

VLF Modulator Equipment

Part No. DG-478-7-100



FRONT VIEW



REAR VIEW

Key Features

- Modulation Modes: FSK, MSK1, MSK2 or MSK4
- Baud Rate: 50/100/200 baud
- Keystream Input Channels: 4 Synchronous
- Keystream Data Control: 4 Status lines, Strobe
- Data formatting: NATO STANAG 5030 and 4724 RED REM Compliant
- Frequency Range: 10KHz – 160KHz in 10Hz Steps
- 1MHz: PTFE (Station Standard)
- Clock Output: Key Stream Source Synchronization
- Internal Clock: Stability 3×10^{-9} Per Day
- Emergency Key Input: Synchronous or Asynchronous
- Local or Remote Control: Serial Connection
- RF Output level adjustment
- RF Output Curbing: Selectable from a number of curves
- Dual Modulator Configuration: 2 independent Modulators in a 19" Sub-Rack
- Dual Redundant Current Sharing Power Supplies
- Audible Alarm with Mute Facility and volume control
- Alarm relay contact outputs for external system
- Extensive Built in Test Facilities including a variety of test messages



Technical Specifications

RF Output

Power Output	1Vpp – 10Vpp, Adjustable via front or remote control (Maximum 250mW into a 50Ω load)
Phase Jitter	Less than ± 0.5° in a 50Hz bandwidth
Amplitude	Symmetrical about the centre frequency within ± 0.5dB
In Band Noise	Better than -42dB relative to un-modulated carrier in a 240Hz bandwidth centred on carrier
Out of Band Noise	Better than -72dB relative to un-modulated carrier in 100Hz bandwidth outside the range fc ±500Hz
Hum	The individual, discrete hum sidebands is at least 48dB below the un-modulated carrier
Harmonics	Better than -55dB down relative to the carrier at any carrier frequency setting

Data Management Unit Interface

Channels	4 Data and 4 Status lines V.24 synchronous
Data Rate	50/100/200 baud
Strobe Input	50 Hz
Fault Output	Relay changeover contact (volt free)

Electromagnetic Compatibility

Radiated	CE, EN 60945, MIL-STD-188-140A, ITU-R SM.329-12
Conducted	CE, EN 60945, MIL-STD-461
Susceptibility	CE, EN 60945

Power

Rack Mount	Voltage: 93-253 VAC; Frequency: 47-63 Hz; Power Factor: >0.6
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Physical Properties

Size (HxWxD)	2U x 482mm x 413 mm
Weight	Rack Mount: 12 kg
Cooling	Natural convection
Climatic	Operating Temperature: 0°C to +55°C Storage Temperature: -20°C to +70°C Relative Humidity: 95% (non-condensing)

Upgradable Options

Expansion Capability	Demodulator (OTAM), Keystream Interface and Aerial Tuning Unit
External Remote Control	LAN
Strobe Input	75 Hz
Time of Day input	V.11/RS422 (1 PPS/TOD TD1 Format), NTP

