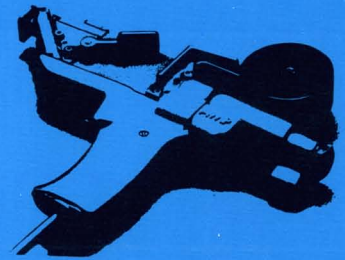




AMP terminals and tools for point-to-point wiring permit maximum servicing flexibility in high-density circuit wiring. Specially designed compression clips and rigid posts assure highly serviceable, gas-tight connections, and can be applied by hand tools or automated wiring machine.

Automatic machine, hand tools and clips . . . . . 22-3  
TERMI-POINT System II Automatic Machine,  
Hand Tools and Clips

## POINT-TO-POINT WIRING







### TERMI-POINT System II Automatic Machine, Hand Tools and Clips



#### Features

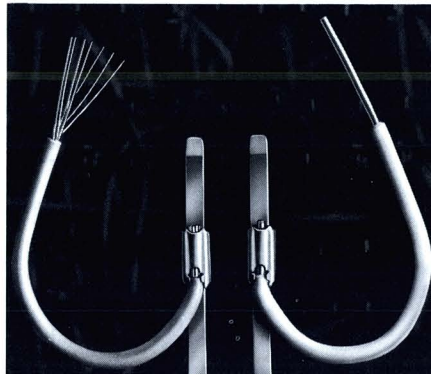
- Complete adaptability to automated production
- Use of stranded as well as solid wire
- High density wiring capabilities
- Serviceability unmatched by other point-to-point wiring methods
- Maximum reliability
- Lowest applied cost
- No wire preparation required
- Wipe clean post action during application
- Built in insulation support and strain relief
- No nicking of strands or wire plating
- Non-destructive testing
- Minimum amount of wire per connection
- Density down to .100" grid
- No stress on wire terminations

Over the past several years, AMP's point-to-point wiring technique has become widely accepted by the electrical/electronic industries. Because of its greater flexibility, density, serviceability, and above all, reliability in point-to-point wiring, this termination method has found wide application in many of today's sophisticated and complex electronic equipment, both commercial and military. Ideally suited to the use

of stranded as well as solid wire, AMP's point-to-point wiring technique offers a complete, high density termination system. This system includes a complete line of AMP TERMI-POINT wiring devices plus a full complement of matched application tooling — from manually operated and semi-automatic hand tools to a high-speed, fully automatic wiring machine.

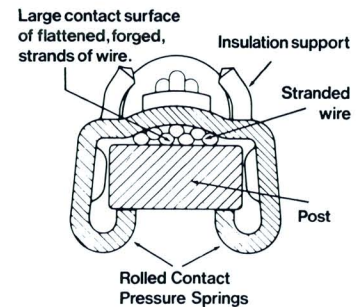
### The Technique

Physically, the TERMI-POINT clip termination consists of a wire, solid or stranded, connected to a rectangular post by means of a phosphor bronze clip and retained under sustained pressure. Mechanical energy is stored in the clip in the form of elastic stresses which are generated when the clip and wire are applied to the post. In essence, it is a compressed spring which maintains a continual force between the wire and post, even under extreme environmental conditions.



The clip and wire are applied simultaneously to the post by means of a tool which may be hand-held or mounted on a numerically-controlled machine. In actual operation of the tool, the wire is stripped of insulation, pre-formed and applied to the post under the clip. During this installation cycle, wire and post surfaces are mechanically cleaned to establish large contact surfaces.

This technique combines the best features of wire-stripping and permanent crimp termination with the maintainability and serviceability of a separable connection.



### In-Plant Wiring Capabilities

To meet your panel packaging needs, AMP offers you the complete services of its in-plant wiring facilities. Highly qualified and experienced engineers are readily available to assist you in all phases of production — from panel design, solving hardware problems to preparing wiring programs that will assure you accurately and efficiently wired panels.

Whether your interconnection requirements are for TERMI-POINT clip or wrap-type wiring, AMP's wide range of available products and in-plant wiring services will fulfill your needs and at the same time offer you substantial savings in time, effort and money.



**TERMI-POINT  
System II  
Automatic Machine**



**Machine  
Specifications**

**Superior Electric  
(NCP 4020-1003)  
SLO-SYN Numerical Control  
(TYPE 1003)  
Positioning Table  
(TYPE 4020 T5)**

Table Size  
(Length x Width) . . . . . 40" x 20"  
Table Travel  
(X Axis x Y Axis) . . . . . 36" x 18"  
Table Speed  
(Max) . . . . . 300" per minute  
Positioning Resolution . . . . . .001"  
Accuracy . . . . . ±.001" per foot  
Repeatability . . . . . Within .001"  
Power Requirement . . 105-130 VAC  
60 Hz ±5% 1 $\phi$   
Lead Screws . . Recirculating, Self-  
Aligning Ball Nut

**Automatic TERMI-POINT  
Tool Unit  
Part Number:  
265351**

Air Supply . . . . . 80-100 psi  
Wire Sizes . . . . . #24, 26 and 28 AWG  
Wiring Grid  
Patterns . . . . . .125" grid (min.)

This fully automatic wiring machine is the latest development in high speed, point-to-point back panel wiring. Using a variety of wiring patterns, this tape-controlled machine is capable of interconnecting terminal posts on a panel at rates up to 1000 wires or 2000 connections an hour. Among the many advantages offered by this versatile, high speed machine is its ability to accommodate stranded as well as solid insulated wire and to interconnect posts arranged in any combination of grid patterns during the same wiring operation.

The automatic wiring machine is physically comprised of a pneumatically powered TERMI-POINT terminating unit and a Superior Electric SLO-SYN† numerical control and positioning table. These units function as a fully automatic wiring system, interconnecting

**Features**

- All wiring operations fully automatic — wire and clip feeding; wire routing, laying and terminating.
- No precutting or stripping of wire necessary.
- Clips and wire fed from bulk supply.
- Requires no loading of wire into tool or actuation of tool to initiate terminating cycles.
- Terminates up to 1000 wires (2000 terminations) an hour.

**Computer Program**

To achieve the highest degree in accuracy and efficiency in wiring high density panels, AMP has devised a Master Computer Program which consists of a comprehensive set of integrated computer programs designed to produce the actual wiring program and the related documentation for process control. With this unique Master Computer Program, you can select a set of programs that will fulfill the various functional requirements of your panels. Such functions include checking the wire list for correct coding, cross-checking and listing

panel mounted terminal posts according to a pre-planned program. In a typical operation, wire and TERMI-POINT clips are simultaneously fed into the terminating unit from bulk reels. As panel wiring progresses from point to point, the wire is cut, stripped and affixed to each post by means of the TERMI-POINT clip. All operations — feeding, routing, laying, stripping and cutting of wire plus the actual application of both wire and clips to the posts — are performed without the need of operator assistance.

These machine features, coupled with its ability to handle a wide range of wire sizes and adapt to the more popular wiring technologies through the use of AMP's interchangeable TERMI-POINT tooling and parts, make it one of the most versatile and economical wiring systems available today.

- Accepts both stranded and solid wire.
- Largest post pick-up capability: ±.030" for .031" x .062" post size.
- TERMI-POINT tools and parts completely interchangeable.
- Most economical automatic wiring system in existence.
- Computer programming available.
- AMP terminating unit is adaptable to other popular semi-automatic machines.

any wiring errors, calculating wire length, calculating machine wiring time and free-travel time, assigning desired wire routing, optimizing the program for greatest efficiency, and generating all process control information necessary for operation of AMP's numerically-controlled, point-to-point wiring machines.

For information on the automatic wiring system to meet your particular back panel wiring needs, consult the AMP Sales Engineer nearest you or write AMP Incorporated, Harrisburg, Pa.

**TERMI-POINT  
Tool and Clip  
Specifications**



**Pneumatic Hand Tool No. 265161-2**



**Manual Service Tool No. 69535**



**Pneumatic Hand Tool No. 265575-1 and  
Pneumatic Tool No. 265580-1**



**Manual Service Tool No. 69526-2**

**.022 x .036 AMP Post Size**

**Pneumatic Hand Tool No. 265161-2 and Manual Service Tool No. 69535**

Wire Size Solid or Stranded (7 Str.)	Insulation Dia. Range	Mandrel Insert Number	Mandrel Color Code	Clip Number (2500 per reel)	
				Gold Plated	Tin-Nickel Plated
28	.018-.029	69545-1	Black		
30	.018-.029	69545-3	White	67042-2	67042-1
32	.018-.029	69545-2	Gray		

**.031 x .062 AMP Post Size**

**Pneumatic Hand Tool No. 265575-1 and  
Pneumatic Tool No. 265580-1 (For Use With Semi-automatic Wiring Machines)**

Wire Size Solid or Stranded (7 Str.)	Insulation Dia. Range	Mandrel Insert Number	Mandrel and Clip Color Code	Clip Number (2800 per reel)		
				Electro-Tin Plated	Gold Plated	Tin-Nickel Plated
22	.036-.045	265070-1	Orange	4-330495-2	4-330495-9	6-330495-8
	.046-.055	265070-2				
	.056-.065	265070-3				
24	.034-.045	265070-4	Red	2-330495-1	2-330495-2	6-330495-4
	.046-.055	265070-5				
	.056-.065	265070-6				
26	.030-.045	265070-7	Brown	1-330495-3	1-330495-8	8-330495-4
	.046-.055	265070-8				
28	.022-.033	265070-9	Black	3-330495-5	9-330495-6	8-330495-8
	.034-.045	1-265070-0				

**Manual Service Tool No. 69526-2**

Wire Size Solid or Stranded (7 Str.)	Insulation Dia. Range	Mandrel Insert Number	Mandrel and Clip Color Code	Clip Number (1000 per reel)		
				Electro-Tin Plated	Gold Plated	Tin-Nickel Plated
22	.036-.045	69551-8	Orange	6-330495-1	6-330495-2	6-330495-7
	.046-.065	1-69411-4				
24	.034-.045	69551-9	Red	5-330495-3	1-330495-9	6-330495-3
	.046-.065	1-69411-3				
26	.022-.045	69551-6	Brown	5-330495-5	9-330495-8	8-330495-6
	.046-.055	1-69411-9				
28	.022-.045	69551-5	Black	5-330495-9	330495-3	9-330495-0



**Pull Test Tool**  
Part No. 69358-6 .022 x .036 Post  
Part No. 69358-2 .031 x .062 Post



**Clip Extraction Tool**  
Part No. 69357-5 .022 x .036 Post  
Part No. 69357-3 .031 x .062 Post



**Clip Extraction Captive Tool**  
Part No. 69445



**Post Replacement Tool**  
Part No. 265831-2 .022 x .036 Post  
Part No. 265831-3 .031 x .062 Post