

NTSC VECTOR DEMODULATOR DM1/503

Introduction

The DM1/503 accepts a chrominance signal, a subcarrier reference signal and a switching signal^{1,2} and provides colour-difference signals which are suitable for display on an oscilloscope.

The chrominance signal is demodulated by two synchronous detectors working in quadrature. The reference feed of subcarrier passes through a goniometer before being applied to the demodulator circuits; this permits the displayed signals to be rotated through 370 degrees.

The unit is constructed on a CH1/12A plug-in chassis with index peg positions 5 and 41. *Quadrature, Phase* and *X Gain* controls are mounted on the front panel of the unit. Power supplies at +6 volts and -6 volts are required³.

General Specification

Chrominance Input Level	1.4 V p-p (nominal)
Subcarrier Input Level	1 V p-p ± 3 dB
Subcarrier Frequency	3.579545 MHz
Square Wave Input Level (switching signal)	1 V p-p (minimum)
X and Y Video Outputs	4 V p-p
Output Bandwidth (including UN9/546)	Response -6 dB at 700 kHz ± 200 kHz

Residual Subcarrier Output	less than 5 mV
Switching Axis	X (R-Y)
Time-advance Sense	anti-clockwise
Current Consumption	170 mA
Weight	1.5 lb.

Circuit Description

A circuit diagram is given in Fig. 1. Except for a few component values the circuit is the same as that of the DM1/502.

Note that in the DM1/502 unit the switching signal has two functions: (a) to invert the signal applied to the R-Y demodulator on alternate lines (b) to provide a test circle facility. In the DM1/503, however, the switching signal is required only for the test circle. Therefore, it is applied to the unit only when the selection switch on the associated UN9/546 Vector Switch Unit is set to *A+O*.

References to Typical Associated Equipment

1. Vector Detector Unit UN20L/508A.
2. NTSC Vector Switch Unit UN9/546.
3. Sync Separator UN1/540.

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