holes) boards for the assembly. Any of the 12 rows can accommodate either coaxial or standard twin detent patchcords. This flexibility permits maximum choice in the number of coaxial circuits needed to meet your requirements.

These hybrid patchcord programming systems offer the most economical solution to testing requirements in quality control departments, manufacturing test areas and manufacturing support areas.

Electrical and Mechanical Rating

STANDARD

Contact resistance — 6.5 milliohms

Insulation resistance — 5×10^{12} ohms min. between adjacent contacts and between contacts and frame

Current rating — 5 amps continuous

Capacitance — 1.0 pf. max. between adjacent holes (front board) and 2.5 pf. max. between adjacent springs (rear frame)

Dielectric breakdown — front board 4.0 KVAC and 5.0 KVDC; rear bay 2.0 VAC min. and 3.0 KVDC min. (between springs), 3.5 KVAC and 4.5 KVDC (spring to frame)

COAXIAL

Contact resistance — 10 milliohms

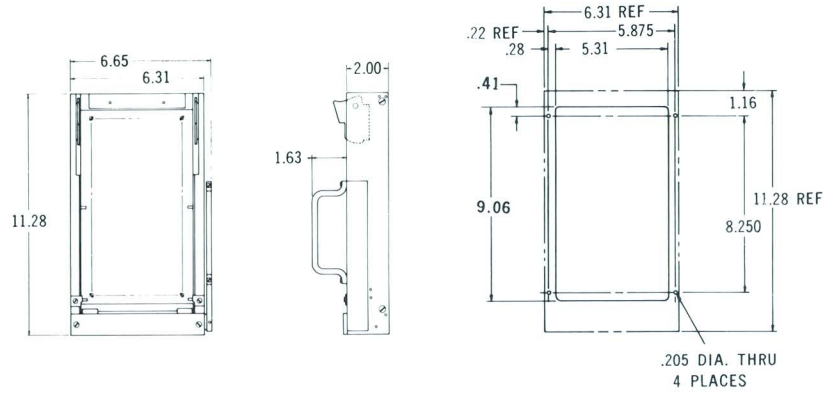
Insulation resistance — 10^9 ohms min. (between center conductor and shield); 10^{12} ohms (between adjacent contacts)

Current rating — 1.5 amps

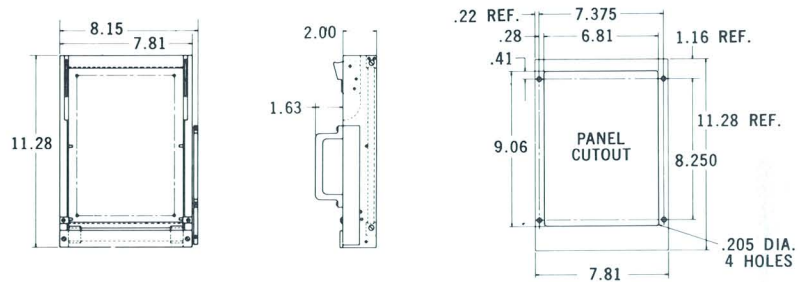
V.S.W.R. — 1.2 max. for frequencies up to 100 megacycles and 1.4 max. to 600 megacycles using RG-174/U cable

Cross-talk — 60 db. max. between adjacent circuits at frequencies up to 100 megacycles and 40 db. max. to 600 megacycles using RG-174/U cable

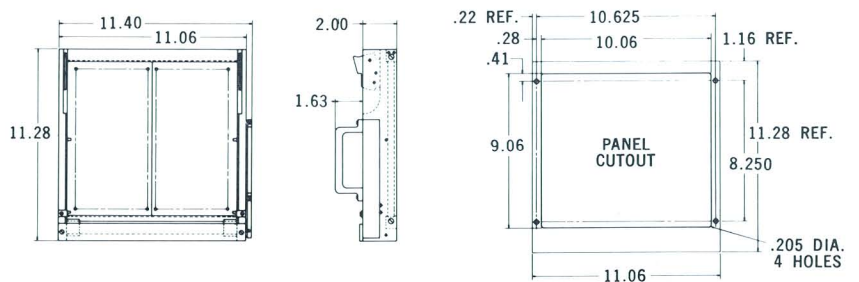
612 System
with
396 Standard
and
54 Coaxial
Contacts



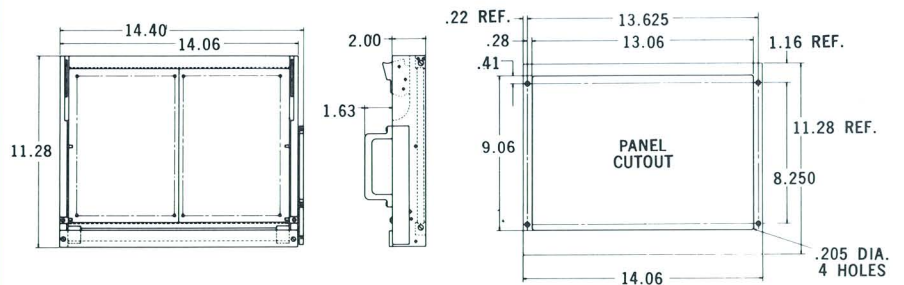
816 System
with
528 Standard
and
74 Coaxial
Contacts



1224 System
with
792 Standard
and
108 Coaxial
Contacts

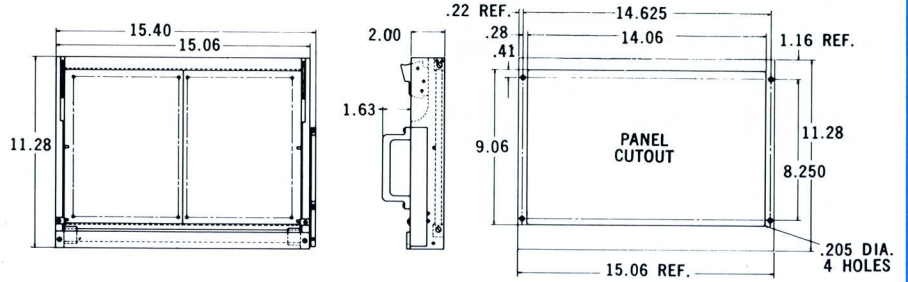


1632 System
with
1056 Standard
and
144 Coaxial
Contacts

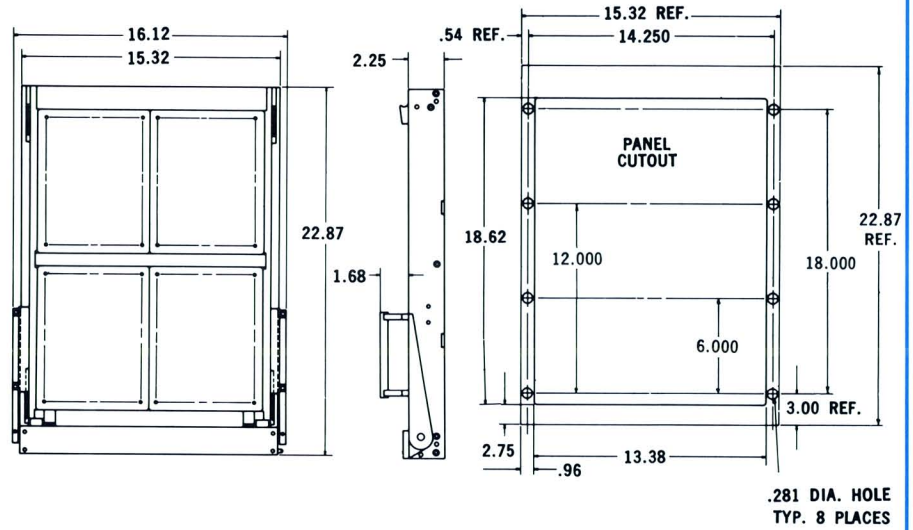


NOTE: All contact arrangements are typical, other mixes can be made available upon request. Consult AMP Incorporated.

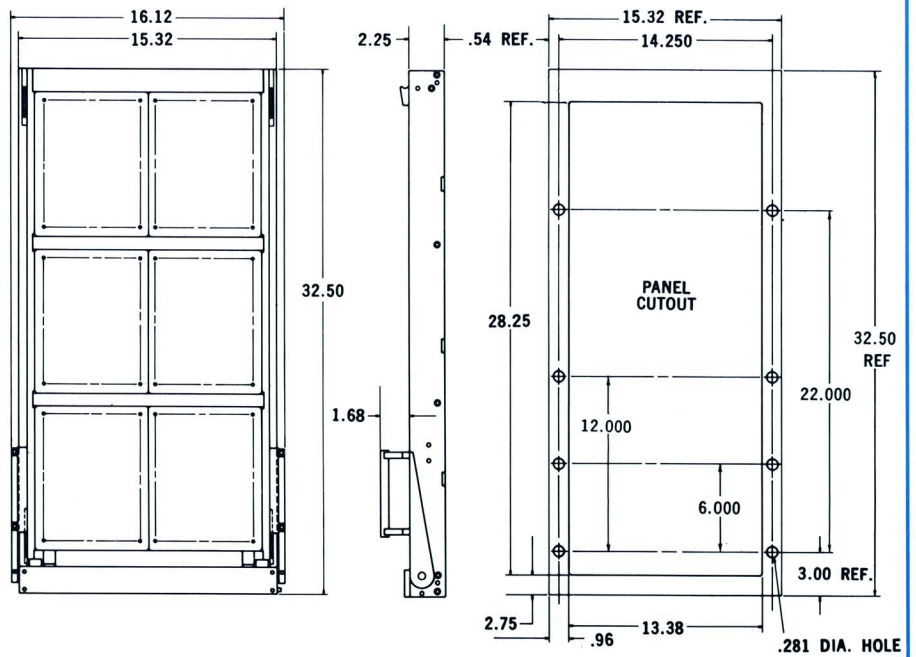
1768 System
with
1144 Standard
and
156 Coaxial
Contacts



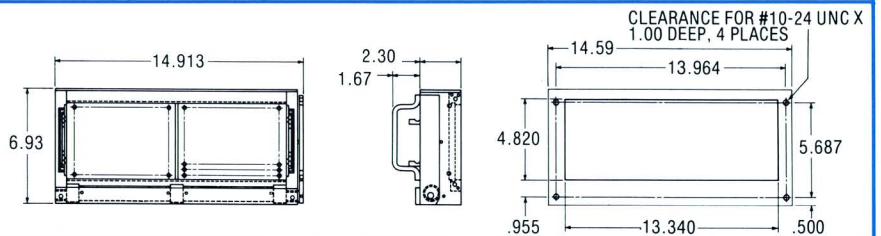
3264 System
with
1632 Standard
and
1012 Coaxial
Contacts



4896 System
with
3264 Standard
and
1012 Coaxial
Contacts

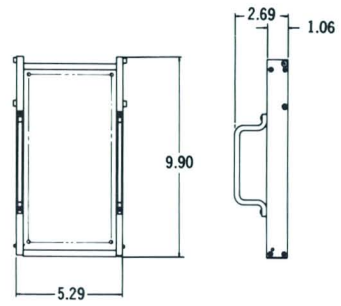


Low Profile System
with
44 Standard
and
484 Coaxial
Contacts

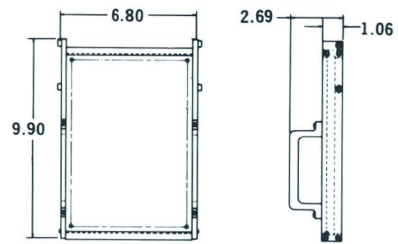


NOTE: All contact arrangements are typical, other mixes can be made available upon request. Consult AMP Incorporated.

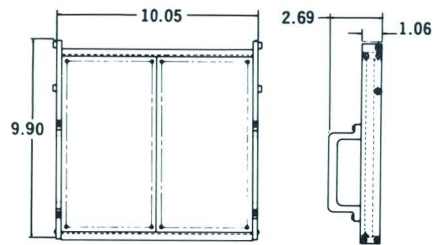
612 System



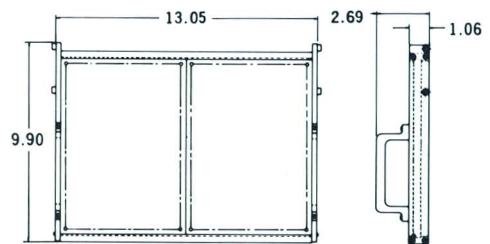
816 System



1224 System

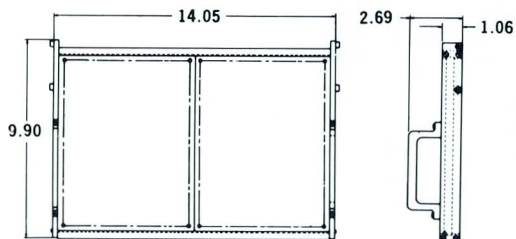


1632 System

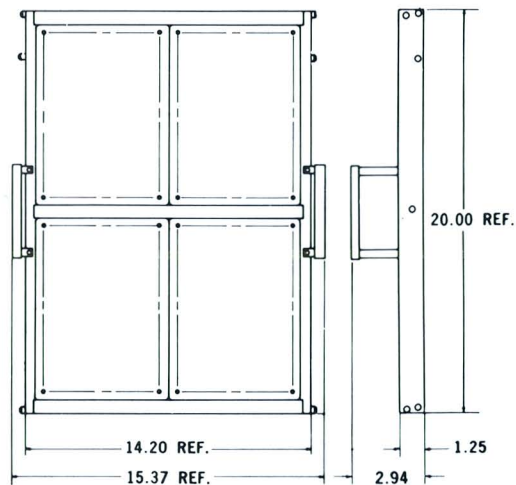


NOTE: All contact arrangements are typical, other mixes can be made available upon request. Consult AMP Incorporated.

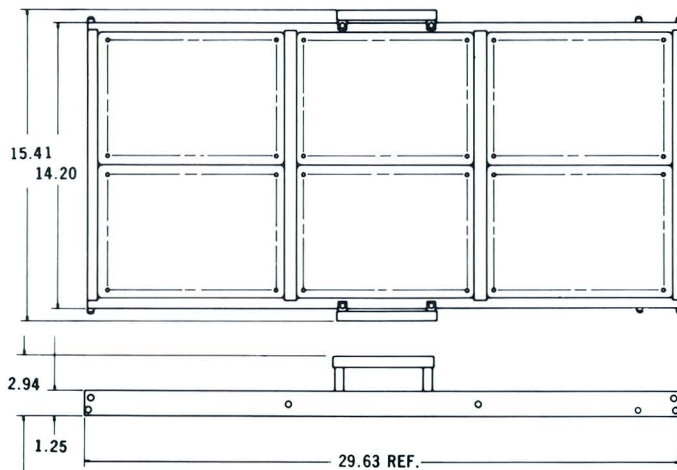
1768 System



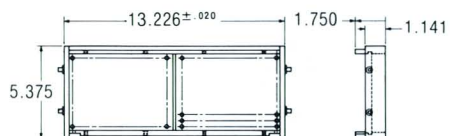
3264 System



4896 System



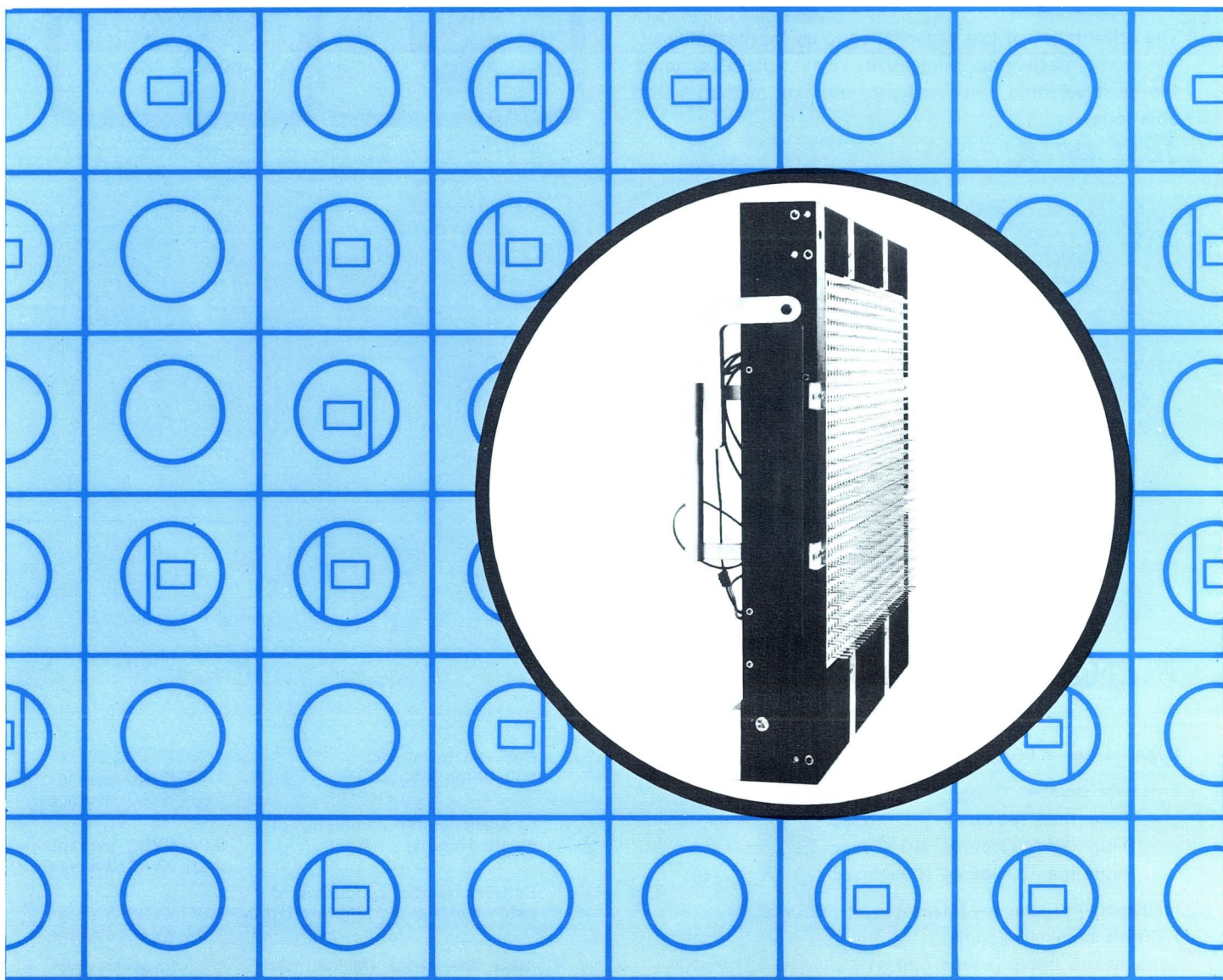
Low Profile System



For Contact and Patchcord information, see Pages 18-52 to 18-67 and 18-72.

NOTE: All contact arrangements are typical, other mixes can be made available upon request. Consult AMP Incorporated.

LOW CAPACITANCE SHIELDED PATCHCORD PROGRAMMING SYSTEMS



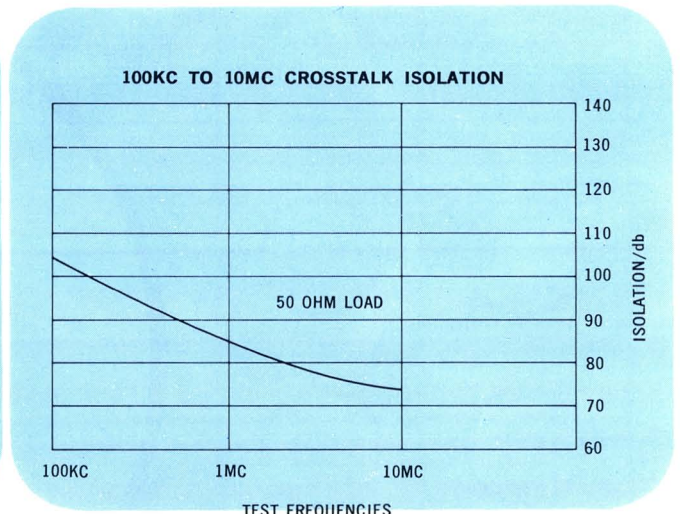
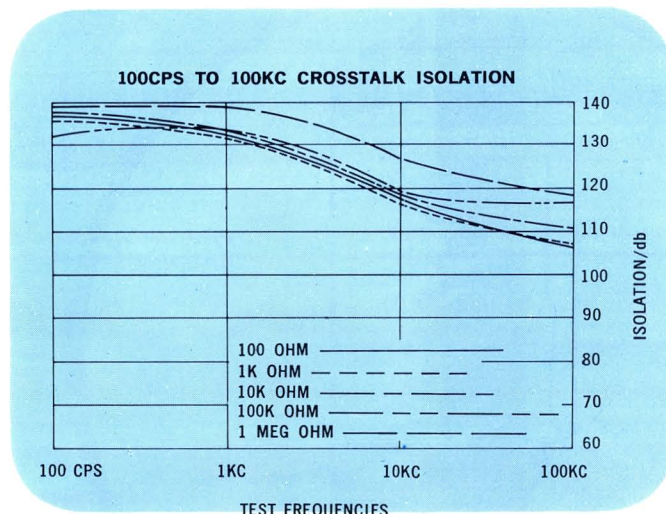
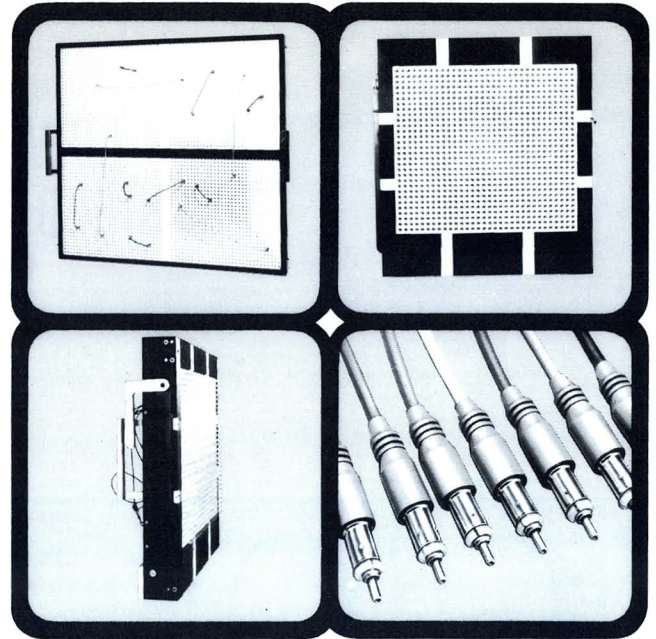
LOW CAPACITANCE + PLUGGABILITY

This new line of A-MP Shielded Patchcord Programming Systems is designed to meet the critical demands of today's analog computer manufacturers and other equipment manufacturers requiring programming capabilities with signals in the KC and low MC frequency range. The test data (shown below) illustrates how these new systems answer this critical demand for low capacitance patchcord programming.

As an added feature, the A-MP Shielded Patchcord Programming System offers true electronic packaging concept. A variety of electronic packages can be plugged directly to the rear bay assembly—eliminating extensive separate wiring from the rear bay to your package.

The advantages of low capacitance, plus the flexibility of electronic packaging pluggability make these systems the most versatile patchcord programming method available today.

TEST DATA:



PERFORMANCE:

Capacitance—0.001 pf at 1.6 KC/sec

Crosstalk Isolation (-db)—

Better than 132-db @ 1 KC/sec

Better than 117-db @ 10 KC/sec

Better than 106-db @ 100 KC/sec

Insulation Resistance—(Measured at 500 VDC.)

Between terminals (ohms) 10^{13}

Terminals to frame ground (ohms) 10^{13}

Between center conductors of patched cords (ohms) 10^{13}

Between center conductor of patched cords and frame ground (ohms) 10^{13}

Dielectric—withstanding voltage to breakdown.

Between terminals — 2.77 KVDC average
1.63 KVAC average

Between terminals and frame ground

— 1.19 KVDC average
— 1.4 KVAC average

Between center conductor of patched cords

— 3.04 KVDC average
— 2.26 KVAC average

Between center conductor of patch cords and frame ground

— 3.01 KVDC average
— 1.04 KVAC average

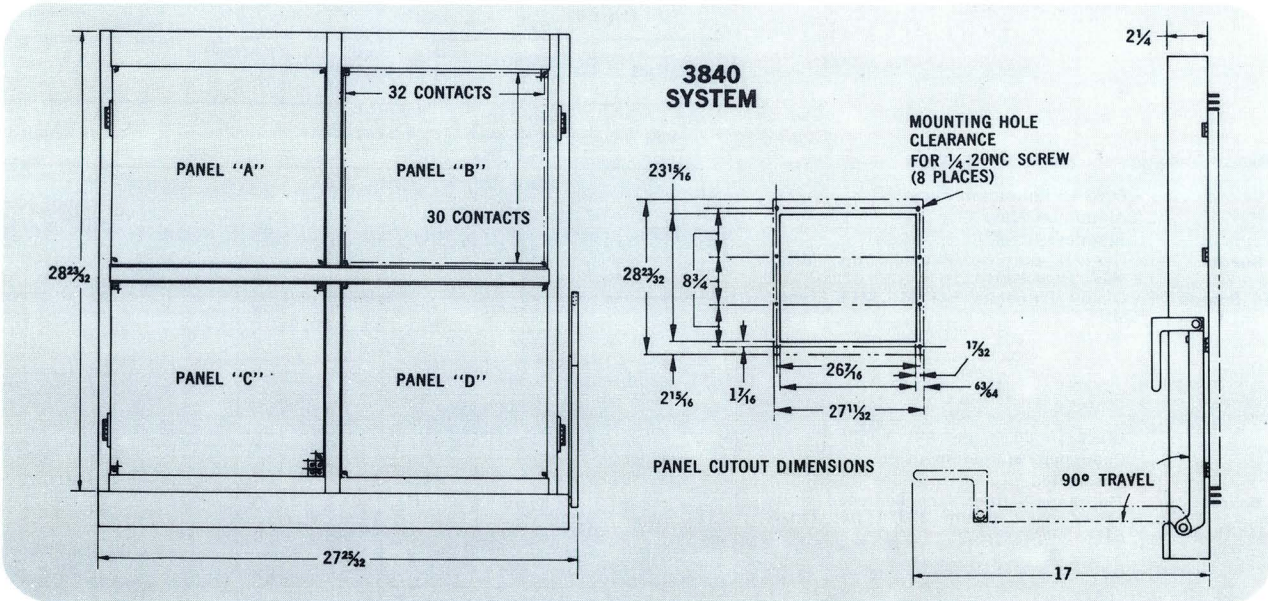
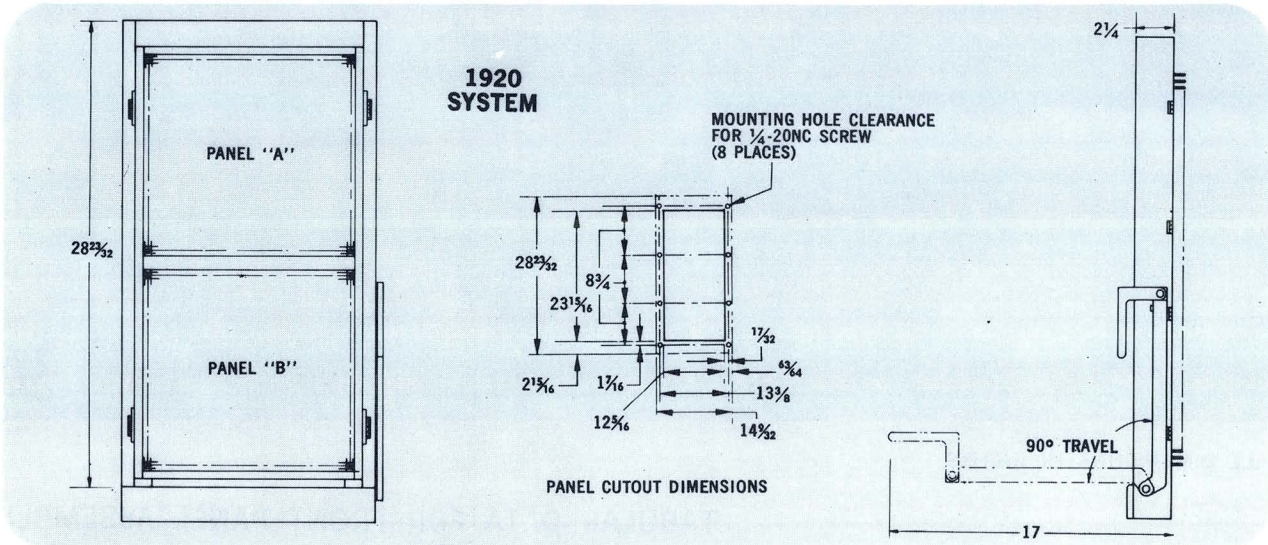
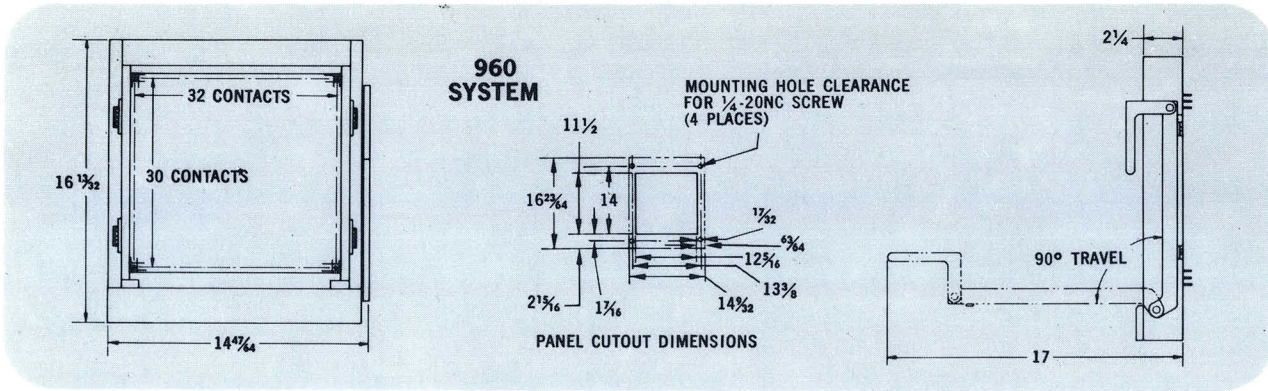
Contact Resistance (Milliohms): 1.93 average — patchtip to contact spring.

(Measured at 50 millivolts open circuit voltage and 25 milliamperes closed circuit current.)

The electrical parameters measured above were accomplished on both the front patchboard with patched cords and the rear bay assembly in an uncammed position, with the exception of contact resistance and crosstalk.

SPECIFICATIONS: REAR BOARD ASSEMBLIES

(Rear Board Assembly Tabular Data on Next Page)



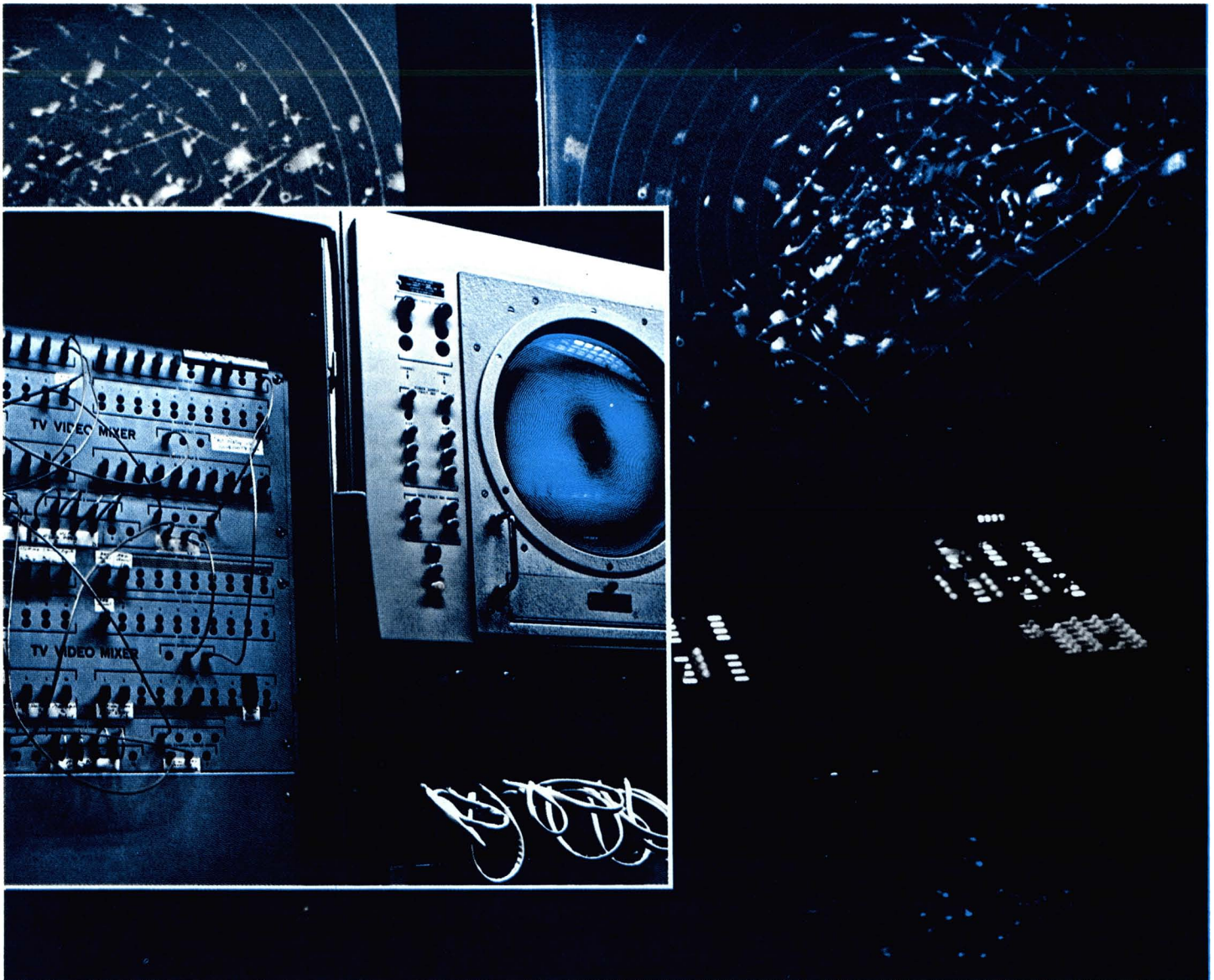
MATERIAL

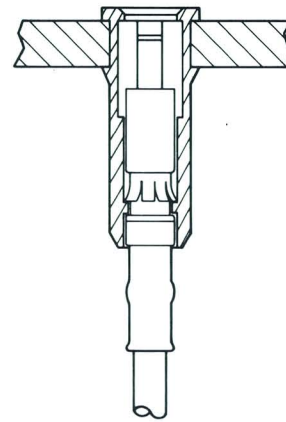
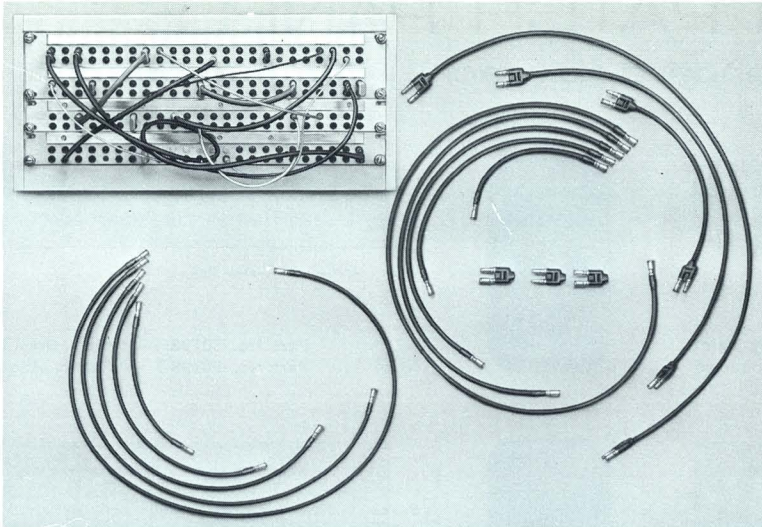
- Contact Springs Fine grain brass
- Shielded Boards General Purpose Phenolic per MIL-M14, Type MFH
- Unshielded Boards Dialyl phthalate per MIL-M14, Type MDG
- Frame Aluminum Alloy
- Lever Steel
- Hardware Stainless steel or steel

FINISH

- Contact Springs00006 gold over .0001 nickel plating
- Shielded Boards Tin plated
- Unshielded Boards Natural, blasted
- Frame Clear or black anodized
- Lever Black oxide coated
- Hardware Passivated, cadmium or chrome plated

COAXICON RF Patch Panels and Patchcords





Panel Mount with female contact inserted

A Complete Coaxial Patching System

AMP, a leader in advanced coaxial termination technology, offers a complete line of coaxial patching system products — including Patch Panels, Patchcords, Keyed Patchcords and Shunts. The A-MP System utilizes miniature COAXICON contacts which require less space, are lighter, are of high quality and provide overall cost savings. This system is designed for application in Telemetry, Instrumentation and Communication Equipment operating at frequencies up to 1,000 megacycles. The RF Patch Panel System can be used in circuits where more costly screw-machined coaxial connectors are normally required.

PATCH PANELS are available in anodized or light grey enamel finished aluminum to fit a standard 19" rack. Each panel consists of one, two, three or four rows of contacts depending on customer requirements. Tape-drilling techniques used to manufacture these panels permit a wide range of contact patterns to fit your specific requirements.

A molded nylon insert isolates the contact shell circuit from the panel and accepts either a miniature COAXICON pin or socket contact and provides additional retention of the patchcord into the panel. The back bay wiring, also terminated with a miniature COAXICON contact is inserted into the back of the nylon insert without special tooling. While a retention spring holds the contact firmly in place it can be easily removed with a simple extraction tool. The direct contact of the back bay wiring with the front panel patchcords through the patch panel eliminates the extra termination normally required in other conventional patch panels and minimizes inherent VSWR and power loss.

PATCHCORDS feature miniature COAXICON contacts crimped on each end and encapsulated in a P.V.C.

PATCH PANEL SPECIFICATIONS

Sizes: 19" long, $\frac{3}{16}$ " thick, $1\frac{3}{4}$ " or $3\frac{1}{2}$ " high (other sizes by special order)

Notching: In accordance with MIL-Std-189

Material: Aluminum — 2024-T3

Finish: Clear anodized or painted light grey No. 16440 (Fed. Std. 595) gloss baked enamel over a chromate conversion coating.
(other finishes by special order)

Identification: Panels are equipped with $\frac{9}{16}$ " x $16\frac{25}{32}$ " designation strips with a $\frac{1}{2}$ " plastic window. Engraving or silk screening can be provided to customer specification.

molding. The miniature COAXICON contacts are crimped with AMP's exclusive, simultaneous, one crimp termination of inner conductor, outer braid and cable support. The cables used for the various impedance patchcords are:

50 ohm — RG-58C/U, RG-174/U
75 ohm — RG-59B/U, RG-179B/U
95 ohm — RG-180B/U, Brand Rex T-209A

The miniature COAXICON contacts used to produce the front panel patchcords and the back bay wiring feature closed entry, plus cantilever-beam engagement springs built into the pins and sockets.

The patchcords are available in standard lengths of 6, 12, 18, 24 and 36 inches. For ease of identification they are color coded — 50 ohm-black, 75 ohm-light grey, and 95 ohm-red.

The same miniature COAXICON contacts used to terminate the patchcords and back bay wiring fit a complete line of multiple position connectors. This provides you with the same contact on each end and eliminates complicated contact inventories and excessive tooling.

KEYED PATCHCORDS are made from two coaxial cables with a miniature COAXICON pin and socket contact crimped on each end. The cables are confined in a P.V.C. jacket and encapsulated with a P.V.C. molding on each end. The keyed patchcords are connected pin to pin and socket to socket. By using keyed patchcords you are assured of connecting the correct circuits. They are available in lengths of 12, 24 and 36 inches for 50, 75 and 95 ohm cable and are color coded.

MOLDED SHUNTS with any combination of COAXICON pins or sockets are available for 50, 75 and 95 ohm circuits.

PATCHCORD SPECIFICATIONS

Contact Specifications: See Page 4

Molding Material: P.V.C.

Dimensions: 6, 12, 18, 24 and 36 inches in length (other sizes available on special order)

Color Coding: Molding Material is colored; 50 ohm-black, 75 ohm-light grey and 95 ohm-red

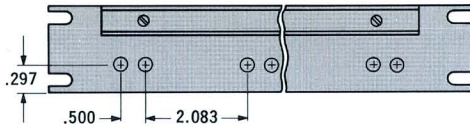
Electrical Characteristics: Intended for frequencies up to 1,000 megacycles (see Page 4)

NOTE: AMP is offering a Twin Standard Coaxial Patch Panel System for twin shielded cables. For information concerning this system, contact AMP Incorporated, Harrisburg, Pa.

COAXICON PATCH PANELS

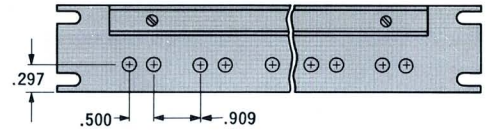
(fit standard 19" rack)

14
position



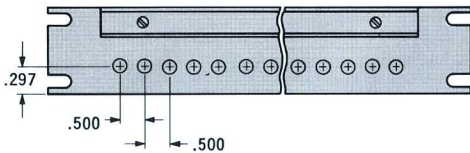
Part No. 50800 — Finish: Grey Paint
Part No. 50800-1 — Finish: Anodized

24
position



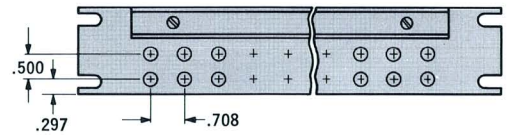
Part No. 50798 — Finish: Grey Paint
Part No. 50798-1 — Finish: Anodized

33
position



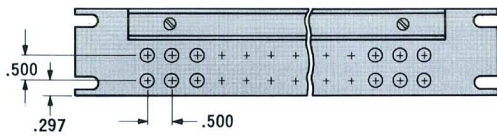
Part No. 50796 — Finish: Grey Paint
Part No. 50796-1 — Finish: Anodized

48
position



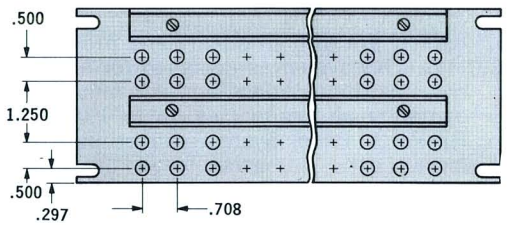
Part No. 50233 — Finish: Grey Paint
Part No. 50233-1 — Finish: Anodized

66
position



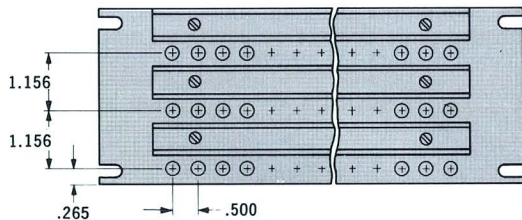
Part No. 50794 — Finish: Grey Paint
Part No. 50794-1 — Finish: Anodized

96
position



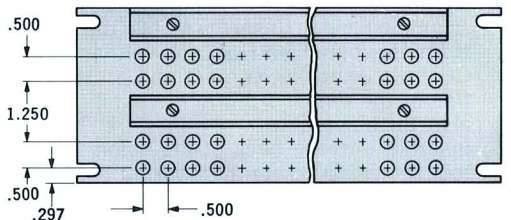
Part No. 50315 — Finish: Grey Paint
Part No. 50315-1 — Finish: Anodized

99
position



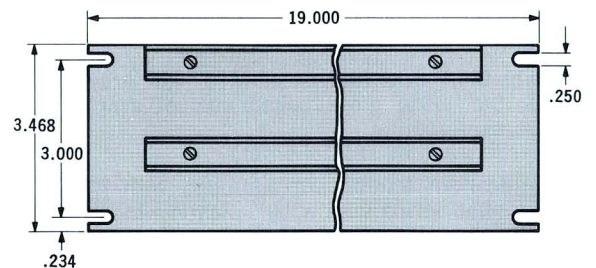
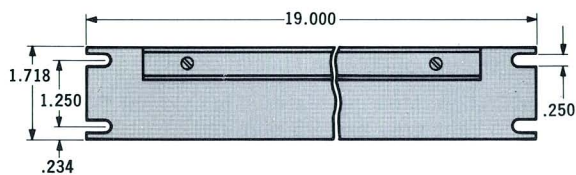
Part No. 50804 — Finish: Grey Paint
Part No. 50804-1 — Finish: Anodized

132
position



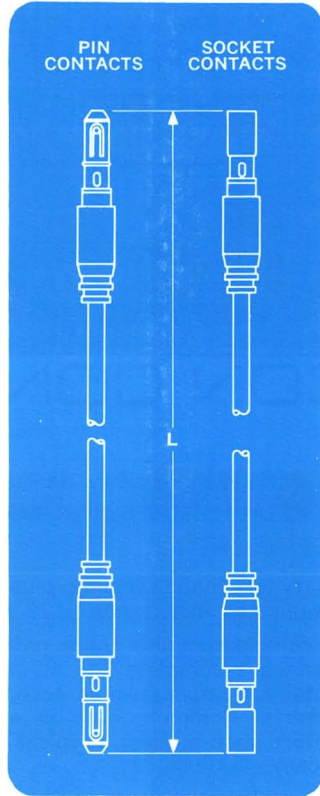
Part No. 50802 — Finish: Grey Paint
Part No. 50802-1 — Finish: Anodized

NOTCHING DIMENSIONS



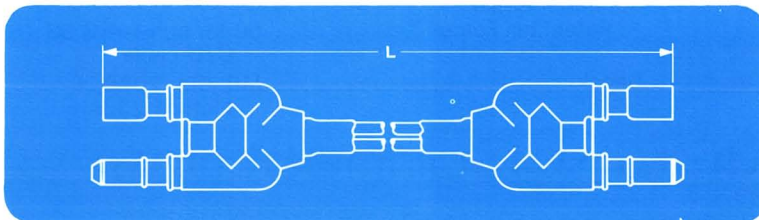
MINIATURE COAXICON PATCHCORDS

SINGLE COAXIAL CONDUCTOR PATCHCORDS



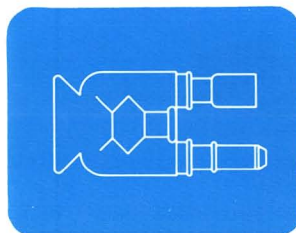
CABLE SIZE	MOLDING COLOR	CORD LENGTH "L"	CORD PART NUMBERS	
			PIN CONTACTS	SOCKET CONTACTS
RG58C/U 50Ω	BLACK	6"	50768	50769
		12"	50768-1	50769-1
		18"	50768-2	50769-2
		24"	50768-3	50769-3
		30"	50768-4	50769-4
		36"	50768-5	50769-5
RG174/U 50Ω	BLACK	6"	50671	50672
		12"	50671-1	50672-1
		18"	50671-2	50672-2
		24"	50671-3	50672-3
		36"	50671-4	50672-4
		64"	50671-5	50672-6
RG59B/U 75Ω	GREY	6"	50781	50782
		12"	50781-1	50782-1
		18"	50781-2	50782-2
		24"	50781-3	50782-3
		30"	50781-4	50782-4
		36"	50781-5	50782-5
RG179B/U 75Ω	GREY	6"	50647	50670
		12"	50647-1	50670-1
		18"	50647-2	50670-2
		24"	50647-3	50670-3
		30"	50647-4	50670-6
		36"	50647-5	50670-4
RG180B/U 95Ω	RED	6"	50701	50702
		12"	50701-1	50702-1
		18"	50701-2	50702-2
		24"	50701-3	50702-3
		30"	50701-4	50702-4
		36"	50701-5	50702-5
64"	50701-6	50702-6		

DUAL CONDUCTOR KEYED COAXIAL PATCHCORDS



CABLE SIZE	MOLDING COLOR	CORD LENGTH "L"	CORD PART NUMBERS
RG174/U 50Ω	BLACK	12"	50218
		24"	50218-1
		36"	50218-2
RAYCHEM 32-188 50Ω	BLACK	12"	50218-3
		24"	50218-4
		36"	50218-5
RG179B/U 75Ω	GREY	12"	50218-6
		24"	50218-7
		36"	50218-8
		42"	50218-9
T-209A BRAND REX 95Ω	RED	12"	1-50218-0
		24"	1-50218-1
		36"	1-50218-2
		42"	1-50218-3

COAXIAL PATCHCORD SHUNTS

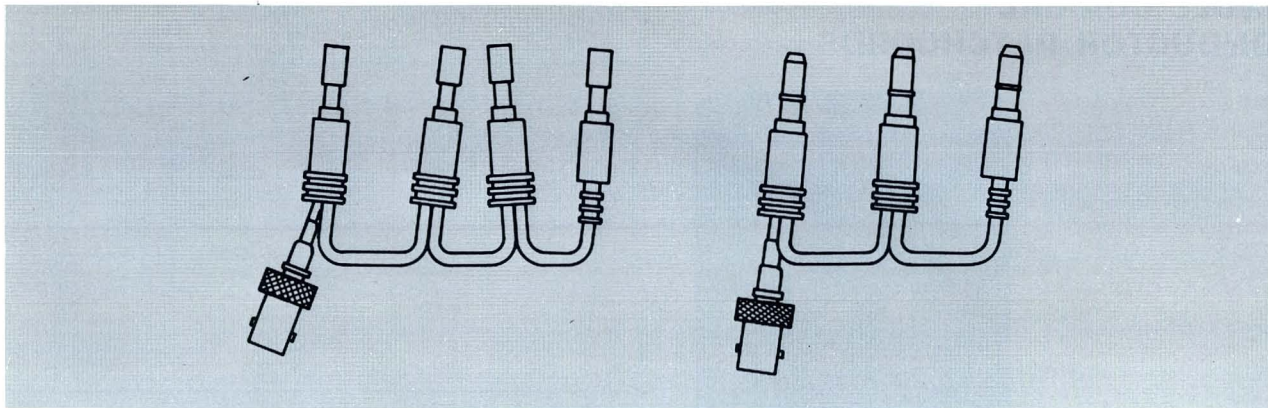


CABLE SIZE	MOLDING COLOR	CONTACT COMBINATION	PART NUMBER
RG174/U 50Ω	BLACK	Pin & Socket	50227
		Pin & Pin	50227-1
		Socket & Socket	50227-2
RG179B/U 75Ω	GREY	Pin & Socket	50227-3
		Pin & Pin	50227-4
		Socket & Socket	50227-5
RAYCHEM 28-950 95Ω	RED	Pin & Socket	50227-6
		Pin & Pin	50227-7
		Socket & Socket	50227-8

BACK BAY WIRING ACCESSORIES

Back bay wiring accessories such as Power Dividers, Parallel Networks, Load Terminations and Adapters are available. These accessories utilize Miniature COAXICON Contacts and small coaxial cables with

multiple crimps to make the various configurations; 4-1, 3-1, 2-1, etc. For information concerning these accessories, contact AMP Incorporated, Harrisburg, Pennsylvania.



MINIATURE COAXICON CONTACTS



The Miniature COAXICON Contact is a crimp snap-in type, designed for high density, multiple circuit connector applications and features the exclusive AMP one-crimp termination of inner conductor, outer braid and cable support.

These miniature contacts are completely acceptable for terminating both ends of your cable. By providing one contact for both ends of the cable you eliminate unne-

cessary termination tooling, plus cut down excessive and complicated inventories.

To complement the entire patch panel package, AMP provides a complete line of multiple COAXICON Connector Assemblies which accept miniature COAXICON contacts. Complete data is available on these connectors upon request. (Typical examples are illustrated below.)

FEATURES

- Less critical stripping dimensions
- Gold over nickel plating on pins, sockets and shells — nickel plated retention spring.
- No danger to heat damage to coaxial cable
- Low VSWR
- Reduced noise levels
- Inner contact stability

PERFORMANCE SPECIFICATIONS

Test Voltage	1000 Volts RMS, 60 cycles
Operating temperature	-55°C to +85°C
Impedance	50 ohm nominal
Center Contact Resistance	2.0 Milliohm max. at 1 amp. measured from one port hole in the socket to the port hole in the mated pin contact
Minimum Cable	
Retention Force	50 lb. min.—RG 58 C/U cable
Shock	MIL Std. 202B, Method 202A

Typical COAXICON Connectors

(with miniature contacts)

