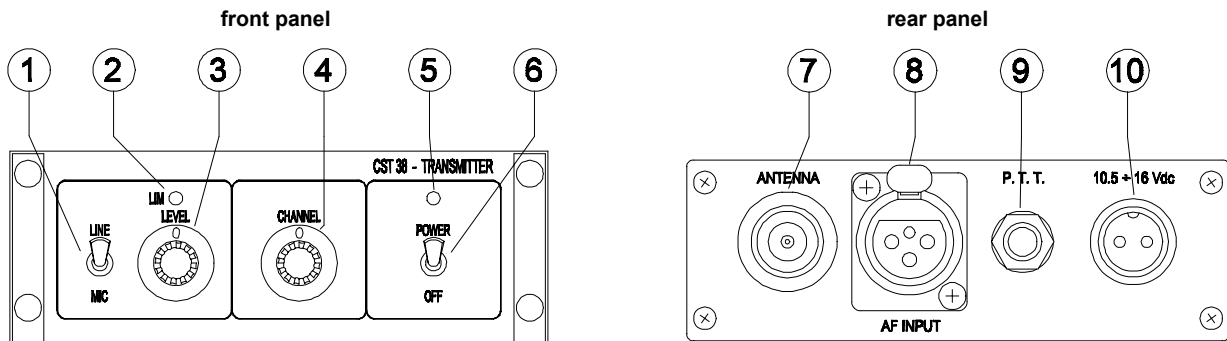


WIRELESS IN-EAR-MONITORING
CST 38 - VHF TRANSMITTER for *MicroEar* receivers
for both “desktop” & “in 19”/1U rack” use



- 1) SELECTOR: modulation audio input level range (**Micro / Line**).
- 2) LED INDICATION: peak-indicator / limiter-on status (yellow Led).
- 3) ADJUSTMENT: audio input sensitivity.
With the optimum sensitivity adjustment, the yellow Led [2] must flash under modulation peaks.
- 4) SELECTOR: transmitting channel (**0 ÷ F**).
- 5) LED INDICATION: apparatus is on (red Led).
- 6) SWITCH: On / Off (**Power**).
- 7) CONNECTOR: antenna (N-F type connector).
- 8) CONNECTOR: modulation audio input (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.
- 9) CONNECTOR: transmission activation (Push To Talk) (mono ¼" - 6.3 mm, standard jack type).
The transmission is allowed when the central pin (hot) is connected to external ring (ground).
Note #1: in the standard version of CST 38, when the PTT plug is not inserted, the carrier is still activated. Instead, when the CST 38 is provided with the optional VOX 38 – Voice Activated Circuit board, the carrier is activated automatically only when the input audio-signal reaches the activation-threshold pre-set in the VOX 38 board. However, the external PTT circuit (if connected) can override the VOX 38 device and force the CST 38 in continuous transmission.
- 10) CONNECTOR: dc power input (10.5 ÷ 16 Vdc).
(• pin 1 = +Vdc, • pin 2 = ground).

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.

CST 38 - VHF TRANSMITTER MODULE, for both “desktop” & “in 19”/1U rack” use for *MicroEar* receivers (wireless In-Ear-Monitoring systems)

TECHNICAL SPECIFICATIONS:

- Switchable channels : 16, preset in the 140 ÷ 250 MHz range (other upon request).
- Switching-window : 10 MHz (other upon request).
- Frequencies : microprocessor controlled PLL synthesizer circuit, with 25 kHz minimum step [1]. They are easily PC reprogrammable by the optional “UPK 32 Programming kit”.
- Frequency error : < ±5 ppm, in the rated temperature range.
- Temperature range : -10 ÷ +55 °C.
- RF output power : 300 ÷ 10 mW (± 1 dB) [1].
- RF output impedance : 50 ohm (type N-F connector).
- Spurious emissions : < 2 nW.
- Transmission activation : 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). See **Note #1** on front page.
- Modulation : FM (peak deviation = ±5 kHz).
- Mod. audio input : transformer balanced, floating.
- Mod. audio input level : **Micro / Line** switchable, and externally adjustable between:
 - ⇒ **Micro** = -64 ÷ -34 dBu (0.5 ÷ 15 mV) • Input impedance = > 2 kohm
 - ⇒ **Line** = -22 ÷ +8 dBu (60 ÷ 1,950 mV) • Input impedance = > 10 kohm.
- Peak-limiter : automatic, with dynamic-range > 30 dB over the level set for the nominal modulation.
- NR 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/N ratio : > 80 dB (83 dB typ.), CCITT measured.
- Led indications :
 - ⇒ Transmitter On (red LED)
 - ⇒ Limiter On (yellow LED).
- Powering : 10.5 ÷ 16 Vdc, 300 mA max. (negative ground).
- Dimensions : 40 x 120 x 175 mm.
- Weight : 700 g ca.

NOTE [1]: according to local regulations

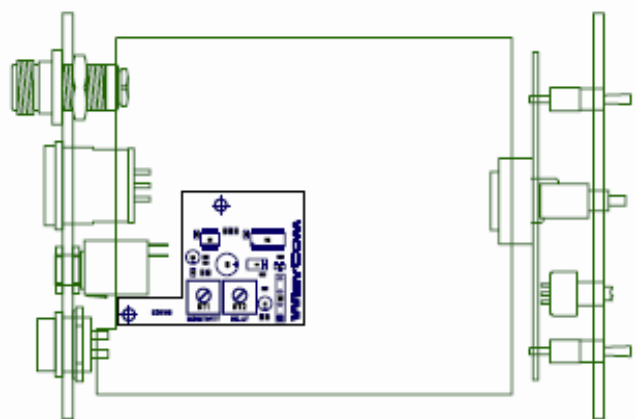
VOX 38 - Voice Activated Circuit board (optional)

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

Subject to change without notice