

FU-15B 15W FM Transmitter User Manual

1. Operation Attention:

1. Only professional engineer is allowed to repair the device.
2. Please do lightning protection during bad weather like thunderstorms
3. Please DON'T touch the antenna after the transmitter is powered on
4. Please DON'T switch on the transmitter without connecting the antenna correctly.
5. Please DON'T use the transmitter in explosive environment (such as gas stations, gas, steam, etc).
6. Please DON'T use the transmitter in very dusty, damp or hot environment.
7. Please use the transmitter following the local wireless administration regulations.

2. Menu

1. Product feature
2. Product configuration
3. Front/Back Panel
4. Shortcut buttons
5. Operation Guide
6. Technical Specification
7. Common problem solution
8. PC control software

3. Product Feature

FU-15B is a practical and stable working transmitter of excellent ventilating feature, it integrates lots of functions and is easy to operate. It has many outstanding feature as below:

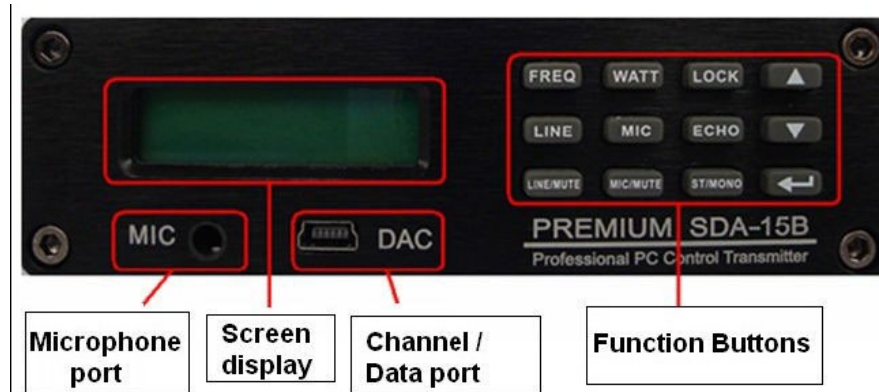
1. Output power is continuously adjustable from 0~15watt.
2. Output power auto-locking system.
3. Microphone Reverberation function, can be switch ON/OFF
4. Mono/Stereo channel is optional
5. With PC control function, easily control the transmitter through the FU-15B PC Control software.
6. With DAC function, digital audio transmission, more clear and stable audio effect.
7. VSWR protection function, when the antenna is not or wrongly connected, the automatic protection will be switched on.
8. Temperature protection: When the transmitter runs with very high temperature, the device will switch on automatic protection.
9. Shortcut buttons on the panel, easier and faster operation.

4. Product configuration

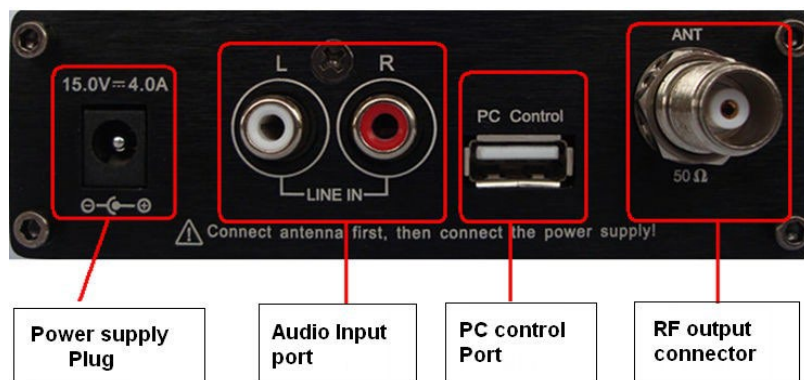
No.	Item Number	Description	Qty	Unit	Port
1	FM transmitter	FU-15B	1	pcs	NO
2	RF antenna	1/4 or 1/2 wave	1	set	TNC
3	Power adapter	DC15V/4A	1	set	15.0V-4.0A
4	USB line 1	USB male to male	1	pcs	PC Control
5	USB line 2	USB to T port (MINI)	1	pcs	DAC
6	Audio cable	1 to 2 type 3.5mm	1	pcs	LINE IN
7	Microphone	3.5mm port (Electret type)	1	set	MIC

*Front/back Panel description

1. Front Panel

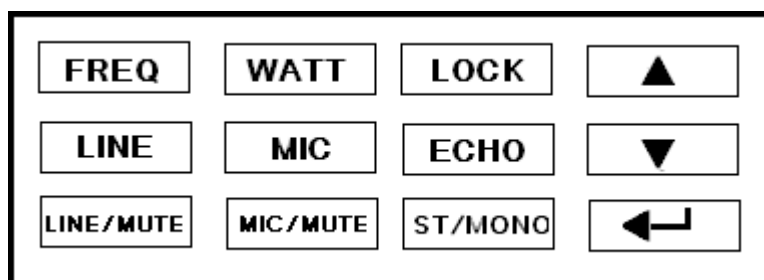


2. Back Panel



*Shortcut Buttons

1). Gallery



2).Description

No.	Name	Definition	Description
1	【FREQ】	Frequency	Press the button to frequency setting page
2	【WATT】	Power	Press the button to power setting page
3	【LOCK】	Lock	Press the button for 3 seconds, then Lock/Unlock the transmitter
4	【LINE】	Audio Signal	Press the button to the Audio volume setting page
5	【MIC】	Microphone	Press the button to the microphone volume setting page
6	【ECHO】	Reverberation	Press the button to Open/Shut the microphone Reverberation.
7	【LINE/MUTE】	Audio Mute	Press the button to Open/Shut audio mute effect.
8	【MIC/MUTE】	Microphone Mute	Press the button to Open/Shut microphone mute effect.
9	【▲】 / 【▼】	Adjust	In the parameter setting pages, 【▲】 means increase, 【▼】 means decrease
		Change	MONO/STEREO change page, 【▲】 means STEREO, 【▼】 means MONO.
		Turn	In the home page, press 【▲】 or 【▼】 to enter/exit the home page/second page.
10	【↶】	Exit	In the parameter adjusting pages, press this button to exit that page and turn back to home page.
		Standby	In the home page, press this button for 3 seconds to standby status.
		Alarm	When VSWR/Temperature is in danger and under protection, press this button to turn to home page.

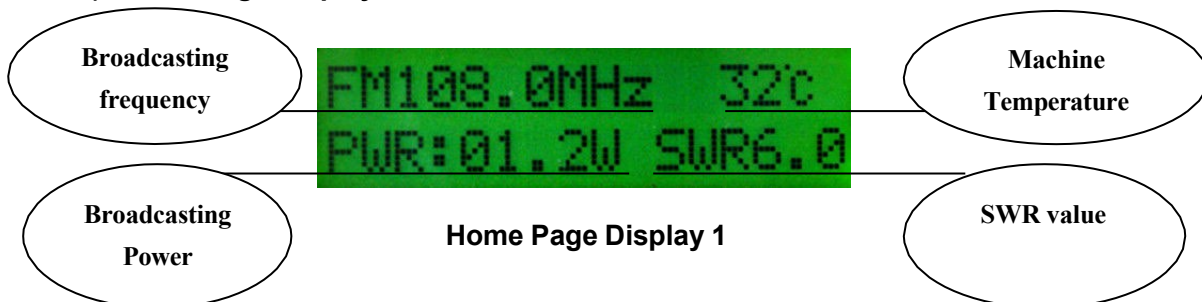
5. Operation Explanation

1). Character Display Description

No	Character Display	Name	Description
1	FMxxx.xMHz	Broadcasting frequency	The current broadcasting frequency is xxx.xMHz
2	PWR: xx.xW	Output power	The current output power is xx.x watt.
3	xx°C	Transmitter Temperature	The current amplifier tube surface temperature is xx°C
4	SWRx.x	SWR Value	The current SWR value is x.x , (Min.1.0 means no reflection, Maximum value 9.0 means the power are all reflected back. Smaller value means less power reflection)
5	LOCK	Button lock	Means all the buttons has been locked(not including 【LOCK】 button)
6	LINE: x x	Audio Volume	The Volume of Audio input
7	MIC: x x	Microphone Volume	The Volume of Microphone Input
8	LINE: ***	Audio Mute	To mute the Audio input
9	MIC: ***	Microphone Mute	To mute the microphone input
10	MIC: x xE	Microphone Reverberation	E means reverberation ON
11	ST▬ ==	Volume dynamic display	Dynamic displaying of the volume, the higher volume, the more sign of ▬ .

Remark: "x" represents for numerals; "****" represents for Mute

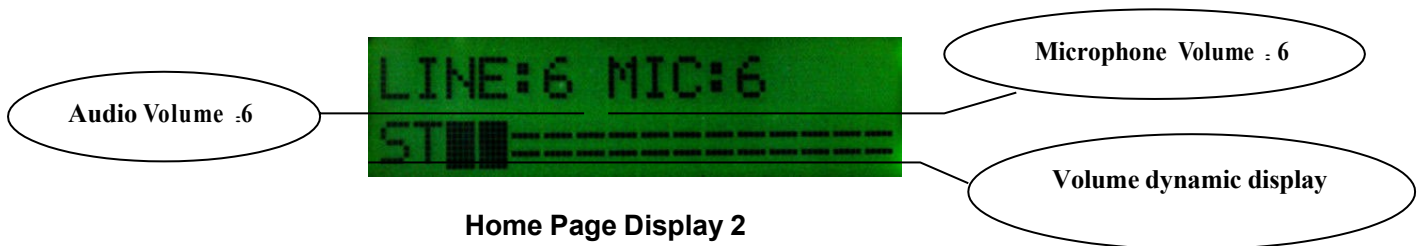
2). Home Page Display 1:



3). Home Page Display 2:

In the Home page, press 【▲】 or 【▼】 button to enter page 2 to check the audio volume and

microphone volume. Press **【▲】** or **【▼】** to home page.

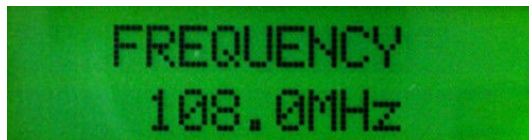


Home Page Display 2

Attention: In the parameter setting pages, if there isn't any operation in 30second, the interface will automatically go back to Home page.

4). Frequency Adjusting

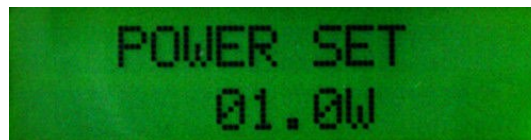
In the home page, press **【FREQ】** button to the frequency setting page, then press **【▲】** or **【▼】** button to adjust the value by 100kHz frequency for each step. After setting, press **【←】** to home page.



Frequency setting page

5). Power setting

In home page, press **【WATT】** button to the power setting page, press **【▲】** or **【▼】** to adjust the power between 0.2~15watt, then press **【←】** back to the home page.



Power setting page

6). Audio volume setting

In home page, press **【LINE】** to the audio volume page, press **【▲】** or **【▼】** button to adjust the volume between 1~13, then press **【←】** button back to the home page.



Audio Volume adjusting page

7). Microphone Volume setting

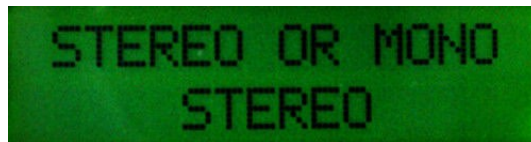
In home page, press 【MIC】 to the microphone volume setting page, press 【▲】 or 【▼】 to adjust the volume between 1~30, after setting press 【←】 back to the home page.



Microphone volume adjusting page

8). Mono/Stereo Setting

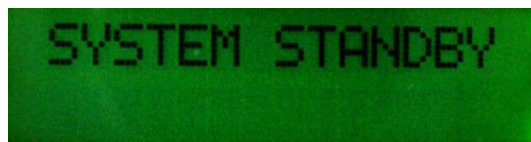
In homepage, press 【ST/MONO】button to the channel setting page, press 【▲】to enter Stereo status, press 【▼】 button to enter MONO status, then press 【←】 back to the home page.



Mono/Stereo Setting page

9). Standby or Switch ON.

In home page, press 【←】 button for 3seconds to the standby page, the transmitter will stop broadcasting. Press 【←】 to confirm return to the home page and switch to the previous status before standby.



Standby page

Attention: If you want to switch on the transmitter after standby at or below 0.2w broadcasting power, you need to adjust the power to 0.3watt or above to access to power locking.

10). Reverberation ON/OFF.

In home page, press 【ECHO】 to turn ON/OFF the reverberation effect.

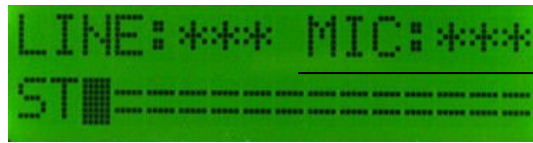


Reverberation ON

Home page Display 2

11). Microphone Mute

In home page, press **【MIC/MUTE】** button to turn ON/OFF the microphone.



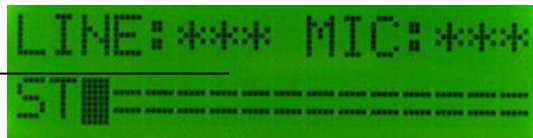
Microphone status: Mute

Home page Display 2

12). Audio Mute

In home page, press **【LINE/MUTE】** to turn ON/OFF audio line in volume.

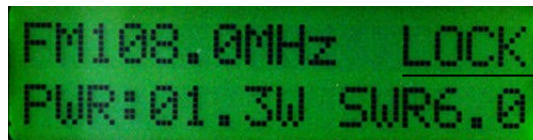
Audio Volume status: Mute



Home page Display2

13). Button Locking

In home page, press **【LOCK】** button for 3 seconds, all the other buttons will be locked/unlocked.

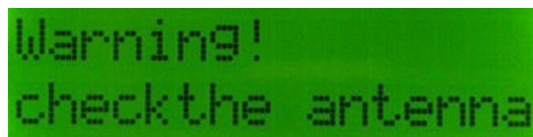


Buttons locking

Home page Display1

14). SWR Warning

When the SWR value goes beyond the limit, the transmitter will switch on protection automatically and stop broadcasting. Please solve the problems following our Problem solving guide and restart the transmitter. Or press **【←】** to the home page, in this case the power will automatically decrease to 1watt and you can start setting.



SWR Warning page

Attention: If the transmitter is working above 1watt, please use outdoor antenna.

15). Over-heat Warning

When the working temperature of the transmitter goes too high, the protection will be

automatically turned on, the transmitter will stop broadcasting. You can solve the problem following our problem solving guide, then restart the transmitter.



Over-heat warning page

16). SWR and Temperature Protection Setting

Press and hold the 【←】 button, then connect the power supply, release the button to enter in protection setting page.



Protection Setting Page

(1) SWR protection

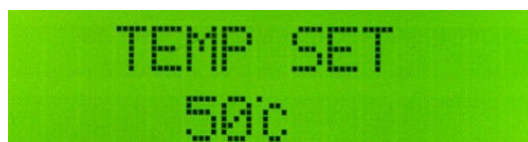
In the protection setting page, press 【▲】 button to enter in SWR protection setting page, press 【▲】 or 【▼】 to set the value between 2.5~4.0, then press 【←】 button to go back to protection setting page. Press 【←】 again to exit. The transmitter stays in working status.



SWR protection setting page

(2) Temperature protection

In the protection setting page, press 【▼】 button to enter in temperature protection setting page. Press 【▲】 or 【▼】 button to adjust the temperature between 50℃~70℃, then press 【←】 back to the protection setting page. Press 【←】 again to exit. The transmitter stays in working status.



Temperature Protection Setting page

Remark: The default temperature protection value is 60℃, normally there is no need to change.

17). Reset to factory setting

Press and hold 【▲】, then connect the power supply, release the button to enter reset setting.

No.	Item	EX-Factory Value
1	Frequency	98MHz

2	Power output	5W
3	LINE Volume	05
4	MIC Volume	15
5	MONO/STEREO	Stereo (ST)
6	VSWR	2.5
7	Temperature	60°C

8. Technical Specification

NO.	Item	Technical Specification
1	Working Voltage	DC12V~16V (Rated DC15V)
2	Working Current	< 3A
3	Frequency Range	87~108MHz
4	Frequency Stability	±10PPM
5	Frequency Stepping	100KHz
6	Environment Temperature	-10~45°C
7	Output Resistance	50Ω
8	RF Output Power range	0.2W~15W
9	Harmonics&Spurious Radiation	≤-60dB
10	Audio distortion	0.2%
11	Frequency Response	50Hz~15000Hz
12	Seperation	≥35 dB
13	Input Electric Level	≤-15 dBV
14	Frequency Modulation	±75KHZ
15	SNR	≥60 dB
16	Transmitter Size	173 mm(L) *110 mm(W) *48 mm(H)
17	Weight	About 700g

9. Troubleshooting:

No	Problem	Reason
1	Can't switch on transmitter	1) If the socket is electricity connected 2) If the power supply has been correctly connected. 3) If the power supply is matching the transmitter.
2	SWR Alarming	1) Antenna not correctly connected 2) Antenna is not matching the transmitter, this causes the SWR value too big. 3) Too many reflections around the antenna
3	Temperature Alarming	1) The fan is not working 2) The antenna is not matching the transmitter, SWR value gets too big and caused over-heat. 3) The ventilating holes are obstructed and air flow is slow.
4	SWR value is very big	1) Antenna is wrongly connected; 2) Antenna is not matching transmitter. 3) Too many reflecting objects around the antenna
5	Broadcasting range is too short	1) Antenna cable loss is too much; 2) Broadcasting environment is weak; 3) Output power is not big enough; 4) Antenna is not placed high enough. 5) Antenna is not matching transmitter; 6) The receiver has very low sensibility.
6	No power output	1) The power output is not adjusted big enough 2) Transmitter is in standby status.
7	Audio input no sound	1) The transmitter is in audio mute status; 2) Audio input signal in not normal.
8	Microphone no sound	1) Microphone is not working 2) Microphone is in mute status; 3) If it's Pole microphone.
9	Audio effect is weak	1) Microphone is low quality 2) Audio input effect is not good. 3) Antenna is wrongly connected; 4) Audio signal or the machine volume is not well adjusted.