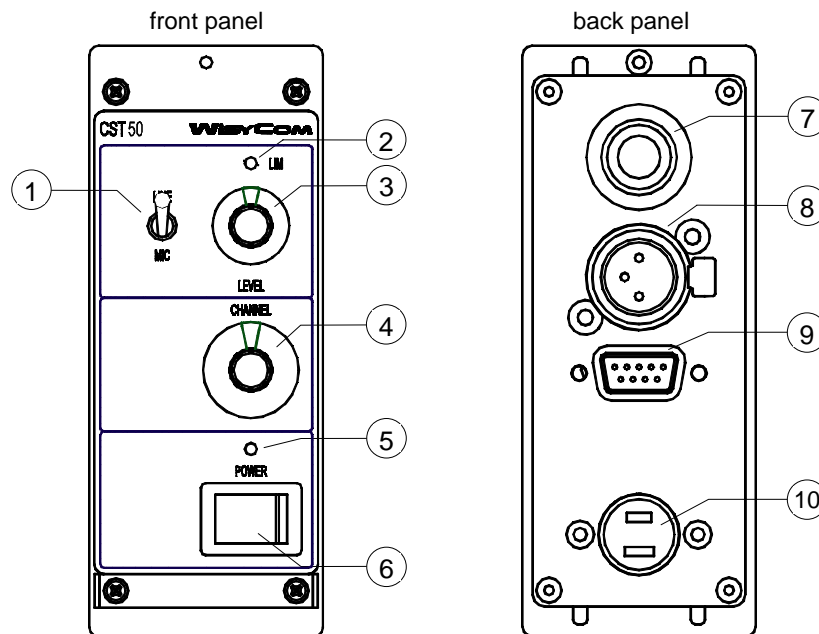


WIRELESS-COMMUNICATION SYSTEMS
CST 50 - UHF TRANSMITTER MODULE



- 1) SELECTOR: modulation audio input level range (**Micro / Line**).
- 2) LED INDICATION: peak-meter / limiter-on status (yellow Led).
- 3) ADJUSTMENT: audio input level.
With the optimum level adjustment, the yellow Led [2] must flash under modulation peaks.
- 4) SELECTOR: transmitting channel ($0 \div F$).
- 5) LED INDICATION: apparatus is on (red Led).
- 6) SWITCH: ON / OFF (**Power**).
- 7) CONNECTOR: antenna (N-Female type connector).
- 8) CONNECTOR: modulation audio input (XLR3-F type connector).
The audio input line is balanced by transformer and floating.
• pin 1 = ground; • pin 2 = AF-a; • pin 3 = AF-b.
Following the *iso-frequency mode* operation, when the "SLB50 Slave board" is mounted on the transmitter, the [8] connector is fed by the *composite* signal (modulation & frequency-reference) coming from the *master* transmitter.
- 9) CONNECTOR: *composite*-signal output, in the CST50-MT Master transmitter (D9-F type connector - optional).
• pin 3 = PTT/UNL signal; • pin 4 = pin 8 = ground; • pin 5 = out AF-b; • pin 9 = out AF-a.
When the "SLB50 Slave board" or the "SLS50 Switchable Slave board" is mounted, the pins 5 and 9 of [9] connector feed the *composite* signal (modulation & frequency-reference) made for the control of all *slave* transmitters belonging to the same group.
The transmitting coverage area of the communication system can be increased by the installation of two or more transmitters in different locations. These work in the same channel and are connected in "*iso-frequency*" mode. In order to make the necessary interconnection between them, one of the CST50 transmitters of the group need to be upgraded with the optional "MTB50 master board", so becoming CST50-MT Master transmitter model. All the other transmitters need to be upgraded with the "SLB50 slave board" or the "SLS50 Switchable Slave board", so becoming respectively CST50-SL or CST50-SLS Slave transmitter models.
The audio signal line, coming from the wired intercom system, should be connected to the [8] connector of the *master* transmitter, on which you need to make the setting of the audio input sensitivity. The output [9] of the *master* transmitter must be linked to the input connectors [8] of all *slave* transmitters, ensuring that all connecting lines will keep the same phase.
UNL option: this option will force CST50 sending a command tone which will disable CRT16 continuous transmitting (mode if locally enabled). Disabling tone is forced closing Pin3 on Pin4 with a remote switch (pin 3 and pin 4 are in low voltage)
- 10) CONNECTOR: dc power input (10.5 ÷ 16 Vdc)



CST 50 - UHF TRANSMITTER MODULE **FOR WIRELESS-COMMUNICATION SYSTEMS** (Output power = 300 mW ÷ 10 mW, 16 switchable frequencies)

TECHNICAL SPECIFICATIONS:

- Switchable channels : 16, preset in the 400 ÷ 550 MHz range (others on request).
- Switching-window : 7 MHz (others on request).
- Frequencies : microprocessor controlled frequency synthesizer circuit, with 5 and/or 6.25 KHz minimum step. They are easily user-re-programmable by PC and optional "UPK100 Programming kit".
- Channel spacing : 12.5 or 20 or 25 or 50 KHz [1].
- Frequency error : < ± 2 ppm, in the rated temperature range.
- Temperature range : -10 ÷ +55 °C.
- RF output power : can be pre-set between: 300 mW ÷ 10 mW (± 1 dB) [1].
- RF output impedance : 50 ohm (with type N-Female connector).
- Spurious emissions : < 2 nW.
- Modulation : FM (nom. deviation = ±1.7 or ±2.5 or ±3.3 or ±5.5 KHz, depending on the channel spacing).
- Audio input : transformer balanced, floating.
- Audio input level : with **Micro / Line** selector, can be adjusted externally between:
 - ⇒ **Micro** -54 ÷ -23 dBu (1.5 ÷ 55 mVrms)
 - ⇒ **Line** -23 ÷ +8 dBu (55 ÷ 1950 mVrms).
- Audio input impedance : ⇒ **Micro** > 2 kohm
⇒ **Line** > 10 kohm.
- Peak-limiter : automatic, with dynamic-range > 20 dB over the level set for the nominal modulation.
- NR-system : compander circuit, pre-set in "Wisycor-NR" mode or excluded.
- Pre-emphasis : 75 µS or 750 µS or off (to be compatible with units of other brands).
- AF bandwidth : ⇒ 300 Hz ÷ 2.5 KHz (-3 dB), for 12.5 KHz channel spacing;
⇒ 300 Hz ÷ 3.3 KHz (-3 dB), for 20 KHz channel spacing;
⇒ 300 Hz ÷ 4.5 KHz (-3 dB), for 25 KHz channel spacing;
⇒ 300 Hz ÷ 8 KHz (-3 dB), for 50 KHz channel spacing.
- Distortion : < 0.5 % (0.25% typ.).
- SND/D 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 : 123 x 49 x 160 mm (n. 1 module).
- Weight : 650 g approx.

NOTE [1]: according to local regulations

The standard version of CST 50 complies with the following ETSI specifications:

- ⇒ ETS 300 086: versions with 12.5, 20 or 25 KHz channel spacing;
- ⇒ ETS 300 422: version with 50 KHz channel spacing (useful on frequencies > 470 MHz).

OPTIONAL ACCESSORIES:

- AGN10 - UHF groundplane dismountable antenna (RG213 cable = 10m).
- AVN10 - UHF vertical-dipole antenna (RG213 cable = 10m).
- AWN35 - UHF whip antenna, to be mounted directly on the unit.
- CSR50 - UHF wireless-communication receiver module (400 ÷ 550 MHz), with compander circuit and CTCSS decoder. (16 switchable frequencies in a 7 MHz switching-window).
- INT37-x - Audio interface module, for connection with a wired intercom system (execution on request).
- MTB50 - "Master" board, for the operation in "iso-frequency" mode. It needs to be factory mounted.
- SLB50 - "Slave" board, for the operation in "iso-frequency" mode. It needs to be factory mounted.
- SLS50 - "Switchable Standalone or Slave" board, for the operation in "iso-frequency" or standard mode.
- PSS25 - Mains power supply module.
- PSS26 - Mains and 12Vdc power supply module.
- RPT22 - Portable minirack, for 2 modules.
- RPT23 - Portable minirack, for 3 modules.
- RPTxx - Portable minirack, custom execution.
- RST22-S - 19"/3U rack-frame, for max. 8 modules (CST50, CSR50, PSS25, PSS26, FAS16, INT37-x).
- UPK100 - Working frequencies user programming kit (interface + software).