WISYCOM
VOX INFRAGILIS

MPR52-ENG User Manual

High performance

Diversity

Two channels

Camera Receiver

SN: _____

rev.14 (ref. FW 1.1)

MAIN FEATURES

- Two channels diversity receiver
- DSP analogue Output (AES3)
- Up to 790 MHz bandwidth in 470/1260 MHz range
- Next Gen Multiband front-end filtering:
    - High Q moving filter in 470-960 MHz
    - High Q moving filter in 960-1160 MHz (DME)
    - Country specific saw filters:
      USA 940-960 MHz &
      Japan 1240-1260 MHz or 806-810MHz
- Wideband and Narrowband DSP-FM operation (SW selectable):
    - Narrowband allows more 50% band efficiency
    - Narrowband allows about 3dB extra sensitivity and noise immunity
- Extreme low noise VCO with ultrafast spectrum scan for optimal quick & easy setup
- High contrast OLED display
- Automatic scan & transmitter programming through infrared
- DSP based for extreme flexibility and multi-companding operations
- Miniature design with integrated battery pack:
  - rechargeable lithium pack
  - 2 x AA batteries
- Operation and charger (lithium) thru USB connector
- Monitor & control through USB and Wisycom Manager 2.0 (computer SW):
    - This transform MPR52 in a quick and low noise portable spectrum scanner

TWO CHANNELS OPTION: Please note that the two channels, in order to protect them from potential interferences coming from having the ultra-wide band, must use frequencies included into a 30 MHz filter range.

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.
- Keep attention on all the labels with warnings or hazards on the apparatus.

WARNING: The apparatus is intended for professional use; anyway the manufacturer alerts the user that the headphone output power of the apparatus could exceed the level of 85 dB(A) of sound pressure level and this could be dangerous for the hearings. Do not use the headphone with high power level or for long time. Reduce the power or suspend the hearing in case of any kind of hearing problem.

BATTERIES

MPR52-ENG works with standard camera battery:

- 2xIEC-LR6 1.5 size-AA alkaline or NiMh rechargeable
- KLIC 8000 (lithium-ion, rechargeable)
- DB50 (lithium-ion, rechargeable)

- DR9708 Duracell (lithium-ion, rechargeable)

Battery status can be checked on OLED display or looking the status of LED indicator ON.

Charging of lithium-ion rechargeable batteries can be done with

A. dedicated charger

B. thru the integrated micro-usb-B connector

C. thru ACM50 battery charger

WARNING:

We don't recommend to use the device during the batteries charging with lithium-ion rechargeable batteries inside. Don’t use the receiver without batteries . The receiver powered thru micro-USB or mini-XLR connector without batteries doesn't work correctly.

WARNING: DO NOT operate the device with some new and some old batteries. Always replace ALL BATTERIES.

WARNING: Remember to remove the batteries when the device is not in use.

VARIANTS: **MPR52-ENG- <Freq Range>**

▪ FREQUENCY RANGE

B1 470-800 MHz, 940-960 MHz (for USA), 960-1160 MHz (DME)
B2 470-800 MHz, 960-1160 MHz (DME), 1240-1260 MHz (for Japan)
B3 470-800 MHz, 960-1160 MHz (DME), 806-810 MHz (for Japan)

In compliance with	USA: FC, 47 CFR 15 Subpart B
	CAN RSS-Gen/CNR-Gen

AUDIO OUTPUT

• Audio output : Electronically balanced on 5 pin mini-XLR Female connector

analogue or digital (SW selectable)

• Digital line 1 & 2 : Electronically balanced on 5 pin mini-XLR Male connector

• Digital line-output : AES3 @ 48 kHz

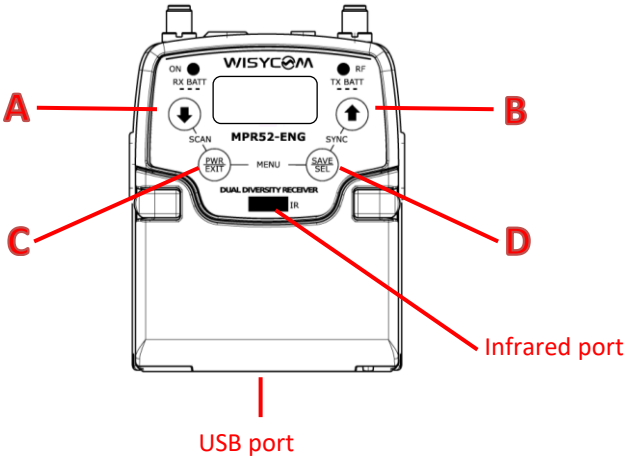
• Audio line impedance : ≤ 200 ohm

• Headphone-output : 3.5mm (TRS) stereo plug, locking (M6 x 0.5 thread) with 50mW @ 32 Ohm

NOTE [1]: RMS value, 22 Hz / 22 kHz, unweighted.
The MPR52ENG receiver complies with ETSI specifications: ETS 300 422

FRONT PANEL

MPR52-ENG allows an easy and quick configuration using buttons, RGB LED's and a high contrast **OLED Display.**



A➔ SCAN/DOWN Button

Push this button together with PWR/EXIT (C) to run the auto scan. When inside any menu use this button to scroll down.

B➔ SYNC/UP Button

Push this button together with SAVE/SEL (D) to start a synchronization with a transmitter. Note that before starting synchronization IRDA must be enabled on Wisycom transmitter. When inside any menu use this button to scroll up.

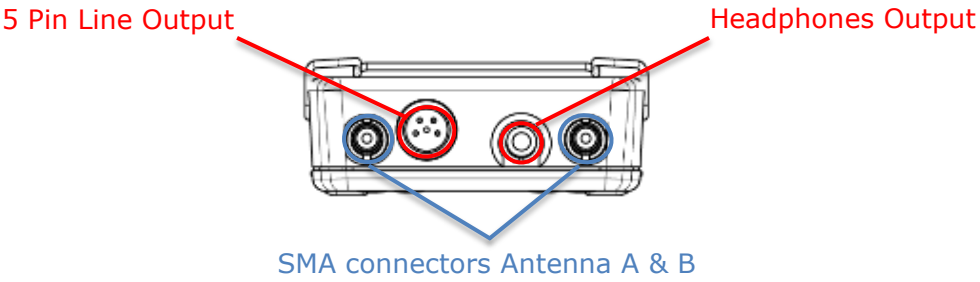
C➔ POWER/EXIT Button

Push and keep this button to power on/off the receiver. During menu navigation push this button to exit from current menu (escape function). Quickly push POWER button to turn on the display when it goes OFF. You can change the time out setting from the "Info" menu.

D➔ SAVE/SELECT Button

Push this button to navigate function menu and keep pushing to save the chosen setup. uring menu navigation push this button to move-down and select the previous item.

TOP PANEL



SMA antenna Connector A and B

MPR52-ENG is supplied with a pair of antennas tuned on 232 MHz bandwidth. Depending on the working bandwidth, it can be provided with different antenna ranges.

For more details see the "Products" → "MPR52-ENG" → "Accessories" section on our website www.wisycom.com.

Headphone Output

The audio headphone output with 3.5 mm stereo jack socket lockable (TRS).
Audio level can be adjusted with a headphones menu.

Configuration: Unbalanced mono (L=R), 1/8th inch
Maximum output power: 50mW @ 32Ω, 50mW @ 16Ω

Pin Assignment: Tip = AF+ (hot), Ring = AF+ (hot), Sleeve- Gnd

Line Output

The audio LINE output balanced on:

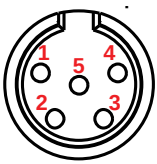
Pin 1: ground

Pin 2: output channel 1 AF+ (hot)

Pin 3: output channel 1 AF- (cold)

Pin 4: output channel 2 AF+ (hot)

Pin 5: output channel 2 AF- (cold)



TREE MENU

- Infrared
- **Preset**
  - Active
  - Load [Preset1,Preset2,Preset3, User1, User2, factory]
  - Save [User1, User2]
- **Audio Settings**
  - Headphones
    - Volume [Min, -56,...,-5, Max]
    - Rx [Rx1(L); Rx2[r]...
    - Signal [LINE, TSQ>LINE]
  - Output type [Analog, AES3]
  - OUT RX1 [-35, ..., 18dBu]
  - OUT RX2 [-35, ..,18dBu]
  - Sig.ph.RX1 [0,180]
  - Sig. ph. RX2 [0,180]
  - Cal.Tone [OFF; 0dB, -18dB]
- Advanced
  - Power on [Rx1+RX2, RX1, RX2]
  - Edit RX1/2
    - Name
    - Frequency
    - Squelch [OFF, from 0 to +46 dBµV @3dBstep]
    - Expander [ENR Wis, ENC WIs, ENS, ENR-1.2, ENC-1.2, JNR Wis, JNC Wis, SEN, SR, AL, EVO, OVL, DSP_Q5X]
    - Tone sq. [OFF, ON]
    - Sync
  - Settings
    - Display
      - Contrast [1÷5]
      - Low Timeout
      - Off Timeout
      - Direction [Up/down]
    - Led
      - Mode [Full, Alarms, OFF]
      - Brightness [0÷5]
  - RX IF BW [NB, WB]
  - Op. mode [Ant. div, Freq. div. True div.]
  - Scan
  - Act. Code
- Info
  - Supply
  - Model
  - Serial
  - FW
  - HW
  - Errors

TECHNICAL DATA

• Frequency ranges	:	470÷ 800 MHz and 960 ÷ 1160 MHz (DME) MPR52 B1 → option 940 ÷ 960 MHz MPR52 B2 → option 1240 ÷ 1260 MHz MPR52 B3 → option 806 ÷ 810 MHz
• Switchable channels	:	2400 user programmable frequencies, organized in 40 groups of 60 channels.
• Switching-window	:	up 790 MHz.
• Frequencies	:	microprocessor controlled frequency synthesizer circuit, with 5 kHz minimum step. The frequencies can be easily PC reprogrammed with the optional UPKmini Programming Kit or micro-USB
• Frequency error	:	< ± 2.5 ppm, in the rated temperature range.
• Temperature range	:	-10 ÷ +50 °C.
• Modulation	:	FM mono, wideband or narrowband IFB (SW selectable)
• Max deviation	:	±54 kHz (wideband), ± 40 kHz (narrowband)
• Antenna input imp.	:	50 ohm sma type (SWR < 1:2; typ. 1:1.4).
• Sensitivity	:	→ 2 µV (6 dBµV), for SND/N > 58 dB; → 5 µV (14 dBµV), for SND/N > 98 dB. in the whole switching-window [1].
• Amplitude response	:	< 0.5 dB (for RF input signal:6 dBµV ÷ 100 dBµV).
• Adjacent chan. Sel.	:	> 80 dB typical (for channel spacing ≥ 400 kHz)
• Spurious emissions	:	< 2 nW (typical = 0.1 pW).
• Noise Reduction	:	ENR / ENR-1.2 (Wisycom Extended-NR) , noise optimized ENC / ENC-1.2 (Wisycom Extended-NC), voice optimized & with reduced pre-emphasis ENS (for live application) ⇒ Others, compatible with most systems, thru an internal DSP emulation of SA572, SA575 and Rms envelope compander chip set, fully user programmable
• AF bandwidth	:	30 Hz ÷ 20 kHz (wideband), 30 Hz ÷ 15 kHz (narrowband)
• Frequency response	:	± 0.5 dB in the 30 Hz ÷ 19 kHz range (wideband), : ± 0.5 dB in the 30 Hz ÷ 13 kHz (narrowband)
• Distortion	:	0.3 % typical.
• SND/D ratio (Anal.)	:	100 dB typical [1]
• SND/D ratio (AES3)	:	> 125 dB typical
• Powering	:	- 2 x IEC-LR6 1.5V size-AA alkaline or NiMh rechargeable - C3-V3 battery pack - KLIC 8000 or CR-V3R lithium (i.e. DR9708 duracell)
• Battery life	:	approx. 5 hours with MPRLBP Lithium-ion battery pack CS-KLIC8000 type (double receiver configuration) approx. 7 hours with MPRLBP Lithium-ion battery pack CS-KLIC8000 type (single receiver configuration)
• Weight	:	100 g approx. without batteries

ITALY ONLY

Obblighi di informazione agli utilizzatori

Modello di informazioni agli utenti dei prodotti di tipo "professionale"

INFORMAZIONE AGLI UTENTI

Ai sensi dell'art. 13 del Decreto Legislativo 25 luglio 2005, n. 151 "Attuazione delle Direttive 2002/95/CE, 2002/96/CE e 2003/108/CE, relative alla riduzione dell'uso di sostanze pericolose nelle apparecchiature elettriche ed elettroniche, nonché allo smaltimento dei rifiuti"

Il simbolo del cassonetto barrato riportato sull'apparecchiatura o sulla sua confezione indica che il prodotto alla fine della propria vita utile deve essere raccolto separatamente dagli altri rifiuti.

La raccolta differenziata della presente apparecchiatura giunta a fine vita e' organizzata e gestita dal produttore. L'utente che vorrà disfarsi della presente apparecchiatura dovrà quindi contattare il produttore e seguire il sistema che questo ha adottato per consentire la raccolta separata dell'apparecchiatura giunta a fine vita.

L'adeguata raccolta differenziata per l'avvio successivo dell'apparecchiatura dismessa al riciclaggio, al trattamento e allo smaltimento ambientalmente compatibile contribuisce ad evitare possibili effetti negativi sull'ambiente e sulla salute e favorisce il reimpiego e/o riciclo dei materiali di cui è composta l'apparecchiatura.

Lo smaltimento abusivo del prodotto da parte del detentore comporta l'applicazione delle sanzioni amministrative previste dalla normativa vigente.

FCC Conformity

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and

(2) This device must accept any interference received, including interference that may cause undesired operation.

WISYCOM™

VOX INFRAGILIS

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