

The Trio CO-1303G 75mm CRO: ideal for the amateur "shack"

Designed with an obvious eye to the radio amateur market, the Trio CO-1303G 75mm Oscilloscope is primarily intended for use in checking transmitters. It is a versatile instrument in this field and it should appeal to all who have an interest in monitoring and checking radio transmissions, be they amateur, CB or commercial.

A cathode ray oscilloscope, or CRO for short, is one of the most useful instruments available in the electronics field. With such a device, one is able to actually view many of the waveforms which occur in a wide range of electronic equipment. By so doing, it is often possible to check whether or not a device is functioning normally and to identify possible problems and solutions.

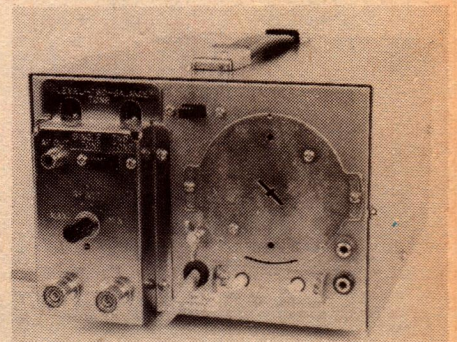
When a CRO is designed with some specific purpose in view, redundant facilities can be eliminated, thus reducing the price tag. At the same time a specialised instrument may have added features so as better to serve the function for which it was designed.

In the context of transmitters, a CRO may be used to view and check the modulation envelope of an AM transmission. By so doing, the percentage of modulation may be ascertained, along with other factors such as whether the modulation is linear or not, whether there is clipping of the positive-going peaks, whether the negative-going cycles are being cut off, etc. Such checks may be made under conditions where a constant tone is fed into the transmitter, or under more

typical conditions where speech is being processed.

Single sideband operation of a transmitter may also be checked. By means of the two-tone technique, the output may be checked for correct linearity, overdrive, bias adjustment, etc. Where CW operation is used, the keying characteristics of the transmitter may be assessed.

As mentioned at the outset, the Trio CO-1303G is a specialised instrument in that it is intended primarily for checking and adjusting radio transmitters. This has resulted in a somewhat simpler unit than some of the more sophisticated general-purpose instruments with dual-trace facilities, wideband calibrated amplifiers and calibrated timebase. On the other hand, the CO-1303G provides direct access to the vertical deflection plates via terminals on the back panel so that transmitter modulation envelopes may be displayed. The sensitivity under these conditions is quoted as being higher than 1W/division with a 50-ohm load. Associated with this facility is an RF attenuator to control the level of RF being fed to the vertical deflection plates.



This rear view of the instrument shows the attachment at the left which provides access for RF to the deflector plates and also houses the two-tone oscillator. To the right are focus and intensity controls, and Z-axis (intensity modulation) facilities, together with a means of rotating the tube slightly for exact vertical and horizontal traces.

Another feature is a built-in single tone and two-tone audio oscillator. A single tone of 1000Hz is available for testing AM systems, while the two-tone facility includes 1575Hz for testing SSB signals. The inclusion of the audio tones into this instrument makes it virtually self-contained for tests of the sort so far outlined.

It should be pointed out that although transmitter testing is an important function of the CO-1303G, there are many other uses to which it may be put. These include testing of audio amplifiers for frequency response, distortion, square wave performance, etc. Tests involving the use of Lissajous figures may also be made. Also, it is possible to use the CRO for making RTTY tests and adjustments.

In fact, it would not be unreasonable to say that this instrument may be used for most purposes where a general-purpose CRO is used, provided that a dual trace and accurately calibrated amplifiers and time base are not essential.

The unit is supplied with a comprehensive Instruction Manual running to 36 pages. A general description is given of the instrument, together with operating instructions. Maintenance and alignment of the instrument is also covered, along with a complete circuit diagram. The current price is quoted at \$343.85, including tax.

Further information on the CO-1303G may be obtained by contacting Parameters Pty Ltd, 68 Alexander Street, Crows Nest, NSW 2065. (I.L.P.)

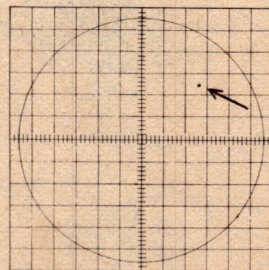
PARAMETERS/ELECTRONICS AUSTRALIA GRAND INSTRUMENT CONTEST NO. 3

First prize of a TRIO 1303D
oscilloscope was won by:

Mr M. Henry,
Campbell,
ACT,

and second prize of a B&K Digital
Multimeter was won by:

Mr N. Crawford,
Dulwich Hill,
NSW.



Where was the dot? . . .
This diagram shows the
exact location.

Our congratulations to Mr Henry and Mr Crawford, and our thanks to the several hundred other readers who participated.