

Main Features



- VHF band (140 ÷ 250 MHz)
- 16 switchable frequencies
- High output power (300 mW)
- Top receiving quality from MicroEar receivers, thanks to the special audio treatment of the modulation.
- Provided with PTT (Push to Talk) and optional VOX (Voice-controlled operation)

General Description

The CST 38 transmitter has been especially designed to allow best usage of MicroEar's family "in-ear receivers", and many modulation parameters such as deviation, level/frequency curve, compression factor has been optimized. Therefore CST 38 assures maximum performances of MicroEar both as sound quality and as audio level (in any case limited because of the very small size of receiver).

Higher power transmitter are available to further increase the coverage area (cell); it is also possible to link in parallel several transmitters (in iso-frequency mode) to create a multiple cells coverage.

MicroEar internal battery has about 30 hours working autonomy; in any case the original battery once activated (taking out metal label) has a limited life even in power off.

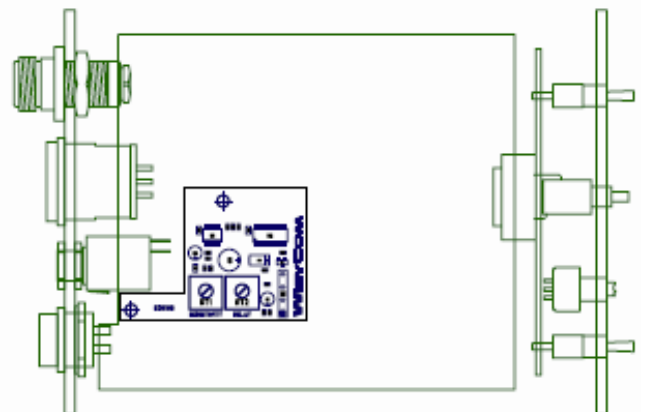
When empty battery, MicroEar will drastically reduce audio level and receiver sensitivity.

VOX 38 - Voice Activated Circuit board (optional)

This device is useful to switch on automatically the carrier of the transmitter only when the modulating signal is present on the TX's input. The circuit is mounted on a printed-circuit board, that has to be factory-mounted in the transmitter. Once the modulation audio signal reaches the pre-set threshold, the transmitter is activated.

When the modulating audio signal is not more present, the carrier is switched off again, after a pre-set delay time. Consequently the relevant *MicroEar* receiver is muted by its built-in squelch circuit, preventing the listening of unwanted noise.

Two pre-setting values can be adjusted by means of relevant screwdriver-trimmers situated on the printed-circuit board: RT1 for audio "sensitivity" and RT2 for "delay" time.



VOX 38 board, mounted on the CST 38 main board

TECHNICAL SPECIFICATIONS

Frequency ranges	140 ÷ 250 MHz range (other upon request)
Switchable channels	16 channels in the 10MHz of band. They are easily PC reprogrammable by the optional "UPK100 Programming kit"
Switching-window	10 MHz in the 140 ÷ 250 MHz range (other upon request)
Frequencies	microprocessor controlled PLL synthesizer circuit, with 25 kHz step (standard), 5KHz (on request)
Frequency error	< ±5 ppm, in the rated temperature range
RF Power	switchable 10mW /300 mW (± 1 dB) according to local regulations
Max RF output power	300 mW
Antenna connector	N-F connector
RF impedance	50 Ω
Modulation	FM
Peak deviation	±5 kHz
Spurious emissions	< 2 nW
Telemetry feature	remote PTT (Push To Talk) circuit, wired to ¼" (6.3 mm) mono jack connector. The transmission is allowed when the central pin (hot) is connected to external ring (ground).
Noise Reduction system	compressor circuit with noise-gate, specially adapted to the MicroEar receivers
AF bandwidth	200 Hz ÷ 5 kHz (-3 dB)
Distortion	< 0.5 % (0.25% typ.)
SND/D ratio (Analogue)	> 80 dB (83 dB typ.), CCITT measured
Audio input connector	XLR3-F type connector The audio input line is transformer balanced and floating. • pin 1 = ground; • pin 2 = AF-a input; • pin 3 = AF-b input
Audio input level	Micro / Line switchable, and externally adjustable between: - Micro = -64 ÷ -34 dBu (0.5 ÷ 15 mV) Input impedance: 2 kΩ - Line = -22 ÷ +8 dBu (60 ÷ 1,950 mV) Input impedance: 10 kΩ
Max input level	+8 dBu peak limiter automatic, with dynamic-range > 30 dB over the level set for the nominal modulation.
LED	Transmitter On (red LED) Limiter On (yellow LED)
Power supply	10.5 ÷ 16 Vdc, 300 mA max. (negative ground)
Temperature range	-10 ÷ +55 °C
Dimensions	40 x 120 x 175 mm
Weight	Approx. 700 g.

POWER PROFILE & COUNTRY FREQUENCY RANGE:

- EU** max power 300mW (Europe)
- US** max power 50mW (USA)
- P01** max power 100mW (Europe)

OPTIONS:

- **VOX** (Voice Activated Circuit board)