

MTK982 User Manual

Dual Transmitter

Mono - Stereo - Intercom

Modulation



rev.03 (ref. FW 1.0.0)

Date: 03 August 2023

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.
- Mount the apparatus as indicated in the instruction, do not block side grids for air ventilation
- **ATTENTION:** supply the apparatus with a correct mains voltage and with the ground connection. Check the power cord integrity.
- The power cord must be protected from damage
- 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.
- The ON/OFF is a double pole circuit breaker, but to ensure the complete disconnection of the apparatus, disconnect the power cord.
- 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.

QUICK START INSTRUCTION

1. Connect to the power outlet using the supplied power cable (see [rear panel](#): connector 2)
2. Attach the antennas to the antenna out BNC connections (see [rear panel](#): connectors 8 and 13)
3. Connect the audio sources to the relative audio input connectors (see rear [rear panel](#): connectors 7 for digital audio sources, connectors 9÷12 for analog audio sources)

NOTE: the cascade configuration allows to use the same analog audio input for more transmitter

4. Power on the MTK982
5. Switch off the RF output:
6. Enter in the **AUDIO** menu and
 - a. configure the **input** parameter between *digital* and *analog* (according to the audio source connected at point 3)
 - b. configure the **AF level meter** parameter as *modulation*
 - c. if digital audio source:
 - leave **audio gain left** and **right** parameters to 0dB and adjust the audio level with the mixer
 - if need change the **audio gain left** and **right** parameters
 - d. if analog audio source:
 - leave **audio gain left** and **right** parameters to 0dB and adjust **Max audio level** parameter. NOTE: this parameters is unique for both the channels (right and left)
 - if need change the **audio gain left** and **right** parameters

NOTE: adjust the **audio level** (thru the mixer and/or **Max audio level** and/or the **audio gain left** and **right** parameters) so that, for the maximum input signal level,

the AF level bars show the MAXIMUM NUMBERS OF GREEN LED INDICATORS AND NO YELLOW/RED CLIP LED INDICATORS



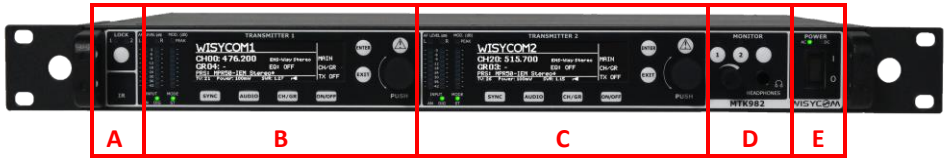
the MOD. (modulation) bar shows the MAXIMUM NUMBERS OF GREEN LED INDICATORS AND NO YELLOW/RED PEAK LED INDICATOR



7. Enter in the **Ch-Gr** menu and set the *group/channel/ frequency*
8. Enter in the **PRESET** menu and set the appropriate *Preset* (see [Compatibility table](#) for more detail)
9. Enter in the **TX Power** menu and set the *TX power (10÷200mW)*
10. Exit from the menu and switch on the RF power output pushing the ON/OFF button

FRONT PANEL CONTROL AND FUNCTIONS

MTK982 allows an easy and quick configuration using buttons, push knobs and displays.



The front panel is functionally divided in the following section:

A - LOCK and IrDA

Lock button allows to lock editing of one of both the transmitters.

Put the receiver in front to the IrDA interface to synchronize the devices.

B and C - TRANSMITTER1 and TRANSMITTER2



Transmitter 1 and 2 configuration and monitor of radio/audio levels.

1 Audio and Modulation indicators

- two LED bars for the AF levels (L=left & R=right levels): they can show AF input levels or modulation levels (after the pre-emphasis and compander phases, before the modulation phase) according to the *AF level meter* parameter on [Audio source menu](#)

- FM modulation of the transmitter channel (modulation in dB referred to the nominal deviation)

2 LCD display.(64 x 254 white-lighted display)

3 2 push buttons (membrane). The function of each button (ENTER, EXIT) will be readable from the context menu on the display.

4 4 push buttons for quick setup (SYNC, AUDIO, CH/GR, ON/OFF)

5 Push rotary knob. Rotate and push to select.

6 Warning (YELLOW) and Alarm (RED) light indicator

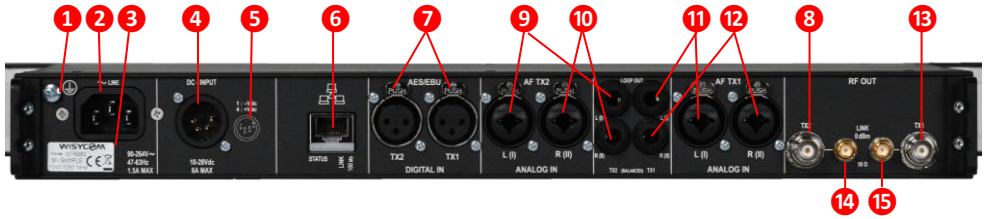
D - MONITOR

Monitor 1 and 2: it activates monitor audio on headphone jack output (6.3mm - 1/4") for transmitter 1 and 2, respectively (a green LED is lighted when audio is enable). Audio level can be adjusted with the rotary knob. The red led (CLIP) indicates a clipping in the audio monitor output.

E - POWER

POWER: ON/OFF button turns on/off the device. When in OFF position both phases are disconnected from power.

REAR PANEL



- 1 Ground point** To connect the rack to ground
- 2 AC Power Plug** AC mains power input, IEC Connector 90-264 Vac
- 3 Product label** with Serial Number, Options and Bandwidth
- 4 DC Power Plug (optional)** DC power input, 10-28Vdc, Max 6A
- 5 DC pinout**

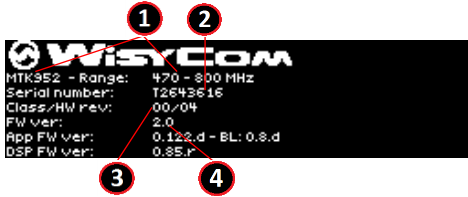
1	3	GND
2	4	+Vdc
- 6 Ethernet socket** (RJ45) for connection to a network or computer
- 7 AES/EBU** (XLR 3 pin connector) for digital audio input TX1 and TX2
- 8 Antenna output TX2** (RF output) BNC socket
- 9 Audio input left TX2** (balanced AF input) ¼" (6,3mm) jack/XLR-3 combo socket and ¼" jack
- 10 Audio input right TX2** (balanced AF input) ¼" (6,3mm) jack/XLR-3 combo socket and ¼" jack
- 11 Audio input left TX1** (balanced AF input) ¼" (6,3mm) jack/XLR-3 combo socket and ¼" jack
- 12 Audio input right TX1** (balanced AF input) ¼" (6,3mm) jack/XLR-3 combo socket and ¼" jack
- 13 Antenna output TX1** (RF output) BNC socket
- 14 Auxiliary RF output TX2** for isofrequency transmission (0dBm) SMA socket
- 15 Auxiliary RF output TX1** for isofrequency transmission (0dBm) SMA socket

LCD DISPLAY: TRANSMITTER MENU

MTK982 info screen

Switch on the MTK982 and by pushing one of rotatory knobs (at the right of the display) all the basic information are displayed:

Display of TRANSMITTER 1



- ① product and bandwidth
- ② serial number
- ③ class and hardware version
- ④ Firmware version: it includes application firmware version and DSP firmware version

Display of TRANSMITTER 2



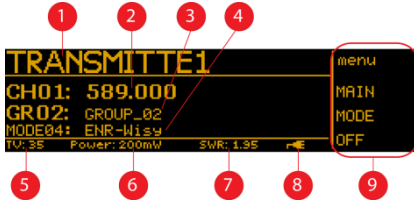
On the display of TX2, it is possible to check the max level of power transmitted of the MK952, the installed options and the companders.

Option:



- W05 / 0W2 / 2W0 are the commercial codes to identify the max power transmitted (50/2000/2000mW)
- DC indicate that the DC option (for DC power supply) is installed
- MSB indicate that the Master-Slave board is installed (MS option)

Status screen

After switch on, the transmitters display the Status screen

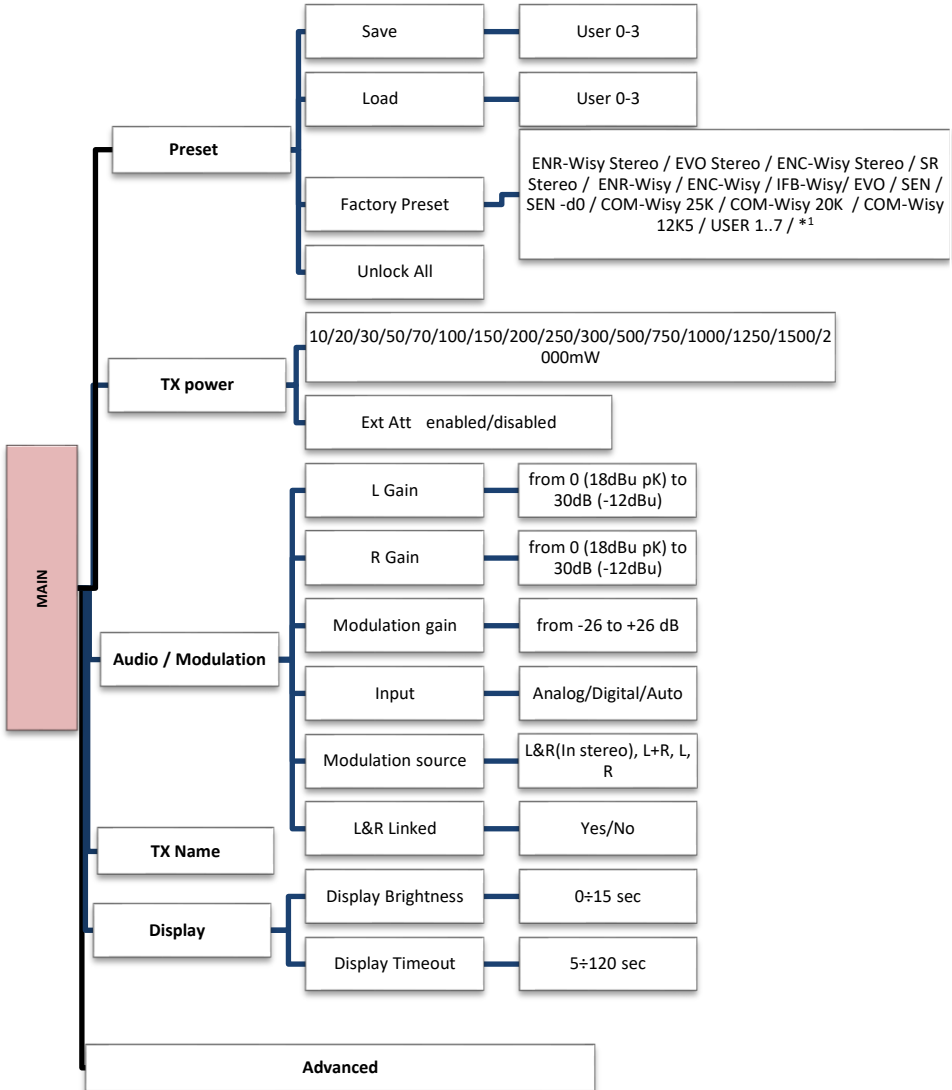


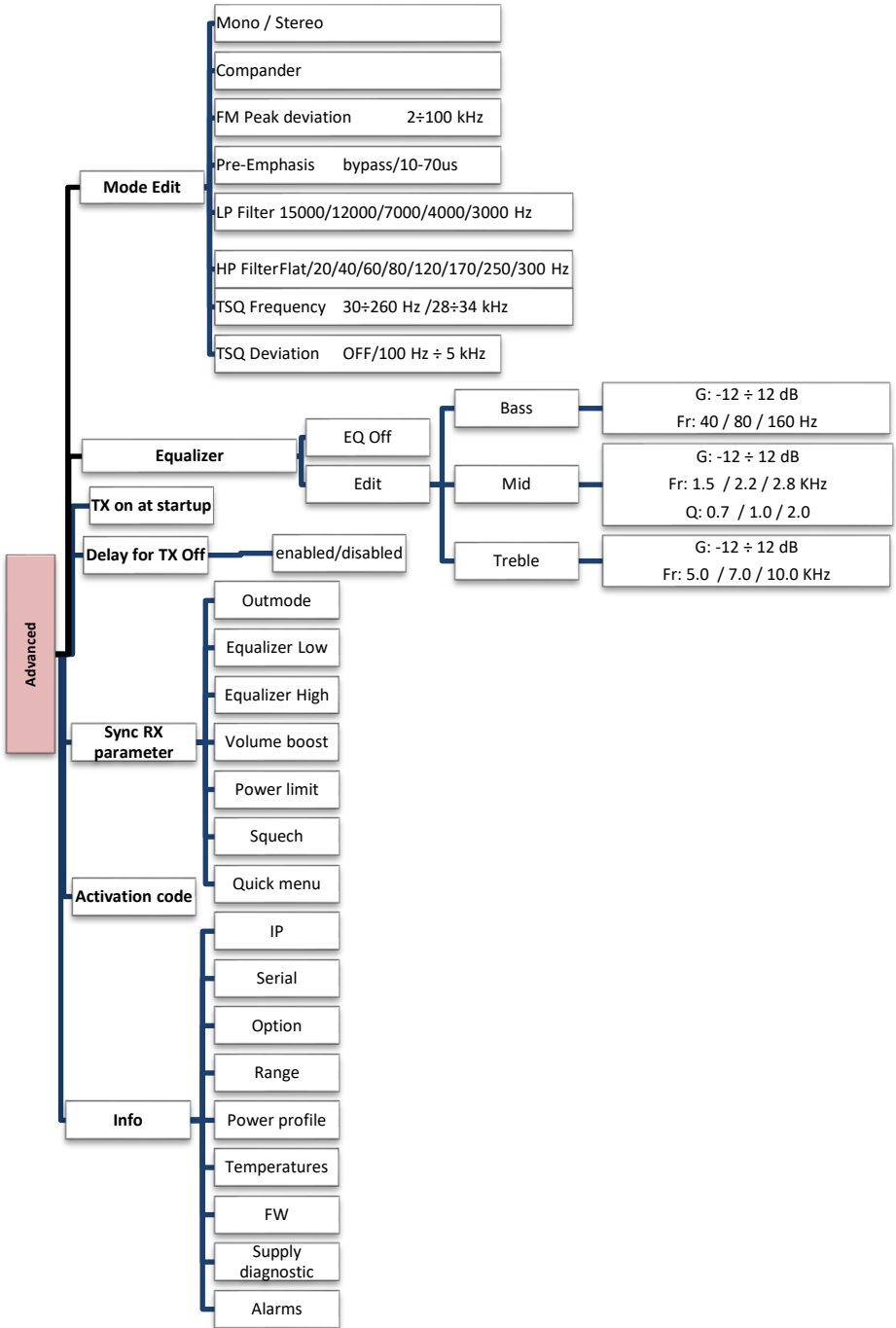
The main view has the following info:

- ① transmitter name
- ② current channel number and current tuning frequency
- ③ current group number and group name
- ④ current mode
- ⑤ TV channel used for the current frequency
- ⑥ current TX power setting
- ⑦ current SWR (Stationary Wave Ratio)
- ⑧ power supply type ( for AC power  for DC power)
- ⑨ menu

Thru the main menu on the LCD display and the LED bars for the AF level and modulation the user has the complete monitoring in real time of the wireless channel in use.

MENU TREE





To access the configuration menu of the transmitter is necessary to press the rotary knob (at the right of the display ①).

To activate one of the items in the menu, press ENTER button ②.



MAIN MENU

Ch-Gr


The **CHANNEL-GROUP** item enables the user to edit channel, channel group and frequency of the selected item. Change, rotating the knob, the channel or the group of channels and confirm or exit with the buttons. To edit the frequency of selected channel, press the middle button and change it with the knob. Press the knob to move between MHz and KHz. Confirm or exit with the buttons.

As shown in the above picture, the display area has 3 rows with:

- 1) Channel number (0 to 60) and Channel frequency (in 5kHz step)
- 2) Number (1 to 40) and Group name (8 char.)
- 3) Group description (30 char.)

The MTK982 has 40 groups of 60 channels each. Normally this is too much for wireless microphones applications.

Connecting with computer with WISYCOM Rack MANAGER software, it is possible to hide single channels or even complete groups of channels: once hidden those items are not shown anymore on the channels or groups selection. To show channels or groups hidden use again the WISYCOM Rack MANAGER software.

Using this software it is also possible to lock channels or groups. When a channel is locked, it is not possible to change the frequency from the front panel of the transmitter. Locking a group means that all channels are locked. When a channel or a group are locked, at the left of the group name in the Chan-Group menu will appear a lock icon . When the lock picture is shown, the central button is not displayed, thus changing frequency is not possible.

Group name

The second item on the Main menu is **GROUP NAME**; with this function is possible to assign or change a name to a group of channel. This short name (8 character) is displayed at the right of the group number in the main display view. First chose the group and then press the knob. You will be able to edit any character of the group name rotating the knob. Push the knob to edit the next character. Confirm or exit with the buttons.

NOTE: when the Group name is SYNC (see [synchronization](#)) it is not possible to change it.

Mode

The MODE menu allows to assign a Mode setting at the transmitter. Rotating the knob it is possible to change current mode among the modes available.

TX on air at startup

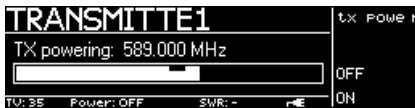
This menu allows to decide if turn ON or turn OFF the RF power of the transmitter while the MTK982 is powering on.

If set to No: while the MTK982 is powering on, the RF output remains mute. The Status Screen on the display shows “TX OFF “ and the set Group, Channel and frequency.

NOTE: When the RF power of the transmitter is OFF, all the led and the bars remain turned off. Pushing the rotatory knob (at the right of the display) it is possible to activate the led and bars (keeping the RF power OFF) and enter on the menu.



In order to activate the RF output press the 3rd button at the bottom (see indication “ON” on the display).



If set to Yes: during the MTK982 power on, the progress bar appears for 10 seconds.

During this interval (10 sec.) it is possible to switch off the RF output. If no button is pushed, at the end of the timer the RF output is enabled automatically.

TX power

This menu allows to set the power of the transmitter. Rotating the knob it is possible to change current TX power setting from 10 to 2000 mW.. In the same screen is showed the reflected power and the SWR (Stationary Wave Ratio) sensing on antenna outputs.



The set TX power and the measured SWR are always showed at the bottom of the display.

Audio source

This menu allows to set several parameters of audio input

Parameters	Range setting	Function
Input	digital/analog	To set the audio input
Max audio level	-6/0/6/12/18 dBu	To change (increase or decrease) the analogue audio input for

(only for analog input)		both R(right) and L(left) channels input
Audio gain left	-20÷24dB	To change (increase or decrease) the input level of the left channel on DSP
Audio gain right	-20÷24dB	To change (increase or decrease) the input level of the right channel on DSP
AF level meter	input/modulation	To set which AF level is shown in the two LED bars for the AF levels (L=left & R=right levels): they can show AF input levels or modulation levels (after the pre-emphasys and compander phases)
Mono config (only for mono Mode)	Mono/mono-R/mono-L	To set the type of mono input
Auto switch DIG->AN	enabled / disabled	If enabled and the digital signal is lost (parameter Input set to digital), the transmitter takes the signal from the analog input.

Equalizer

This menu allows to of adjusting the gain between frequency components (bass, mid and treble) within the audio signal. There are 4 windows in cascade:

bass windows: allows to change gain and frequency of low frequencies

mid windows: allows to change gain and frequency of middle frequencies

treble windows: allows to change gain and frequency of high frequencies

eq windows: allows to save the equalization parameter or exit without save

Each window shows the following information:

1 windows name
 2 parameter to set (gain or frequency)
 3 graphic equalizer: frequency on horizontal axis, gain on the vertical axis
 4 set gain
 5 set frequency
 6 LP filter set in the mode menu
 7 HP filter set in the mode menu

For each window it is showed the graphic equalizer which help to see the set parameters. Push the rotatory knob to change the parameter between gain and frequency (the respective letter **G** or **Fr** is highlighted during the setting phase) and

rotate it to change the value of the parameter. The set value is showed on the bottom of the windows (see points 4 and 5 on the above image). Push the lower membrane button to go on the next windows.

The following table recaps the settable values on the 3 windows:

	Fr (frequency)	G (gain)	Q (Q factor)
bass	40/80/160 Hz	-12÷12dB (1dB step)	-
mid	1.5/2.2/2.8kHz		0.7/1.0/2.0
treble	5/7/10kHz		-


NOTE: High Q factor means narrow bandwidth. Low Q factor means wide bandwidth.

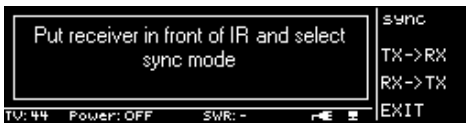
Synchronization

The SYNC function is useful to tune a transmitter on the same frequency of the receiver via the IR interface.

- Enable the IRDA on the receiver and place the IR windows of the receiver in front of the IR interface of the transmitter as indicate in the below image.



- Press the SYNC button  on the transmitter: the following message is showed on both the displays



- Using the membrane buttons of the desired transmitter (TX1 or TX2) select:
 - TX->RX to set the receiver at the same frequency of the transmitter:

the transmitter will send to the receiver some parameters (frequency, channel, group and transmitter’s name) and after synchronization, the receiver shows the name of the transmitter

- RX->TX to set the transmitter at the same frequency of the receiver:
the receiver will send to the transmitter some parameters (frequency, channel, group and receiver’s name) and after synchronization, the transmitter shows the name of the receiver (ex. *SINGER_1*)

If the operation is not possible, (i.e. the frequency range of the transmitter is not compatible with the frequency of the receiver or vice versa), the display shows an error message.

If the synchronization is successful, the display of the devices shows number of channel and group or SYNC channel according to the frequency plan memorized on the Wisycom product:

CASE A: if frequency, channel and group are the same in the two devices, channel and group are also displayed (ex: *CH00: 566.000, GR39: Unlock*)

CASE B: If frequency, channel & group of the transmitter are different from those of the receiver, the transmitter shows only the frequency after the word SYNC. (ex: *SYNC: 620.000*)

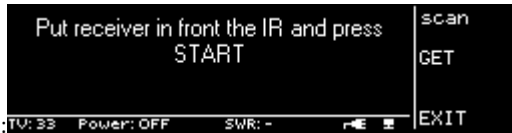
Ex: RX->TX

	Message displayed after the synchronization	Status screen
Case A	<pre> Sync completed SINGER_1 GR/CH: 39/00 - 566.000 MHz TV: 33 Power: 10mW SWR: 1.60 EXIT </pre>	<pre> SINGER_1 CH00: 566.000 GR39: Unlock MODE00: ENR-Wisy Stereo TV: 33 Power: 10mW SWR: 1.60 menu MAIN MODE OFF </pre>
Case B	<pre> Sync completed SINGER_1 SYNC: 620.000 MHz TV: 33 Power: 10mW SWR: 1.56 EXIT </pre>	<pre> SINGER_1 SYNC: 620.000 MODE00: ENR-Wisy Stereo TV: 33 Power: 10mW SWR: 1.57 menu MAIN MODE OFF </pre>

Scan

The SCAN function allows to display a results of a scan previously done from a MPR50-IEM or MPR52-ENG.

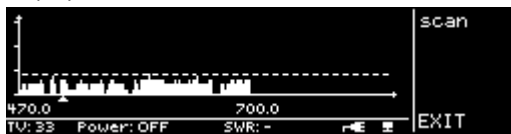
- Do a scan with an MPR50-IEM
- Enable the IRDA on the receiver or select the function Deploy on the SCAN menu (only for MPR50-IEM) and place the IR windows of the receiver in front of the IR interface of the transmitter
- Press the SCAN button on the transmitter: the following message is showed on both the displays.



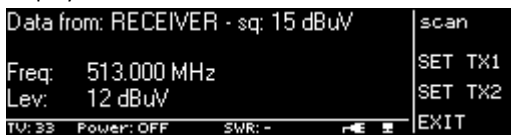
- Using the membrane buttons of the desired transmitter (TX1 or TX2) select GET
- Wait some seconds (the receiver sends all the data of the scan to the transmitter)
- The display of transmitter1 show the scan result in graphic way, while the display of transmitter2 gives more detailed information of the result (according to the position of the cursor in display1)

Ex. FREQUENCY SCAN

Display of Transmitter1



Display of Transmitter2



Ex: GROUP SCAN

Display of Transmitter1



Display of Transmitter2

Data from: RECEIVER - sq: 15 dBuV	scan
GR: 00	
Free: 17 Almost free: 11	
TU: 40 Power: OFF SWR: -	EXIT

- Use the membrane buttons on display2 to set the frequency to TX1 – TX2

NOTE: The results of the scan are saved on the volatile memory of the transmitter:

- After the switch off of the transmitter the data are lost.
- It is possible to re-load the data of a previous scan. Pushing the SCAN button and selecting VIEW

DATA PRESENT	scan
Groups scan	GET
	VIEW
TU: 33 Power: OFF SWR: -	EXIT

Alarm List

When an alarm occurs, the MTK982 can do one or more of the following acts:

A. Show a message on the display



B. Turn on the yellow or red alarm led



C. Insert the alarm on the alarm list in the MAIN>Options>Info>Alarms menu

The alarm can be related to a specific transmitter (TX1 or TX2) or general. Shown below the complete alarms list:

Alarms	Code	Type	Message on display (A)	Led (B)	Alarm list (C)
TX Power Mismatch	-	TX	ATTENTION: antenna mismatch! High SWR on Tx out	yellow	no
TX Power reduced	0x05	TX	ATTENTION: antenna mismatch! High SWR on Tx out. Rf pwr reduced	yellow	Tx power reduced
Timeout 5 sec on PLL	0x84	TX	ATTENTION: RF PLL lock lost	red	Rf PLL lock lost
Errore bus I2C		general	EEPROM access error (only on TX1)	red	Error on I2C bus
Timeout 5 sec on PLL OL969	0x84	general	ATTENTION: OL PLL lock lost (only on TX1)	red	OL PLL lock lost
High internal temperature	0x04	general	ATTENTION: internal temperature high (only on TX1)	yellow	High internal temperature
Fan #1 doesn't work	0x02	general	ATTENTION: fan #1 doesn't work properly (only on TX1)	yellow	Fan #1 doesn't work
Fan #2 doesn't work	0x03	general	ATTENTION: fan #2 doesn't work properly (only on TX1)	yellow	Fan #2 doesn't work
Recovered configuration and calibration data from copy1 on the memory	0x80	general	no	no	Mem. copy1 recovered
Recovered configuration and calibration data from copy2 on the memory	0x81	general	no	no	Mem. copy2 recovered
Load default configuration and calibration data	0x8D	general	no	no	Mem. init. Service req.

Troubleshooting

Alarms	Alarm description	Troubleshooting
TX Power Mismatch	The SWR on Tx out is too high	<ul style="list-style-type: none"> - check if the antenna is correctly connected - check if the antenna cable is correctly connected - check if the antenna frequency is according to the one set on the transmitter
reduced TX Power	The SWR on Tx out is too high, the RF power is reduced	<ul style="list-style-type: none"> - check if the antenna is correctly connected - check if the antenna cable is correctly connected - check if the antenna frequency is according to the one set on the transmitter
Timeout 5 sec on PLL	Error during frequency tuning	- send to repair at Wisycom Repair Centre
bus I2C Error	Error on I2C bus	- send to repair at Wisycom Repair Centre
Timeout 5 sec on PLL OL 969	Error during frequency tuning	- send to repair at Wisycom Repair Centre
High internal temperature	One of the 4 temperature sensors measures a temperature > 60°C	<ul style="list-style-type: none"> - check if the two fans work properly (check alarms code 0x02 or 0x03 on the alarm list) - switch off the MTK982 for cooling and check the location temperature - clean the ventilation grids
Fan #1 doesn't work	The fan on the left (#1) doesn't turn	- switch off and switch on the MTK982
Fan #2 doesn't work	The fan on the right (#2) doesn't turn	- switch off and switch on the MTK982
Recovered configuration and calibration data from copy1 on the memory	During the MTK982 initialization phase, the CRC-16 check of data (copy1) detects error.	- none (the MTK982 automatically replaces the corrupt copy1 with copy2)
Recovered configuration and calibration data from copy2 on the memory	During the MTK982 initialization phase, the CRC-16 check of data (copy2) detects error.	- none (the MTK982 automatically replaces the corrupt copy2 with copy1)
Load default configuration and calibration data	During the MTK982 initialization phase, the CRC-16 check of data (copy1 and copy2) detects error.	- check in the MAIN>Options>info menu the Serial take on the 'UNCAL' vale. In this case send the MTK982 to the Wisycom Repair Centre for recalibration.

If a problem not listed in the above table occurs or if the problem cannot solved with the proposed troubleshooting, please contact support service at support@wisycom.com or sales@wisycom.com.

Mode setting & Wisycom receiver compatibility

MODE SETTING						WISYCOM RECEIVER
Name	Mono/Stereo	Compander type	Max peak deviation	Send Tone Sauelech		
ENR-Wisy Stereo	Stereo	ENR	48 kHz	NO		MPR50-IEM
ENC-Wisy Stereo	Stereo	ENC	48 kHz	NO		MPR50-IFB
ENS-Wisy Stereo	Stereo	ENS	48kHz	NO		MPR50-IEM/IFB
ENR-Wisy	Mono	ENR	56 kHz	YES		MCR42
ENC-Wisy	Mono	ENC	56 kHz	YES		MPR5X-ENG MRK980
ENS-Wisy	Mono	ENS	56kHz	yes		MPR50-IEM/IFB
IFB-Wisy	Mono	ENR	40 kHz	YES		MRP50-IFB
COM-Wisy 25K	Mono	NR	4,5 kHz*	YES		CPR30
COM-Wisy 20K	Mono	NR	4 kHz*	YES		CSR50
COM-Wisy 12k5	Mono	NR	2,3 kHz*	YES		RP300 (Rx)

*adjustable parameter

NOTE: receiver and transmitter have to be configured with the same compander type

TECHNICAL SPECIFICATION

Frequency ranges	From 430 to 1260 MHz, depends on the country (see Configurations)
Switchable channels	2400 managed in 40 groups of 60 frequencies completely user customizable
Switching-window	330 MHz tuneable
Frequencies	5 kHz steps
RF Power	switchable typ. 10,20,30,50,75,100,150,200,250,400,500,750,1000,1200,1500,2000 mW (ERP)
Max RF output power	2 Watt, RF power can be limited on frequency base accordingly to specific country restrictions
Antenna connector	2 x BNC type female
Auxiliary RF connector	2 x SMA type female
RF impedance	50 Ω
Modulation	FM, MPX Stereo or mono, selectable with dedicated menu
Peak deviation	± 56 kHz for mono wideband, ± 35 kHz for mono narrowband, ± 48 kHz for stereo (preset mode)
MPX Pilot tone	19kHz
Tone squelch	32.789Hz (for Wisycom wireless microphone, i.e. ENR/ENC) 131,8 (for Wisycom intercom, i.e. NR) NOTE: custom setting can change the Tone squelch (30-260Hz and 18-38KHz)
Spurious emissions	< 2 nW
Noise Reduction system	ENS, ENC, ENR, NONE-d50, no compander, pre-emphasis 50 μ s NR, to work with Wisycom Intercom system Other compander on request
AF bandwidth	20 \div 20kHz (mono) 30 \div 15kHz (stereo) NOTE: custom setting can change audio bandwidth (3/4/12/15/20kHz)
Audio input connector	XLR-3 / 1/4" (6,3mm) jack combo socket, electronically balanced
Audio input level	+18dBu
Pin Assignments	XLR: 1=ground 2=hot 3=cold 6.35mm (1/4") TRS: Tip=hot Ring=cold Sleeve=ground
Digital output	AES3 on XLR-3M (32kHz \pm 108 kHz)
Monitor output	6.35mm (1/4") jack socket, balanced
Monitor output level	120+120mW@24 Ω , 80+80mW@150 Ω
Monitor out impedance	25 Ω for auricle
Managing interface	10/100 Base TX Ethernet port on RJ45 connector
Display	64 x 256 OLED (white)
Power supply	90 - 264 V AC, 47/63 Hz
DC options	10-28 Vdc, 6A max
Temperature range	-10 \div +55 $^{\circ}$ C
Dimensions	19"/1U 43,8 x 483 x 349 mm (HxWxD) with brackets
Weight	4 kg approx.

Configurations

MTK982 - <Country> - <PowerSupply>

Country Power Profile:

- EU** Europe (max power 50mW)
- EUX** Europe (max power 200mW for 0W2, 2Watt for 2W0)
- US** USA
- CA** Canada

Power Supply:



- DC** redundant Vdc power supply

Conformity:

Conformity identification is visible on the display by accessing from the Main menu the Info> Standard submenus:

- **step 1: access submenu Info**
- **step 2: access submenu Standard.**

- there are no special codes, accessories, or permissions to unlock the screen and accessing to the Info> Standard menu.
- the Conformity identifier is clearly legible on the display without the aid of magnification.
- the regulatory information is secured and implemented in a factory-set-unalterable format.

Model	In Compliance with	Max Power& Freq. range [MHz]	Country
MTK982-EU	EN 301 489-1/-9 EN 600065 EN 300 422-1/-2	50 mW 470-700MHz	Europe CE
MTK982-EUX	EN 301 489-1/-9 EN 600065 EN 300 422-1/-2 EN 300 454-1/-2	2W*1 470-700MHz	Europe CE
MTK982-US	 PART 74 FCC-ID: POUMTK982	250 mW 470,075-607,925 20 mW 614,075-615,925 653,075-656,925 657,075-662,925 1000 mW 941.5-959.85	USA
MTK982	RSS-123, RSS-210 IC: 11967A-MTK982	250mW 470,075-607,925 20 mW 614,075-615,925 653,075-656,925 657,075-662,925 1000 mW 941.5-959.85	Canada
MTK982-U15	 PART 15 FCC-ID: POUMTK982	50mW 470,075-607,925 20 mW 614,075-615,925 653,075-656,925 657,075-662,925	USA

*1 MTK982-EUX is not an SRD device, thus it requires specific authorization by your local frequency authority!

**Before putting the device into operation, please observe the
respective country-specific regulations!**

MANUFACTURER DECLARATIONS

In compliance with the following requirements

- RoHS Directive (2002/95/EC)



- WEEE Directive (2002/96/EC)
Please dispose of the diversity transmitter at the end of its operational lifetime by taking it to your local collection point or recycling center for such equipment

ITALY ONLY

Obblighi di informazione agli utilizzatori

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"

Smaltimento di apparecchiature elettriche ed elettroniche di tipo professionale



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 è 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 ambientale 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.

Iscrizione al Registro A.E.E. n. IT0910000006319

Statements regarding FCC and Industry Canada

EN

This device operates on a no-protection, no-interference basis. Should the user seek to obtain protection from other radio services operating in the same TV bands, a radio licence is required. For further details, consult Innovation, Science and Economic Development Canada's document Client Procedures Circular CPC-2-1-28, Voluntary Licensing of Licence-Exempt Low-Power Radio Apparatus in the TV Bands.

This device complies with Industry Canada RSS-123 and RSS-210.

This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS(s).

Operation is subject to the following two conditions:

- (1) This device may not cause interference.
- (2) This device must accept any interference, including interference that may cause undesired operation of the device.

Antennas are not provided with this device. This radio transmitter (IC: 11967A-MTK982) has been approved by Industry Canada to operate with the antenna having a maximum gain of 3 dBi. Antennas having a greater gain are strictly prohibited for use with this device. The required antenna impedance is 50 ohms.

The antenna(s) must be installed and operated at a minimum distance of 20cm between the radiator and your body.

FR

Ce dispositif fonctionne selon un régime de non-brouillage et de non-protection. Si l'utilisateur devait chercher à obtenir une certaine protection contre d'autres services radio fonctionnant dans les mêmes bandes de télévision, une licence radio serait requise. Pour en savoir plus, veuillez consulter la Circulaire des procédures concernant les clients CPC-2-1-28, Délivrance de licences sur une base volontaire pour les appareils radio de faible puissance exempts de licence et exploités dans les bandes de télévision d'Innovation, Sciences et Développement économique Canada.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio RSS-123 and RSS-210.

L'émetteur/récepteur exempt de licence contenu dans le présent appareil est conforme aux CNR d'Innovation, Sciences et Développement économique Canada applicables aux appareils radio exempts de licence.

L'exploitation est autorisée aux deux conditions suivantes :

- 1) L'appareil ne doit pas produire de brouillage;
- 2) L'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Les antennes ne sont pas fournies avec cet appareil. Cet émetteur radio (IC : 11967A-MTK982) a été approuvé par Industrie Canada pour fonctionner avec l'antenne ayant un gain maximum de 3 dBi. Antennes ayant un gain supérieur sont strictement interdites pour une utilisation avec ce produit. L'impédance nécessaire de l'antenne est 50 ohms. Les antennes doivent être installées et utilisées à une distance minimale de 20 cm entre l'émetteur et votre corps

FCC PART 15

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.

Note: the grantee is not responsible for any changes or modifications not expressly approved by the party responsible for compliance. such modifications could void the user’s authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Changes or modifications made to this equipment not expressly approved by Wisycom srl may void the FCC authorization to operate this equipment.

Antennas are not provided with this device. This radio transmitter (FCC ID: POUMTK982) has been approved by FCC to operate with the antenna having a maximum gain of 3 dBi. Antennas having a greater gain are strictly prohibited for use with this device. The required antenna impedance is 50 ohms.

The antenna(s) must be installed and operated at a minimum distance of 20cm between the radiator and your body.

Wisycom recommend to use the omnidirectional antenna **ADN2** (with N connector) or **ADB2** (with BNC connector)



SPECIFICATIONS

- Gain: 3dBi typical
- Bandwidth: < 1:1.5 in the range 430 ÷ 960 MHz
 < 1:1.9 in the range 430 ÷ 1160 MHz
- Polarization: vertical



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