STANDEE TYPE RESISTOR

The Vitrohm UBT standee-type carbon composition resistor has been developed for printed circuits and conforms to DEF-5115-1, and MIL-R11-E specifications. The resistance range available is from 22 Ω to 22 MΩ, power rating 0.3 W at 70 °C derated to no load at 130 °C. Tolerance ± 10 %, ± 5 %, and a 250 V maximum rated continuous voltage. Body dimensions 8.5 × 5 × 3.5 mm. The sole U.K. distributors of this Danish product are Dubilier Condenser Co., Ducon Works, Victoria Road, North Acton, London.

WW 323 for further details

Ceramic i.f. Filters

These filters by Brush-Clevite are now available for use in military and commercial equipment. Designed for the i.f. stages of superheterodyne radio receivers, they possess advantages over the i.f. stages in common use. Fixed-tuned, they require no alignment, and possess a centre frequency stability of within + 0.2 % for 5 years, and within 0.2 % from −40 °C to + 85 °C (their operating temperature range). Five standard models are available, TL10D9-20A, TL16D9-32A, TL20D9-38A, TL30D9-57A, and TL40D9-72A; the minimum bandwidths at 27° C at 6 dB are 10 kc/s, 16 kc/s, 20 kc/s, 30 kc/s, 40 kc/s respectively, while the maximum bandwidths at 27° C/60 dB are 20 kc/s, 32 kc/s, 38 kc/s, 57 kc/s and 72 kc/s respectively. These five models are available with centre frequencies of 455 kc/s and 500 kc/s. Input and output impedances at 27 °C are 2 kilohms for a 10 kc/s bandwidth and 1 kilohm for a bandwidth of 16 kc/s and above. Stop band rejection is 50 dB and the tolerance on the centre frequency at 27° C is ± 3 kc/s, although filters can be supplied with a tolerance of ± 2 kc/s at 27 °C.

Brush-Clevite Co., Ltd., Hythe, Southampton.

WW 324 for further details

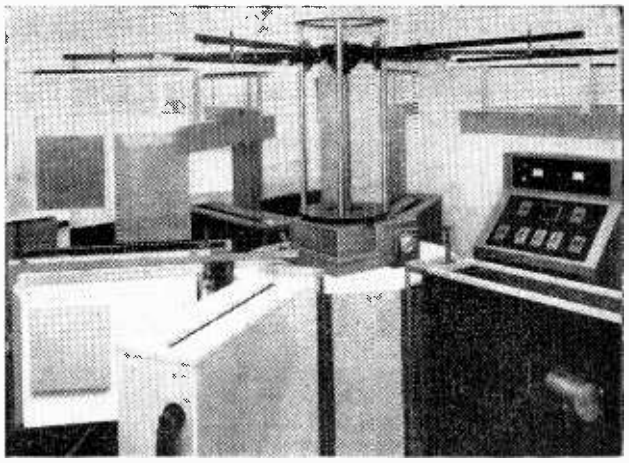
Printed Circuit Production

On the stand run jointly by Kodak and MPC of Milan was shown the first commercially available fully automatic production unit for printed circuits. Three separate units are used: the MPC UNI 63 for cleaning the copper laminate; the MPC Photomat E for printing; the MPC UNI 100 for etching and rinsing the final printed circuit. Other versions are available but only the three types mentioned will be discussed. In addition, the units have other uses besides those briefly mentioned. For example, the MPC UNI 63 can be used for cleaning and deoxidizing copper-clad material before photoprinting, but it can also be used for deoxidizing of printed circuits after the application of solder resist with subsequent fluxing. Material for the printed circuits is placed on a flat conveyor and subjected to a spray of cleaning or deoxidizing liquid which is automatically maintained at the desired temperature. The material is then burnished and cleaned.

After this stage, the material, for example, copper laminate board, is passed to the printing unit. The MPC Photomat E has six radial arms which rotate through 360° and go through a six-stage process. After the completion of each stage, the arms rise, rotate, stop and then descend for the next process. The first stage entails manual loading and subsequent unloading (at the end of the cycle) of the boards which are prepunched to enable them to be clipped on the arm. During the succeeding five automatic stages, the boards are (2) coated with a photosensitive resist (3) dried (4) printed on one side (double sided printing is possible with a larger model) (5) first stage developed (6) second stage developed.

Etching and rinsing of the boards can be done by the MPC UNI 100. The boards are placed on a horizontal conveyor, then pass into an etching section, where an etchant is sprayed on to them. Two rinsing sections are provided.

WW 325 for further details



Colour Tubes

A 19-in Mazda rectangular shadow-mask tube has been introduced and pilot production of this and the 25 in size has started at the Thorn-AEI factory at Brimsdown, North London. These 90° deflection tubes have a neck diameter of 36.5 mm and a heater rating of 6.3 V. The three electrostatic focusing anodes, connected in parallel, run at about 5 kV and the final anode operates at 25 kV.

The grey tinted glass screens are aluminized and have integral metal suspension lugs. Rare earth red phosphor is used resulting in a higher overall brilliance without desaturation of reds and giving the unlit screen a less yellow appearance.

WW 326 for further details