

RTE25 User Manual

3W Transmitter/Exciter



SN: _____

Rev. 01

Date: 26 November 2014

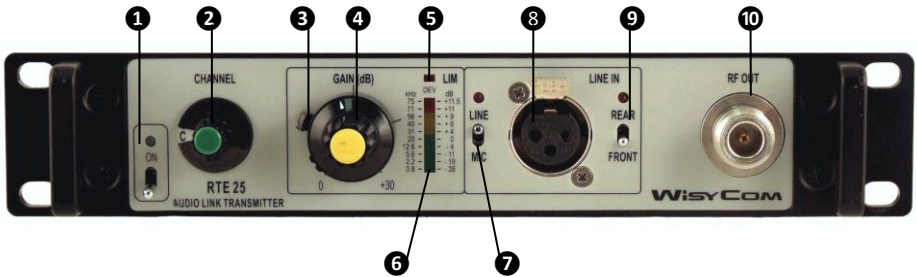
FEATURES

- Available in various ranges:
 - ⇒ 140 ÷ 250 MHz,
 - ⇒ 300 ÷ 360 MHz,
 - ⇒ 470 ÷ 880 MHz
- Wide pre-tuned switching-window:
 - ⇒ 15 MHz in 140 ÷ 250 MHz range and 300 ÷ 360 MHz
 - ⇒ 25 MHz in the ranges 470 ÷ 880 MHz.
- 16 switchable frequencies
- Easy PC frequency-reprogramming by the user (in the pre-tuned switching-window).
- Friendly factory frequency re-allocation (in the whole working-range).
- Broadcast superlative quality of any audio-signal transposition.
- Suitable for very complex multi-channel systems thanks to the very low noise and signal clearness.
- Very easy and friendly to operate.
- Exceptional sturdiness and absolute reliability.

SAFETY INSTRUCTION

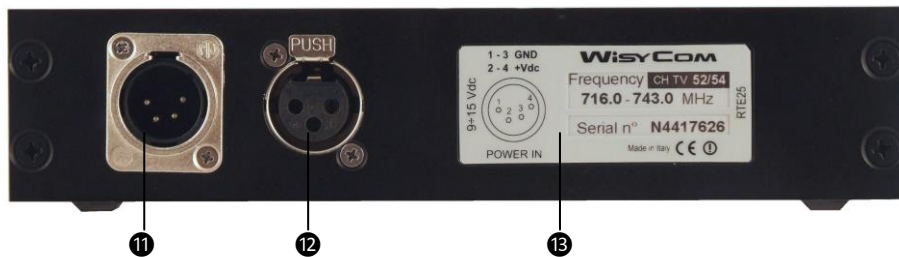
- Read this safety instruction and the manual first
- Follow all instructions and information.
- Do not lose this manual.
- Do not use this apparatus under the rain or near the water.
- Do not install the apparatus near heaters or in hot environments, do not use outside the operating temperature range.
- Do not open the apparatus, only qualified service technician are enabled to operate on it. The apparatus needs servicing when it is not properly working or is damaged by liquids, moisture or other objects are fallen in the apparatus.
- Use only accessories or replacement parts authorized or specified by the manufacturer.
- Clean the apparatus only with dry cloths, do not use liquids.
- Report the serial number and the purchasing date in front of the manual. It is needed to have proper replacement parts or accessories from the manufacturer.
- When replacement parts are needed, use only replacement parts authorized from the manufacturer. Substitution with not authorized parts could result in electric shock, hazards or fire.
- Pay attention on all the labels with warnings or hazards on the apparatus.

FRONT PANEL CONTROL AND FUNCTIONS



- ❶ **ON/OFF SWITCH** (with LED indication).
- ❷ **SELECTOR:** CHANNELS (with back-light).
- ❸ **GAIN LOCK** (turn on the right to lock the gain).
- ❹ **ADJUSTMENT:** AUDIO INPUT SENSITIVITY (GAIN).
With the optimum sensitivity adjustment, the red LED [5] can flash under modulation peaks.
The full ccw position corresponds to 0 dB input level (with Line / Mic switch [7] on Line position).
- ❺ **LED INDICATION:** LIMITER-ON STATUS (red LED).
- ❻ **LED-BAR:** DEVIATION.
The LED-bar indicates the deviation in \pm kHz and in \pm dB referred to \pm 20 kHz deviation.
- ❼ **SWITCH:** AUDIO INPUT LEVEL (Line / Mic).
If the switch is on Line position a red light is ON.
- ❽ **CONNECTOR:** FRONT-PANEL AUDIO INPUT (XLR3-F type).
 - pin 1 = ground
 - pin 2 = AF-a
 - pin 3 = AF-bThe audio input is transformer balanced and floating.
The connector is selectable by front panel switch on "FRONT" position.
- ❾ **SWITCH:** AUDIO INPUT (Front / Rear)
If the switch is on Rear position a red light is ON.
- ❿ **CONNECTOR:** RF OUTPUT (N-F type).

REAR PANEL



11 **DC-INPUT CONNECTOR** (XLR4-M type):

- pin 1 = -V, ground
- pin 2 = +V
- pin 3 = -V, ground
- pin 4 = +V

Powering: 9 ÷ 15 Vdc, 900 mA max.

For mains powering operations, the transmitter can be supplied with PSP25-H/BE “mains-plug” power-supply.

12 **CONNECTOR: REAR-PANEL AUDIO INPUT** (XLR3-F type).

- pin 1 = ground
- pin 2 = AF-a
- pin 3 = AF-b

The audio input is transformer balanced and floating.

The connector is selectable by front panel switch on “REAR” position (red LED ON).

13 **PRODUCT LABEL:**

The product label reports the following information:

- Pin power connection
- Frequency range
- Serial number

PUTTING INTO OPERATION

- Connect the power supply to the XLR4-M connector **11** (see [optionals PSP25-L](#))
- Connect the antennas to the N-F antenna connectors **10** (see [optionals AGN00 / AMB 05](#))
- Connect the mixer or microphone to the Line in connector (**8** or **12**), select **Front** or **Rear** with the switch **9** and **Line** or **Mic** with the switch **7**
- Chose the desired frequency rotating the Channel selector **2** (select the same channel of the receiver)

NOTE: a label placed on the top of the transmitter shows the pre-configured frequencies list.

CH TV 52/54		
Ch MHz	4= 723.600	A= 733.800
0= 716.800	5= 725.300	B= 735.500
1= 718.500	6= 727.000	C= 737.200
2= 720.200	7= 728.700	D= 738.900
3= 721.900	8= 730.400	E= 740.600
	9= 732.100	F= 742.300

- Check that the gain controller **4** is not set to the maximum
- Put the selector **1** to ON and verify the led indicator is turned on
- Adjust the gain, controlling that it not go on peak and the light of the led-bar doesn't become red. After the regulation, lock the gain with the gain lock **3** to prevent accidental movement

Troubleshooting

No audio output on the receiver	Check the LED-BAR ⑥ : if it is OFF, verify the line in connection and the position of the audio input switch ⑨
No RF level on the receiver	Check the CHANNEL SELECTOR ② : verify that the frequency of the transmitter is the same of the receiver
Distortion or unwanted noise bursts	Remove nearby sources of RF interference (CD players, computers, digital effects, in-ear monitor system, etc.) Change receiver and transmitter to a different frequency Reduce transmitter gain

TECHNICAL SPECIFICATIONS

• Switchable channels	: 16, preset in one of the following ranges (others on request): ⇒ 140 ÷ 250 MHz, ⇒ 300 ÷ 360 MHz, ⇒ 470 ÷ 880 MHz.
• Switching-window	: 15 MHz, in the 140 ÷ 250 and 300 ÷ 360 MHz ranges; 25 MHz, in the 470 ÷ 880 MHz range.
• Frequencies	: Microprocessor controlled PLL frequency synthesizer circuit, with 25 KHz minimum step. They are easily user-re-programmable by DOS-PC and optional "UPK 32 Programming kit".
• Frequency error	: < ± 5 ppm, in the rated temperature range
• Temperature range	: -10 ÷ +55 °C
• Modulation	: FM, with 50 µs de-emphasis.
• Nominal deviation	: ⇒ ±20 KHz, with NR-system pre-set Off ; ⇒ ±40 KHz, with NR-system pre-set On .
• Peak deviation	: ⇒ ±75 KHz, with NR-system pre-set Off ; ⇒ ±55 KHz, with NR-system pre-set On .
• RF output power	: 2.5 W (± 1 dB).
• Spurious emissions	: < 250 nW.
• Antenna connector	: N-F type.
• Output impedance	: 50 ohm.
• Audio input	: Transformer balanced, floating (XLR3-F connector).
• Audio input level	: <u>Micro / Line</u> switchable, and adjustable (for nominal deviation) between: ⇒ <u>Micro</u> = -60 ÷ -28 dBu (0.77 ÷ 30 mVrms) (Input impedance = > 2 kohm) ⇒ <u>Line</u> = -32 ÷ 0 dBu (20 ÷ 775 mVrms) (Input impedance = > 5 kohm)
• Peak-limiter	: Automatic, with dynamic range > 24 dB over the level set for the nominal deviation. Option LLK: For stereo applications, the limiter-circuits of two units can be linked by the optional external cable.
• NR-system	: Comander circuit, can be internally pre-set (or excluded) between following modes: ⇒ ENR (<i>Wisycom</i> Extended-NR, with independent Attack- and Recovery-time), default; ⇒ NR (Standard-NR), to be compatible with other apparatus.
• AF bandwidth	: 30 Hz ÷ 20 KHz.
• Frequency response	: ± 0.5 dB (± 0.25 dB typ.) in the 40 Hz ÷ 19 KHz range.
• Distortion	: < 0.3 % (0.15 % typ.).
• SND/N ratio	: ⇒ > 110 dB (115 dB typ.), with NR-system pre-set On ; ⇒ > 80 dB (85 dB typ.), with NR-system pre-set Off . (referred to the peak deviation, and measured: 22 Hz/22 KHz, RMS, unweighted).
• LED indications	: ⇒ apparatus On (green LED is on); ⇒ limiter-on status (red LED is on).
• Bar-graph meter	: ⇒ ± KHz deviation ⇒ ± dB deviation referred to ± 20 KHz deviation.
• Powering	: ⇒ 9 ÷ 15 Vdc / 10 W (typ.: 900 mA @ 12 Vdc), negative ground ⇒ mains 100 ÷ 264 Vac, by means of optional PSP25-L "mains-plug" power supply.
• Dimensions - Weight	: 243 x 43 mm (½ x 19"/1U standard-rack) x 226 mm depth.
• Weight	: 1.5 Kg approx.

ACCESSORIES

AGN00 - Groundplane antenna VHF/UHF



AMB 05 - Magnetic-base antenna, (with 5 m RG58 coax cable)



PSP 25-L - 100 ÷ 240 Vac mains-plug power supply



CDC916 - External 12Vdc powering cable

UPK 100 - Working frequencies user programming kit (Interface + software)





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