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GOOZEEZOO 2023 Upgraded 1.10D V4 Malachite DSP SDR Receiver

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Contents

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Product Information

- **Specifications:**
  - **Frequency Range:** 50KHz~250MHz, 400MHz~2000MHz

- **Demodulation:** AM, SSB, NFM, WFM, CW
- **Functions:** Variable filter width, Adaptive noise suppressor, Threshold noise suppressor, Noise blazer, AGC, Equalizer
- **Demodulation Chip:** msi001
- **Microcontroller:** stm32h743 with 480MHz clock frequency
- **Display:** 3.5-inch LCD touch screen
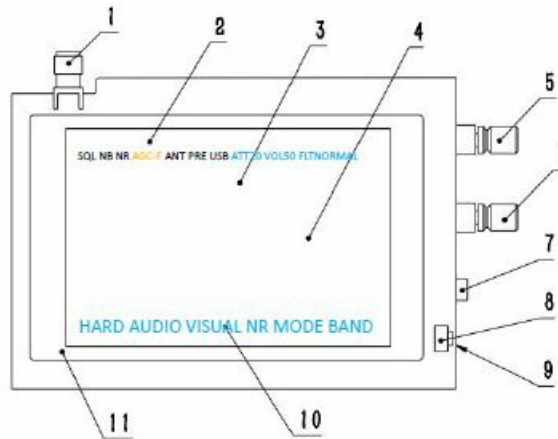- **Power Source:** Built-in 2000mAh battery and USB power supply

Product Usage Instructions

- **Power and Display:**
  - To power on or off the device, short-press the Start button. Long press the Start button to enter sleep mode.
- **Frequency and Step Value Adjustment:**
  - Use the Frequency encoder to adjust the frequency value and press it to adjust the step value.
- **Audio Settings:**
  - Use the Audio Port for headset connection. The green indicator means audio is enabled, grey means disabled. Press the indicator to toggle the status.
- **Menu Navigation:**
  - Access different menus by pressing the corresponding buttons: HARD, AUDIO, VISUAL, NR, MODE, and BAND. Each menu offers specific functions and settings.
- **Quick Frequency Setting:**
  - Press the frequency indicator to access the quick frequency setting mode. Input the frequency and select the appropriate unit.
- **Waterfall Feature:**
  - Press the waterfall button to change the Spectrum range displayed on the screen.
- **Frequently Asked Questions (FAQ):**
  - **Q: How do I know if the battery is low?**
    - **A:** The battery power indicator shows green when it's okay and red when the battery is low. Please charge it in time when the indicator turns red.
  - **Q: How do I adjust the audio volume?**
    - **A:** Use the Volume encoder to adjust the volume value up or down. Short press to access other audio parameters.
  - **Q: What is the purpose of the Demodulation chip?**
    - **A:** The chip msi001 provides complete demodulation functions with high integration and reliability for signal processing.

PRODUCT CHARACTERISTIC

- **SDR:** The function is determined by the loaded software.
- **Frequency value:** Range 50KHz~250MHz,400MHz~2000MHz.
- **Demodulation:** AM,SSB,NFM,WFM,CW.
- **Powerful functions:** Variable filter width, Adaptive noise suppressor, Threshold noise suppressor, Noise blazer, AGC, Equalizer.

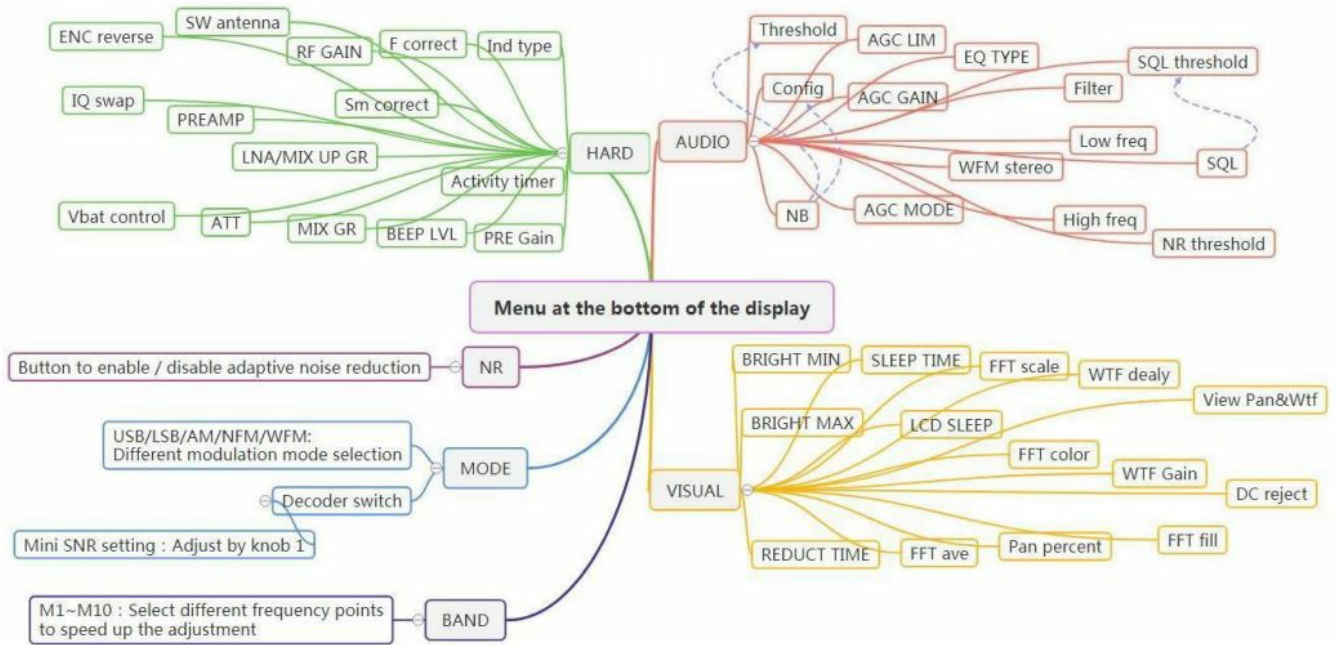- **Demodulation chip:** Use the chip msi001 with complete functions, high integration and high reliability.
- **Mcu:** The powerful stm32h743 with 480mhz clock frequency is applied.
- **LCD:** 3.5-inch display with touch screen.
- **Battery:** Built-in battery and USB power supply, charged by USB. Built-in battery capacity up to 2000 MA / h.
- **Connected:** USB connected to the computer, cat, IQ and audio can be transmitted.

SN	Introduction
1	Ant: Antenna Port, SMA-K.
2	SQL, NB, NR, AGC-F, ANT, PRE, USB, ATT20, VOL50, FLT NORMAL, functions of the switch prompt display. Light means on, and grey means off. Battery power indicator: Green is ok, red means low battery. When the battery is, please charge it in time.
3	Signal strength indication. Signal-to-noise ratio indication function. Frequency value: Frequency value, range 50KHz~250MHz, 400MHz~2000MHz.250MHz~400MHz not include. Step value: frequency step value, range 1KHz~1MHz. Audio indicator: one for headset, one for back speaker. green for enable, grey for disable.press indicator to change status.
4	Spectrum analyzer window. Time: Long press the HARD menu for 3 seconds then release, and go into time edit. Use a volume encoder to adjust time. At last, long press to confirm. waterfall chart window.
5	Volume: Volume encoder, up and down to adjust volume value, short press to other parameters. Short press to go out the menu edit page.
6	Frequency: Frequency encoder, up and down to adjust frequency value, short press to adjust step value. Short press to go out the menu edit page.
7	Audio: Audio Port for headset.
8	Start: Short press to start or close the screen. Long press to go to sleep mode.
9	Usb: Type-c Usb, Charging Port.
10	Menu lists: HARD, AUDIO, VISUAL, NR, MODE, BAND. Detailed description see below.
11	LCD: 3.5-inch display with touch screen.

Button Function

Menu button function table:

Menu at the bottom of the display

HARD
- ENC reverse
- SW antenna
- RF GAIN
- F correct
- Ind type
- IQ swap
- PREAMP
- Sm correct
- LNA/MIX UP GR
- Activity timer
- Vbat control
- ATT
- MIX GR
- BEEP LVL
- PRE Gain

AUDIO
- Threshold
- AGC LIM
- EQ TYPE
- SQL threshold
- Config
- AGC GAIN
- Filter
- Low freq
- SQL
- WFM stereo
- NB
- AGC MODE
- High freq
- NR threshold

NR
- Button to enable / disable adaptive noise reduction

MODE
- USB/LSB/AM/NFM/WFM: Different modulation mode selection
- Decoder switch
- Mini SNR setting : Adjust by knob 1

BAND
- M1~M10 : Select different frequency points to speed up the adjustment

VISUAL
- BRIGHT MIN
- SLEEP TIME
- FFT scale
- WTF dealy
- View Pan&Wtf
- BRIGHT MAX
- LCD SLEEP
- FFT color
- WTF Gain
- DC reject
- REDUCT TIME
- FFT ave
- Pan percent
- FFT fill

HARD	**Short press the HARD menu into or out of the edit. Time Setting: Long press the HARD menu for 3 seconds then release, and go into time edit. Turn the volume encoder to adjust the time, and short press to change position. At last, a long press volume encoder to confirm.**
ENC reverse	En1 reverse: reverse frequency encoder direction. Default is disabled, turn it down to add frequency and step value. Reverse, when enabled, turns up to add value. En2 reverse reverse volume encoder direction. The default is disabled, turn down to add volume value. Reverse, when enabled, turns up to add value.
IQ swap	IQ signal swap
Vbat control	Power consumption mode control
SW antenna	Impedance matching selection of shortwave antenna
PREAMP	Preamplifier Tianguan setting
ATT	Attenuator settings: Select by touching, then adjust knob 1 to set the numerical value.
RF GAIN	RF gain setting: Select by touching, then adjust knob 1 to set the numerical value.
LNA/MIX UP GR	Press LNA/MIX UP GR to enable or disable the LNA/MIX UP GR function.
MIX GR	Press MIX GR to enable or disable the MIX GR function.
F correct	Receiving frequency error correction
Sm correct	Receiving SM error correction.

BEEP LVL	Adjust BEEP LVL by volume encoder.
Ind type	Touch switch Ind type.
Activity timer	Adjust the activity timer by volume encoder.
PRE Gain	Adjust PRE gain value by volume encoder.

AUDIO		**Short press the AUDIO menu into or out of the edit.**
NB	Threshold	Adjust noise balancer threshold by volume encoder.
	Config	Adjust noise balancer config value by volume encoder.
	NB	Noise balancer
AGE	AGC LIM	Adjust AGC LIM value by volume encoder.
	AGC GAIN	Adjust AGC gain value by volume encoder.
	AGC MODE	AGC has OFF, FAST, MIDDLE, SLOW, LONG mode. Adjust selection AGC MODE by volume encoder.
EQ WFM	EQ TYPE	This machine has VOICE, POP, JAZZ, BASS, ROCK, CLUB, LIVE, SOFT, and OFF equalizer modes. Adjust selection EQ TYPE by volume encoder.
	WFM stereo	Press WFM stereo to enable or disable the WFM stereo function.
FILTER	Filter	audio filter,narrow for 8000Hz, normal for 12000Hz, wide for 15000Hz.
	Low freq	Frequency regulation of lower cut-off of the filter
	High freq	Frequency regulation of the upper cut-off of the filter
SQL NR SQL NR	SQL threshold	When SQL is enabled, the SQL threshold can be adjusted by the encoder.
	SQL	Press SQL to enable or disable the SQL function.
	NR threshold	When NR is enabled, the NR threshold can be adjusted by the encoder.
VISUAL		**Short press the VISUAL menu into or out of the edit.**
BRIGHT MIN		Adjust the minimum brightness by volume encoder.
BRIGHT MAX		Adjust the maximum brightness by volume encoder.
REDUCE TIME		The machine does not operate the LCD to enter the

	low brightness delay time.
SLEEP TIME	When LCD SLEEP is enabled, after this value, the screen will close to saving the battery.
LCD SLEEP	When enabled, after the SLEEP TIME, the screen will close to saving battery.
FFT ave	Average speed of spectrum analyzer
FFT scale	Display range of spectrum analyzer
FFT color	FFT display colour selection.
Pan per cent	FFT shows Pan per cent.
WTF delay	WTF delay
WTF Gain	WTF Gain
FFT fill	FFT display fill.
View Pan&Wtf	Pan&Wtf display switch settings
DC reject	Adjust the DC rejection threshold by volume encoder.
NR	**Press NR to enable or disable the NR function. The NR indicator will be grey for disable or red for enable.**
MODE	**This machine has USB, LSB, AM, NFM, WFM mode. The decoder can en able or disable the CW decoder.**
BAND	**The band menu has 5 pages and a total of 50 choices. Turn the frequenc y encoder to change the page index.**

Quick frequency setting:

- Press the frequency indicator to go into the quick frequency setting page.
- Quick input the frequency then select the right Unit.

Waterfall:

- Waterfall Press the waterfall to change the Spectrum range.

Register:

- All machines have been registered at the factory. Do not need to input serial numbers again.
- If needed, turn the volume encoder to change the value, and short-press the volume encoder to change position. At last long press frequency encoder to confirm.

Reset:

- Long press both the volume encoder and frequency encoder at the same time to reset. All settings will restore to the initial factory setting. The registered info will be kept.
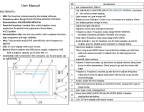
Antenna:

- The Antenna comes with machine is a 433MHz antenna. Select the WFM mode and set the frequency to 90~110MHZ to enjoy the WFM radio. If you need to receive AM or LSB radio, please buy the right Antenna.

First time to use:

- Connect the antenna to the machine, select WFM mode, and set the frequency to 90MHz~110MHz. Enjoy it.

Documents / Resources

GOOZEEZOO 2023 Upgraded 1.10D V4 Malachite DSP SDR Receiver [pdf] User Manual
2023 Upgraded 1.10D V4 Malachite DSP SDR Receiver, 2023, Upgraded 1.10D V4 Malachite DSP SDR Receiver, 1.10D V4 Malachite DSP SDR Receiver, V4 Malachite DSP SDR Receiver, Malachite DSP SDR Receiver, DSP SDR Receiver, SDR Receiver, Receiver

References

- **User Manual**