

This is the 7H17 Half Track Monaural Head . . . the last word in miniaturization . . . actually only this big.

And what was sacrificed to achieve this smaller size? Absolutely nothing! In fact, the 7H17 actually offers better performance than any comparable head. It is a modification of the performance-proven design of today's most popular monaural half track head... but because of 100% functional flush-face shielding it actually achieves greater fidelity and reliability, and per-

mits easier tape starting.
And it's small enough to
have application in industrial
as well as home entertainment

equipment. Finally, Michigan Magnetics' unexcelled production and quality control system assures that every 7H17 delivered will have the same full reliability that has made heads the most popular among leading original equipment manufacturers. Writetoday for com-

ers. Write today for complete specifications on the new 7H17 head!

THIS GUARANTEE TAG IS YOUR CUSTOMER'S ASSURANCE OF FIDELITY AND RELIABILITY



MICHIGAN MAGNETICS, INC.

VERMONTVILLE, MICHIGAN

CIRCLE 141 ON READER-SERVICE CARD

Index of Articles

July 5 through December 20

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DIG Digest

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ED Engineering Data

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GA German Abstract

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PF Product Feature

RT Russian Translation

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Stepping Motors...

V BI-DIRECTIONAL

V HIGH RELIABILITY

V POSITIVE LOCK

Compact and lightweight Curtiss-Wright bi-directional digital motors index precisely and lock positively between each angular rotation when converting electrical pulses to mechanical motion in missile, aircraft, automation and actuation applications. Ruggedly constructed and dynamically balanced for long life and reliable service under severe environmental conditions, shock and vibration. Low power required for high speed operation.





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Precision motors -.001 to 7.5 hp

Designed for a wide range of military and non-military uses, Eicor precision quality motors are built to meet and exceed rigid aerospace requirements. This means building and testing prototypes

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Our engineers work closely with you to develop a motor for your exact needs. Fast delivery on both special and production motors. Phone or write Eicor, Oglesby, Illinois. Dept. M-12



This attitude chamber is used for environmental testing of airborne equipment. It simulates altitudes up to 80,000 ft with temperature control to —67° F.

INDIANA GENERAL C O R P O R A T I O N EICOR DIVISION / Oglesby, Illinois

HIGH-RELIABILITY ROTATING EQUIPMENT
CIRCLE 151 ON READER-SERVICE CARD

INDEX OF ARTICLES

COMPUTERS, DATA PROCESSING, AUXILIARY DEVICES

AXIAL FANS up to 4 times greater cooling efficiency!

Characteristic	PAMOTOR Model 1000	Conventiona Fan
Type of Motor	induction (capacitor- type squirrel cage)	shaded-pole
Housing	die cast warp-free Zymec	plastic
Output @ 60 cps (0 back pressure) (.25" back pressure) (.3" back pressure)	125 cfm 75 cfm 50 cfm	100 cfm 20 cfm 0
Output @ 50 cps (0 back pressure) (.25" back pressure)	100 cfm 62.5 cfm	75 cfm 5 cfm
Operating Temp. Range	-55°C to +85°C	- 18°C to +44°C

The PAMOTOR Model 1000 Miniature Fan is completely interchangeable with conventional units now in use (41/2" center-to-center mounting holes). But the similarity ends there.

check this omparison chart!

The Model 1000 Fan meets MIL-T-5422E, Class 2 Environmental specifications. Inside-outside rotating motor design gives flywheel effect, resulting in constant, quiet fan speed. Large surface sleeve bearings mean minimum maintenance, maximum reliability.

For complete specifications and name of nearest stocking distributor, write to: 312.5

PAMOTOR, Inc. 312 Seventh Street - San Francisca 3, Calif.

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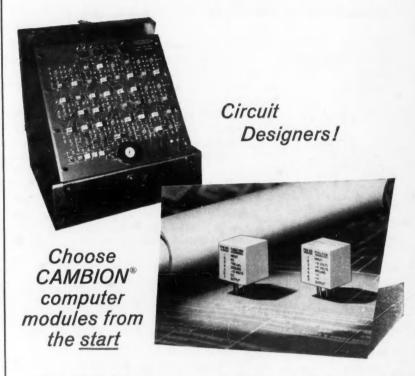
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Storage scope has preview target
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IFD p150 Nov 8





... FOR EASIEST PROTOTYPE DESIGN

CAMBION modules are built to make a designer's life easier by eliminating guess work. That's why they all have these physical characteristics that save you time and money in early design and prototype work — and in production!

- Standard 7-pin miniature bases—use them for plug-in or printed circuits,
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- New Circuit Trial Case specifically for CAMBION modules, lets you set up and check out any circuit ideas — change loads and connections with ease.

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CAMBION modules have a unique combination of dynamic characteristics, too. All units are compatible, and operate at up to 10 MC. They are built with MIL approved components, and surpass MIL environmental standards. Every CAMBION module is tested and monitored for 500 hours under dynamic conditions. That's your assurance of reliable performance — in any circuit Contact CAMBION for full details or for application assistance. Write Cambridge Thermionic Corporation, 457 Concord Avenue, Cambridge 38, Mass.

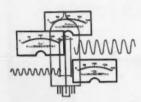


CIRCLE 154 ON READER-SERVICE CARD

FULL-SCALE RANGES AS LOW AS $2\mu A$ OR MV; SPECIFIED LINEARITY OF $\pm 0.5\%$ OR BETTER

The new Series II Stylist panel meter is probably the most precisely linear production-model microammeter or millivolt-meter you can get. It can divide 2μ a or mv into as many as 100 clearly legible slices with virtually no tracking error at all. With proper adjustment of full-scale current, it can give you infinitely accurate indication.

Its ultra-linearity is the result of individual scale calibration, made



economically feasible by a newly-developed electronic calibrator. This calibrator, operating through a system of servo controls, automatically prints individually adjusted scales according to the actual measured tracking characteristics of each meter movement. Theoretically, each meter's full-scale linearity is infinite, with

no tracking error at any point. (We do, however, retain a maximum ±0.5% manufacturing tolerance).

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For full details on the API Series II Stylist, including ranges and prices, write for Bulletin 28.

api assembly products inc. . Chesterland 17, OHIO



NEW!

THE SERIES II STYLIST TAUT-BAND PANEL METER

CIRCLE 143 ON READER-SERVICE CARD

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Bi-level series regulation reduces power supply





New, improved Rotolite Expeediter conveniently makes sepia reproducibles and diazo films in addition to low cost whiteprints.

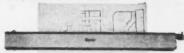
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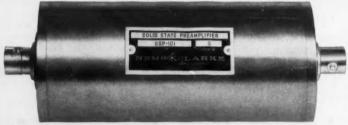




JUST WHAT THE DOCTOR ORDERED | INDEX OF ARTICLES



THE NEMS-CLARKE SOLID STATE TELEMETRY PREAMPLIFIER



Here's your baby for outstanding performance and economy in the 225-260 megacycle telemetry range - the Nems Clarke SSP-101 completely solid state preamplifier. Featuring extremely low noise, flat response, and a hefty 25db minimum gain, it's at home in any environment . . . installed either in the antenna mount or the coax cable. Its own external 12 volt power supply is available for rack mounting. Baby sitting? Forget it! The SSP-101 operates for thousands of trouble free hours at unattended locations.

Write for Data Sheet 999

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Two outgassed solders. Left, standard solder. (Note degree of oxides present.) Right, ALPHA Vaculoy solder is bright. clean, oxide free!

ALPHA Vaculoy® bar solder cuts printed circuit joint rejects from 1-in-50 to 1-in-5,000. No other solder does this because no other is made this way!

Above is an unretouched photograph of two solder specimensboth outgassed. Left, is a standard printed circuit solder. Note presence of impurities on surface—a sure sign of undesirable oxides. Right, is ALPHA Vaculoy.* Its bright, clear surface indicates freedom from oxide-forming elements. Result? ALPHA Vaculoy bar solder cuts dross, improves wetting, produces brighter connections, increases bath life, reduces inherent inclusions and insures reliable electrical connections. Meets Fed. Specs. QQS-571C. Get all the facts. Write for data today! *Formerly called "ALPHA AAA"

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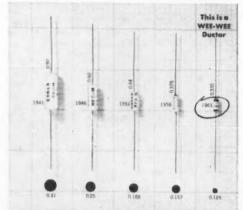
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TUBES, ELECTRON

Pentode design, new, gives 40 per cent more plate

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try the new WEE-WEE DUCTOR for size

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For complete engineering data, write to Dept. WW-A, or phone 464-9300.

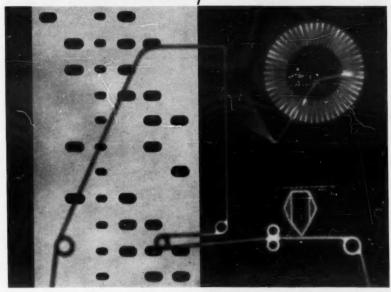
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CIRCLE 149 ON READER-SERVICE CARD

omn =/...a new generation data

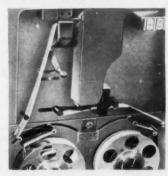
in paper-tape equipment



- High-speed electrostatic paper-tape recorder replaces mechanical punches
- Reflected-light reader accommodates all tapes punched or recorded, opaque or transparent

OMNI-DATA, a new line of equipment based on non-mechanical, non-impact reading and recording techniques. brings a new order of reliability, speed, and operating life to the application of coded paper tape.

OMNI-DATA combines two exclusive Omnitronics advances: Visible recorded code presentation, rather than punched holes in the tape, and choppedreflected-light reading, both resulting in new levels of performance and the elimination of the bothersome chads of punched tape.



Visible recorded data issues from OMNI-DATA recorder at speeds up to 600 characters a second at 10 characters to the inch. Even higher recording and reading speeds, as well as greater packing density, are possible.



Omnitronics Photoelectric Tape Reader, a part of the OMNI-DATA system, reads any kind of tape (OMNI-DATA or punched,

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opaque or transparent) interchangeably without adjustment



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