

SDA-15B PC Control

FM Transmitter

User Manual

Released by www.108MHz.com on Jan-15th-2012

Important

1. Maintenance can only be operated by authorized professionals.
2. Get lightening protection measures ready in thunderstorm weather.
3. Do not touch the antenna when the transmitter is powered on.
4. Do not power on the transmitter if the antenna is not well connected.
5. Do not use the transmitter under the explosive environment, such as gas/refueling station, etc.
6. Do not use the transmitter in the extreme dusty, damp or high temperature environment.
7. Be sure to comply with the rules released by the local radio administrations.
8. SDA-15B is equipped with outdoor antenna when operating. Do not allow to use L helical antenna when the power is above 1watt. However, L helical antenna can be used if the power is under 1watt. Note that the transmitter only can be operated independently and do not connect the computer to operate with the software under this condition.

Index

1. Features.
2. Configuration list.
3. Diagrams of front and back panel.
4. Function key definitions and comments.
5. Operating instructions.
6. Technical specifications.
7. General troubleshooting.
8. PC control software guidelines.

Features

SDA-15B is the product which possesses of multiple functions, reliable and steady performance, simple and fast operations and well-structured in heat dissipation. It has extensive applications in many areas based on these characteristics. Main features are as follows,

1. Power adjustable from 0.3Watt to 15 Watt.
2. Power automatically locked.
3. Microphone reverberation ON/OFF options.
4. Mono/Stereo mode Optional.
5. Controlled by PC with software 'SDA-15B PC Control'
6. Makes better sound quality With DAC.
7. LCD displays operating frequency, temperature, power and SWR.
8. SWR & Temperature protection. Goes automatic into protection state when antenna is not well connected/matched or excessive operating temperature.
9. Shortcuts keys, simple and convenient to operate.

Configuration List

SDA-15B User Manual

No.	Product Name	Specification	Qty	To be connected
1	FM Transmitter	SDA-15B	1	/
2	GP antenna	1/4 or 1/2 wavelength	1	TNC
3	Power supply/adapter	DC15V/4A	1	15V/4A
4	USB cable 1	USB (male to male)	1	PC Control
5	USB cable 2	USB to T (MINI)	1	DAC
6	Audio line	3.5mm to RCA	1	LINE IN
7	Microphone	3.5mm port electret condenser	1	MIC
8	User Manual	Hardware and software	2	/

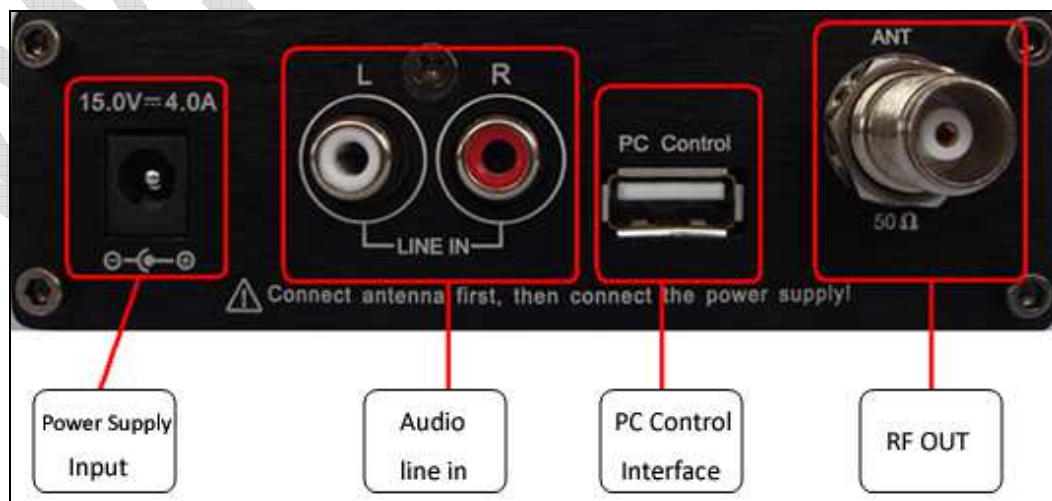
Note. Not all accessories are necessary.

Diagrams of front and back panel

1. Diagram of front panel



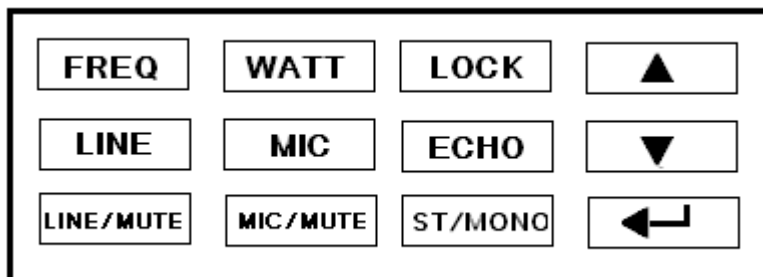
2. Diagram of back panel.



SDA-15B User Manual

Function key definition and comment

1. Diagram of function keys.




2. Function key comments.

	Key Name	Definition	Function comments
1	【FREQ】	Frequency	Enter into Menu to adjust frequency when pressed down
2	【WATT】	Power	Enter into Menu to adjust frequency to adjust power
3	【LOCK】	Lock	Lock/Release button when pressed down for 3 seconds
4	【LINE】	Audio in	Enter into Menu to adjust audio in volume
5	【MIC】	Microphone	Enter into Menu to adjust microphone volume
6	【ECHO】	Reverberation	MIC Reverberation ON/OFF when pressed
7	【LINE/MUTE】	Mute Audio	Mute Audio ON/OFF when pressed
8	【MIC/MUTE】	Mute MIC	Mute Microphone ON/OFF when pressed
9	【▲】 / 【▼】	Adjust	【▲】【▼】 indicates increase/decrease in all adjustments
		switch	When switch between mono/stereo menu, press 【▲】 to select stereo and press 【▼】 to select Mono
		Page up/down	In main interface, press 【▲】 or 【▼】 to enter into the next menu or exit
10	【←】	Exit	In all adjusting menu, press it will exit to main interface.
		Stand by	In main menu, press it 3 seconds will enter into standby. Press it once again will be back to main interface
		Alarm	In SWR/temperature protection alarm status, press it will enter into main interface

Operating Instructions

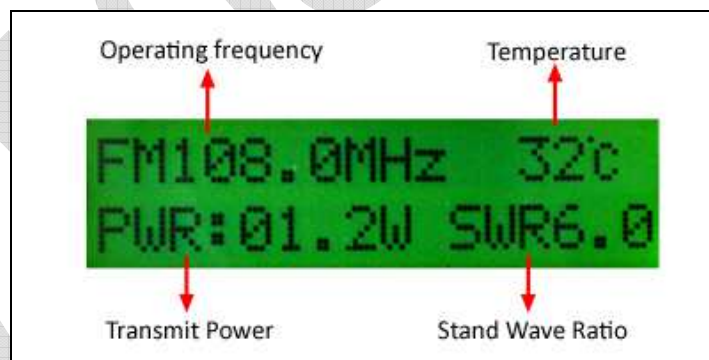
1. Characters comments.

SDA-15B User Manual

SN	Icon display	Icon Name	Icon comment
1	FMxxx.xMHz	Operating frequency	Operating on frequency xxx.x MHz
2	PWR: xx.xW	Power	Transmitting with output power xx.x watt(s)
3	xx°C	Temperature	Power transistor temperature xx°C
4	SWRx.x	Stand wave ratio	Stand wave ratio is x.x (1.0~9.0)
5	LOCK	Buttons locked	All buttons are locked, except 【LOCK】 button
6	LINE: x x	Audio volume	Audio volume x x
7	MIC: x x	MIC volume	Microphone volume x x
8	LINE: ***	Audio Mute	Audio is set muted
9	MIC: ***	MIC Mute	MIC is set muted
10	MIC: x xE	MIC reverberated	E indicates MIC reverberated ON
11	ST  ==	Volume dynamic bar	Display volume dynamically

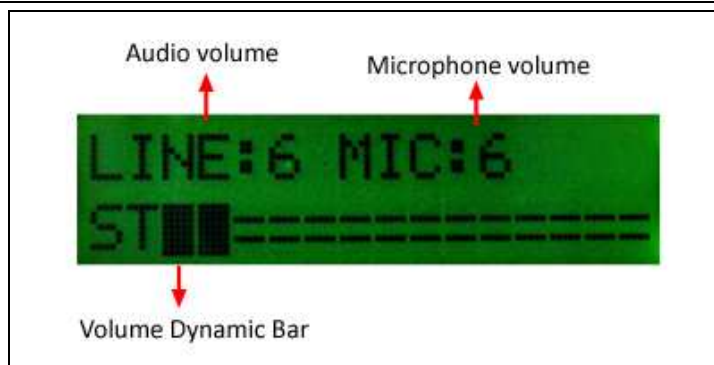
Note: x indicates the number(s), *** indicates mute.

2. The first page of main interface



3. The second page of main interface

SDA-15B User Manual

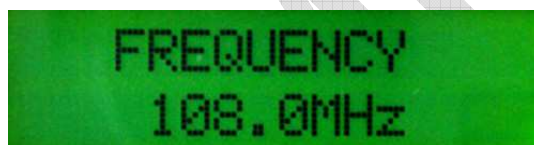


To press **▲** or **▼** to enter into the second page from the main interface to check audio/microphone volume. Then press **▲** or **▼** go back to the main interface.

Note. At any interfaces, it automatically goes back to main interface without actions for 30 seconds.

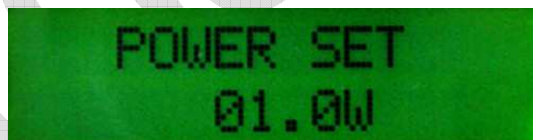
4. Set Frequency

- (1) At main interface, press **FREQ** to enter into the interface to set frequency.
- (2) The frequency can be adjusted by **▲** / **▼** from 87MHz to 108MHz, and the step is 100KHz.
- (3) Press **←** to confirm when you determined to operate at a certain frequency.



5. Set Power

- (1) At main interface, press **WATT** to enter into the interface to set power.
- (2) The power can be adjusted by **▲** / **▼** from 0.3watt to 15 watts.
- (3) Press **←** to confirm when you determined to operate at a certain power.



6. Set Line Volume

- (1) At main interface, press **LINE** to enter into the interface to set line volume.
- (2) The line volume can be adjusted by **▲** / **▼** from 1~13.
- (3) Press **←** to confirm when you determined to operate a certain volume.



7. Set MIC Volume

- (1) At main interface, press **MIC** to enter into the interface to set microphone volume.
- (2) The MIC volume can be adjusted by **▲** / **▼** from 1~30.
- (3) Press **←** to confirm when you determined to operate at a certain volume.

FM108.0MHz LOCK
PWR:01.3W SWR6.0

14. SWR Alert

When SWR exceeds the preset value, the transmitter automatically cuts off the RF circuit for protection. Please check trouble shootings and remove the problem. Then re-power on the transmitter or press **【←】** to enter into main interface, but the transmitter will operate at 1watt.

Warning!
check the antenna

Note. Please use outdoor antenna when the power exceeds 1 watt.

15. Temperature Alert

When temperature exceeds the preset value, the transmitter automatically stops working and goes into protection. Please check trouble shootings for details. Then Power on the transmitter when the problem is removed.

WARNING!
HIGH TEMPERATURE

16. Set SWR & Temperature

Press down **【←】** and connect the power supply, then release **【←】**, it will enter into the protection setting interface.

PARAMETERSET

(1) SWR protection set

- At protection setting interface, press **【▲】** to enter into SWR protection setting.
- Press **【▲】** / **【▼】** to set SWR value between 2.0~4.0.
- Press **【←】** to confirm when you determined to operate at a certain SWR.

SWR SET
2.6

(2) Temperature protection set

- At protection setting interface, press **【▼】** to enter into temperature protection setting.
- Press **【▲】** / **【▼】** to set temperature between 50°C~70°C.
- Press **【←】** to confirm when you determined to operate at a certain temperature.

SDA-15B User Manual



Note. The temperature is set at 60°C by default and no needs to change.

17. Restore to Factory default

Press down **【▲】** and connect the power supply, then release **【▲】** button, the transmitter can be restored to factory default. Below are factory default parameters.

No.	Item	Factory default setting
1	Operating frequency	98MHz
2	Output power	5W
3	LINE volume	05
4	MIC volume	15
5	Mono/Stereo	Stereo (ST)
6	SWR value	2.5
7	Temperature value	60°C

Technical Specifications

No.	Item	Technical specifications
1	Operating voltage	DC12V~16V (DC15V recommended)
2	Operating current	< 3A
3	Frequency range	87~108MHz
4	Frequency stability	±10PPM
5	Frequency step	100KHz
6	Environment temperature	-10°C~45°C
7	Output Impedance	50Ω
8	Output RF power	0.3W~15W
9	Harmonic & Clutter radiation	≤-60dB
10	Audio Distortion	0.2%
11	Frequency response	50Hz~15000Hz
12	Stereo Separation	≥35 dB
13	Input level	≤-15 dBV

SDA-15B User Manual

14	Frequency deviation	±75KHZ
15	SNR	≥60 dB
16	Dimensions	173 mm (L) *110 mm (W) *48 mm (H)
17	Weight	About 700g

General Troubleshooting

No.	Fault	Failure Source
1	Can not power on.	1) The socket is not electrify galvanized. 2) The adapter is not well connected. 3) The adapter does not meet the requirements。
2	SWR Alert	1) The antenna is not well connected. 2) The antenna is not matched. 3) Too many reflection objections near the antenna.
3	Temperature Alert	1) The cooling fan does not work. 2) The temperature rises resulted from unmatched antenna. 3) A blockage at in/outlet.
4	High SWR	1) The antenna is not well connected. 2) The antenna is not matched. 3) Too many reflection objections near the antenna.
5	Short transmission range	1) Too much loss on the coaxial cable. 2) Operating in extreme surroundings. 3) Operating at low power. 4) The antenna is set not higher enough. 5) The antenna is not matched. 6) The receiver is not sensitive。
6	No power out	1) The transmitter is set at low power 2) The transmitter is on standby.
7	Audio silent	1) The transmitter is set mute. 2) Audio in is not normal.
8	Microphone silent	1) Microphone is not normal. 2) Microphone is set mute. 3) Microphone is not electret condenser.
9	Poor sound quality	1) Poor quality of microphone. 2) Poor quality of audio source. 3) The antenna is not set correctly. 4) Audio line in or volume is not set rightly.

SDA-15B User Manual

10	DAC of no avail	<ol style="list-style-type: none">1) CM-108 sound card driver is not installed. Please search and install matched driver.2) USB cable is not connected or bad contact.3) The media player is not open.
----	-----------------	--

PC Control Software Guides

When the transmitter is in normal working condition, make USB (male to male) to connect the transmitter with the computer. Open the executable file (SDA-15B PC control), and function keys on front panel are locked, and then enter into PC software control state.

Please check 'PC Control Software Guides' for details.

ABOUT US

We are a professional company focus on RF technology research and development, specialized in professional fm transmitter! Our fm transmitters are ideal equipments to build your own broadcast station, especially used in campus, factories, farms etc. Please be assured, we provide you after-all services and technical supports! Any questions can be sent to: littleshirely@gmail.com.