

The VMARS Equipment Directory – Part 6.

In this part, we feature a selection of items of test gear, presented by Chris Cooper.

Signal Generator (Joint-Services Designation CT 212)

Army Designation: Oscillator Test No 1; ZD 00783
Frequency Range: 85 kHz to 32 MHz in 7 bands
Modes: CW, AM, and FM (above 2 MHz)
Output: RF 100mV e.m.f.
Output Impedance: 75 ohm
Attenuator: 100dB in 2dB steps (two rotary switches)
AM Modulation: 30% at 1 kHz
FM Deviation: up to 30 kHz
Power Requirements: Vac 100-125 or 200-250, 50VA at 50 Hz or 12 Vdc, 42 W

Additional Output: 12 Vac at 1 kHz, impedance 2.5 k

Connectors: Vac; Plessey Mk 4, 3 way small
 Vdc; Plessey Mk 4, 2 way small
 RF; Burndept coaxial

Valves: RF Oscillator CV 138 (EF 91 or U.S. 6AM6)
 Amplifier CV 138 (EF 91 or U.S. 6AM6)
 Modulator CV 138 (EF 91 or U.S. 6AM6)
 AF oscillator CV 136 (EL91 or U.S. 6AM5)
 Stabiliser CV 287 (150B3)
 Rectifier CV 493 (6X4)

Diodes: 2 x CV 103
 2 x Westinghouse WX6

Vibrator: 12 Volt non-synchronous

Other Features: The unit is provided for hermetic sealing and fitted with a dessicator.
 A moving coil meter is provided for setting carrier and Modulation Levels



Physical Data: Height 8.5 inches, Width 12 inches, Depth 10.5 inches (incl cover), Weight 28lb

Handbook: EMER Tels Z341, Z342 (later T&M F142), Z344 (later T&M F144)

Notes: Introduced during the 1950s. Remained in service to support Larkspur equipment through the 1970s. The equipment has the advantage of being small, light. Additionally, operation from 12 Vdc allows use in the field.

Noise Generator (Joint-Services Designation CT 82)

Navy Designation: Noise Generator AP 67166

Frequency Coverage: 15 kHz to 100 MHz
Output Impedance: 43, 75 or 400 ohms (selectable)
Noise Factor Scale: 43 ohms; 0 to 9dB, +10dB
 75 ohms; 0 to 11dB, +10dB
 400 ohms; 0 to 4dB, +10dB

Audio Power Meter Scale: 0 to 16 dB

Audio Input Impedance: Nominal 12, 47 or 95 ohms (selectable)
Power Requirements: Vac 115, 180, 200, 210, 220, 230, 240, 250
 50VA at 50 to 500 Hz

Connectors: Vac; Plessey Mk 4, 3 way small
 RF; Burndept coaxial

Valves: Audio input; 0.25 inch Jack
 Noise diodes 2 x CV 2398
 Rectifier CV 493 (6X4)

Other Features: Noise is generated by controlling the filament current of 2 wire-ended saturated diodes. These are wired in parallel to provide a short term capability of +10dB to the normal noise output thereby enabling the noise figure of receivers and amplifiers in the lower frequency ranges to be determined. Two meters are fitted. One for measuring diode current (noise power). The second is provided as an audio power meter. Front panel sockets are provided for monitoring internal power supplies.

Physical Data: Height 9.25 inches, Width 11 inches, Depth 8.25 inches
 Weight 21 lbs

Handbook: BR 1771 (12)

Notes: A useful instrument but great care must be taken to limit the length of time the diodes are run at high current. Replacement diodes are very expensive.
 Manufactured by McMichael Radio



VHF Signal Generator (Joint Services Designation CT 394A)

Commercial Designation: TF 801D/1
Frequency Range: 10 to 470MHz in 5 bands
Modes: CW and AM (provision for external pulse modulation)
Output: -134dBm to +10dBm
Output Impedance: 50 ohms
Attenuator: Piston 130dB marked in 1dB intervals
Internal Modulation: Sine wave 1kHz monitored up to 90%
External Modulation: Sine; 30Hz to 20kHz (5 volts over 1M for 90%)
 Pulse; 50Hz to 50kHz (+50 volts over 1M)
Calibrator: 5 MHz
Power Requirements: Vac 180-250, 40-100Hz, 100Va
 (can be internally set to Vac 100-150)



Connectors: Vac Plessey Mk 4, 3 way small
 RF output; N type
 Pulse mod i/p; N type
 Sine mod input; Screw terminals
 Cal monitor; 0.25 inch Jack

Valves: RF oscillator CV 273; (TD03-10 or U.S. 5861)
 Amplifier CV 2466; (QQV02-6 or U.S. 6939)
 Modulator CV 491; (ECC82 or U.S. 12AU7)
 Pulse mod clamp CV 469; (EA76 or U.S. 6489)
 ALC CV 491; (ECC82 or U.S. 12AU7)
 CV 850; (EF95 or U.S. 6AK5)
 Meter amp CV 455; (ECC81 or U.S. 12AT7)
 Calibrator CV 2522 (6AS6)
 Rectifier CV 717 (5R4GY)
 Regulator CV 1075; (KT66 or U.S. 6L6G)
 Control valve CV 850; (EF95 or U.S. 6AK5)
 Reference CV 449; (5651)
 (mod and alc each one triode in CV 491)

Transistor OC71

Diodes: C2D
 CS2A
 2 x OA202
 2 x CG1E

Other Features: Separate meters for carrier and modulation
 Incremental frequency control

Physical Data: Height 14.5 inches, Width 23.5 inches, Depth 10.5 inches
 Weight 67lb

Handbook: Marconi Instruments OM 801D

Notes: High quality instrument introduced late 1950s. The commercial version has different meters and power connector. Some replacement valves (CV 273, CV 2466, CV 1075) expensive.
 Instruments sought by audio buffs for the KT 66 and paper power supply capacitors.
 Designed and manufactured by Marconi Instruments.