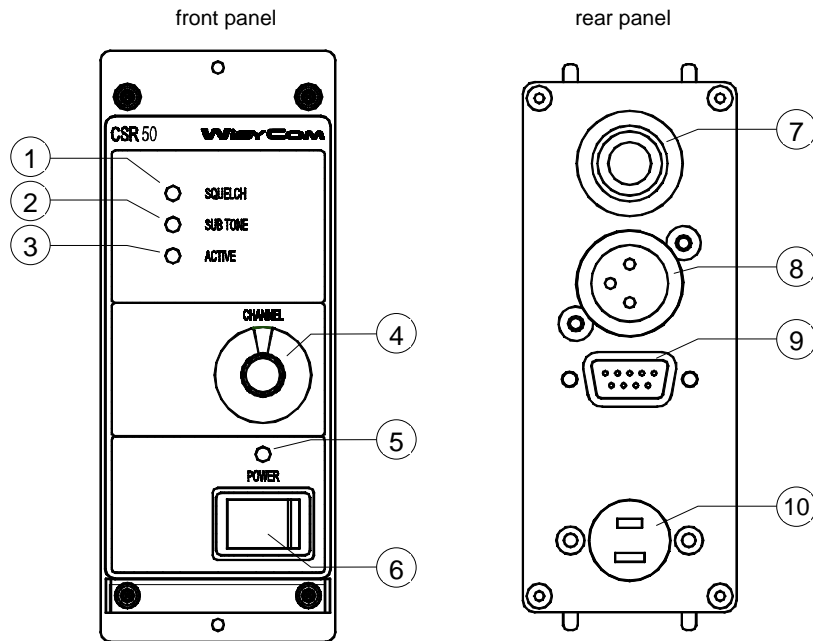


**WIRELESS-COMMUNICATION SYSTEMS
CSR 50 - UHF RECEIVER MODULE**



- 1) LED INDICATION: SQUELCH (green Led).
Green Led is on when a signal is correctly received.
- 2) LED INDICATION: PILOT-TONE (yellow Led).
Yellow Led is on when the correct sub-audio pilot-tone is present on the received signal.
- 3) LED INDICATION: ACTIVE RECEIVER (red Led).
Red Led is on when the receiver is feeding the audio output line.
(Red Led [3] is present only on the CRS 50-DY model, pre-set for the receiving in remote-diversity mode).
- 4) CHANNEL SELECTOR ($0 \div F$).
- 5) LED INDICATION: UNIT ON (red LED).
- 6) ON / OFF SWITCH (**Power**).
- 7) CONNECTOR: ANTENNA (type N-F).
- 8) CONNECTOR: AUDIO SIGNAL OUTPUT (type XLR3-M).
The audio signal output is transformer-balanced and floating.
• pin 1 = ground; • pin 2 = output AF-a; • pin 3 = output AF-b.
- 9) CONNECTOR: DIVERSITY-CONTROL INPUT/OUTPUT LINE (D9-F type connector - optional).
The diversity-control line is opto-isolated and floating. (• pin 4 = ground; • pin 5 = DY-I/O-a; • pin 9 = DY-I/O-b).
The receiving coverage area of the communication system can be increased by the installation of two or more receivers in different locations. These work in the same channel and connected in "remote-diversity" mode. In order to make the necessary interconnection between them, all the CSR50 receivers need to be upgraded with the optional DYB50 "diversity board", so becoming CSR50-DY model. The all CSR50-DY receivers "audio output" lines working in the same group, have to be connected in parallel between them. It should be the same for the "diversity control" lines. The all connecting lines phase must be kept the same. The "audio output" line circuit should be connected also to the input of the wired intercom system, while the "diversity control" line circuit is made for the automatic coordination between the receivers.
However, a CSR50-DY receiver module will operate as standard (not-diversity) mode if its "diversity control" line is not used.
- 10) CONNECTOR: DC POWER INPUT (10.5 ÷ 16 Vdc)

CSR 50 - UHF RECEIVER MODULE FOR WIRELESS-COMMUNICATION SYSTEMS

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-reprogrammable 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 input impedance : 50 ohm (type N female connector).
- Spurious emissions : < 2 nW (50 pW typ.).
- Modulation : FM (Nom. deviation = ±1.7 or ±2.5 or ±3.3 or ±6.5 KHz, depending on the channel spacing.)
- De-emphasis : 75 µS or 750 µS or none (to be compatible with units of other brands).
- Sensitivity : < 0.25 µV, for 20 dB SND/N (CCITT measured).
- Adjacent channel selectivity : > 73 dB @ 25 KHz channel-spacing (> 70 dB @ 12.5 KHz channel-spacing).
- Intermod. rejection : > 73 dB.
- Squelch : triple function, with independent and separately adjustable circuits, with following modes:
⇒ noise-squelch; ⇒ signal-strength-squelch; ⇒ sub-audio-tone squelch (CTCSS type).
- Audio output line : transformer balanced, floating.
- Output line level : +4 dBu (1.230 mVrms) nominal (others on request). • Output line impedance = 100 ohm.
- Diversity-control I/O line : opto-isolated, floating (with the optional DYB50 diversity board).
- Noise reduction system : compander circuit, pre-set in "Wisycor-NR" mode or excludable.
- 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 : < 2 %, CCITT measured (< 1% @ 50 KHz channel spacing).
- SND/D ratio : > 80 dB (86 dB typ.), CCITT measured and with NR circuit switched on.
- Receiving decoder : CTCSS type (sub-audio tone squelch).
- Led indications : ⇒ Receiver On (red Led)
⇒ Noise squelch open (green Led)
⇒ CTCSS decoder open (yellow Led)
⇒ Active receiver (red Led).
- Powering : 10.5 ÷ 16 Vdc, 140 mA max. (190 mA max. with the DYB50 board), negative ground.
- Dimensions : 123 x 49 x 160 mm (n. 1 module).
- Weight : approx. 600 g.

NOTE [1]: according to local regulations

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

- ⇒ ETS 300 086: versions with 12.5 or 20 or 25 KHz channel spacing;
- ⇒ ETS 300 422: version with 50 KHz channel spacing (usable 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.
- CST50 - UHF wireless-communication transmitter module (400 ÷ 550 MHz), with compander circuit. (max. 300 mW, 16 switchable frequencies in a 7 MHz switching-window).
- DYB50 - "Remote diversity" board. It must be factory mounted on the receiver.
- FAS16 - Receiver antenna splitter (1-In / 6-Out).
- INT37-x - Audio interface module, for connection with a wired intercom system (execution on request).
- 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).

