

# PSL 630 transmitter

Supplementary information  
Time critical messaging



## The PSL 630 transmitter is suitable for both on-site and wide area radio paging applications.

The PSL 630 transmitter has a compact design and simple maintenance with minimal adjustments. The unit may be powered from an AC or DC supply and output power is continuously adjustable over 10 to 30 watts for continuous duty operation. An automatic Radio Frequency (RF) power reduction system operates in the event of over-temperature conditions.

Front panel LED indicators provide local monitoring, together with an RF sample output for maintenance purposes. Available as a plug-in option, comprehensive alarm and control interfacing facilities permit remote control and supervisory monitoring of the transmitter (and site) status conditions with both digital and analogue reporting.

The exciter uses synthesised frequency control, where frequencies stored in Programmable Read-Only Memory (PROM) are digitally derived from a single 5 MHz reference crystal.

### RF isolator panel type PSL 615/1

The optional PSL 615/1 RF isolator panel is employed to reduce the level of intermodulation distortion produced by the transmitter and offers additional protection of typically 35dB.

Intended for use on communal aerial sites where transmitters are operating in the same frequency band, the isolator panel is compact and may be mounted at the rear of the transmitter equipment cabinet. The isolator provides reverse power measurement, which is used to detect faults in the aerial system.

### Key features

- Fully synthesised exciter
- Front panel RF 'sample' output
- Front panel monitor indicators
- Compact size
- Suitable for 512 and 1200 baud POCSAG
- 8-channel operation, 1MHz bandwidth
- Digitally controlled deviation 4.54 kHz or 5.00 kHz fixed
- Antenna output, short circuit and open circuit protection
- AC powered 110V or 240V or DC powered 28V at 5 amps (nominal)
- Continuous RF output power, adjustable range 10 to 30 watts
- Over-temperature operation with automatic RF output power reduction
- Optional alarm and control interface

## PSL 630 technical specification

### RF isolator panel type PSL 615/1 technical specification

- Insertion loss: 0.8dB maximum
- Size: 132mm (h) x 483mm (w) x 80mm (d)
- Input and output connectors: N type

### Temperature and humidity

- Operational range: -10°C to +55°C ambient
- Humidity: 10% to 90% non-condensing

### Power

- 110V AC or 230V AC  $\pm 10\%$
- 47-63 Hz or 28V DC nominal
- 21-32V DC
- Nominal current: 5 amps
- An AC supply failure will cause automatic switching to an external DC supply

### Channels

- 25kHz spacing
- 8 channels - EPROM programmable
- Selected on three binary inputs

### Frequency stability

- Over temperature range: -10°C to +55°C
- $\pm 1$ ppm

### Performance

- Frequency range: 138-174MHz
- Bandsread: 1MHz

### RF output

- 30 watts continuous, over to full temperature range with 28V DC supply
- Power adjustment 10 to 30 watts (continuous)

### Antenna output

- 50 ohms nominal output impedance
- VSWR less than 2:1
- N type female connector
- RF sample output on front panel BNC

### Deviation

- Fixed 4545.5 Hz or 5000 Hz

### Modulation

- Digital NRZ FSK DC to 1200 baud
- Suitable for 512 and 1200 baud POCSAG
- Rise time factory set to 25 $\mu$ s

### Spurious emission

- 100kHz to 1000MHz
- Less than 0.25 microwatts - Tx operating
- Less than 2 nanowatts - Tx standby

### Adjacent channel power

- 70dB below the transmitter carrier power (25 kHz channel separation)

### Intermodulation attenuation

- 40dB any intermodulation component with the transmitter connected to the aerial system by means of the PSL 615/1 isolator

### Outputs

- Unregulated DC supply: nominal 28V DC PA volts
- 12V DC regulated
- 5V DC regulated

### Additional outputs

- Remote monitoring facilities (option 02)

### Logic outputs

- All outputs are TTL compatible
- Outputs may be inverted by jumper selection
- Forward power below threshold
- Reverse power above threshold
- Phase lock alarm

### Analogue outputs

- Forward power
- Reverse power
- Temperature (heat sink)

### Front panel

- On/off: control of AC mains
- Switch: power input
- LED: forward power below threshold
- Indicators: reverse power above threshold, Tx keyed, phase lock alarm, AC power, regulated supplies +12V, +5V, PA volts
- Connector RF sample output BNC

### Rear panel

- AC mains input: IEC connector
- DC input: locking 3-pin X series
- Antenna output: N type
- Control and supervisory: 25-way D-type socket

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