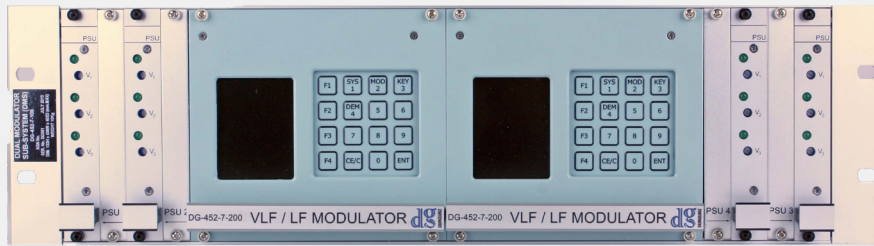
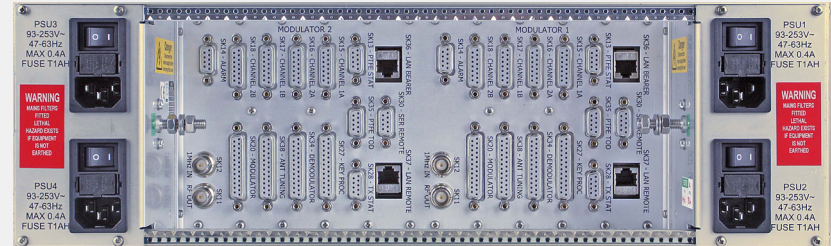


VLF Modulator Equipment

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 3x10-9 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 $\pm 0.5^\circ$ in a 50Hz bandwidth |
| Amplitude | Symmetrical about the centre frequency within ± 0.5 dB |
| 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 $f_c \pm 500$ Hz |
| 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 |
|------------|---|

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 |

