



**F-S ELECTRONICS USA**  
FAIL-SAFE PRODUCTS, FAIL-SAFE SUPPORT

# 1 W Adjustable Output Bluetooth FM Transmitter



**FSX-01C**  
MODEL NUMBER

## COMMON SENSE RULES FOR ALL USERS

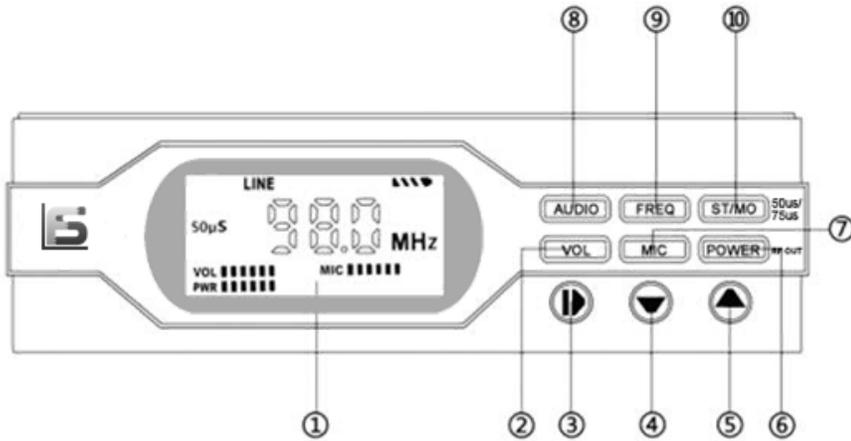
1. The AC adapter supplied is designed for dry indoor use only. DO NOT use the AC adapter outdoors or in wet conditions. Shock injuries may occur.
2. Make sure the supplied antenna is connected at all times when transmitter unit is powered ON. This will prevent permanent damage to your unit.
3. For best results, try to find an open (unused) frequency to transmit on (<http://www.radio-locator.com>). Do not transmit on any occupied commercial radio station frequency; for legal and ethical reasons. Refer to FCC guidelines for further guidance on proper frequency selection and operation.
4. Always follow your local regulations regarding the proper use of an FM transmitter. Most city, county, state governments provide a civil code online. Contact local neighborhood association for rules on transmitter use within neighborhood (not all property is regulated by a neighborhood association).
5. Only use power adapters supplied with your unit. Using other types of power adapters may produce background noise with your transmitted audio and/or could damage your unit. Contact your Fail-Safe distributor to purchase a replacement power adapter if yours becomes damaged or lost.
6. When transmitting from a microphone: only use a stereo plug microphone, using any other type of microphone such as a mono plug microphone will permanently damage your unit; do not place microphone close to speakers due to resulting feedback (which may cause damage to transmitter).
7. Always ensure that proper antenna tuning methods were used. Placement of antenna is key to transmission quality. Inform yourself...this is only a guide.
8. Always disconnect Bluetooth when leaving the proximity of the unit. Leaving Bluetooth active may inhibit reconnecting or connecting other devices.
9. Do not set volume control to maximum (10) setting for initial adjustments. Start mid range (4-6) and adjust higher or lower as needed for quality.
10. Transmitter must be off when the memory card is inserted into the transmitter. Inserting card while transmitter is on may make transmitter inoperable. This also applies to removing the memory card while power to the unit is on. Best practice is to only attach, insert, or remove while your unit is off.

FM Radio Transmission is a very tedious task and many variables factor into how clear your signal will be for any receiver. FS Electronics has made this unit as "Plug and Play" ready as possible for customers. Proper operation still requires some basic knowledge of electronics and radio frequency transmission.

## SPECIFICATIONS

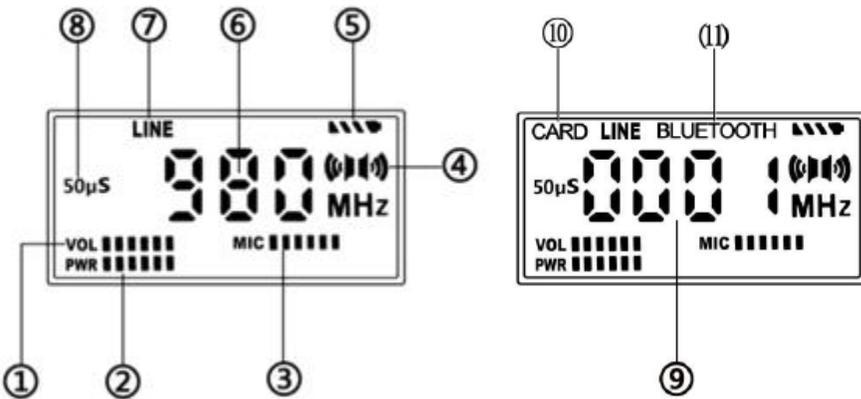
Power supply:	DC12V	Modulate Style:	WFM
Maximum operating current:	>400mA	Maximum Deviation:	±75KHz
Ambient temperature:	-10~40°C	Parasitic AM:	<0.2%
Frequency Range:	76MHz~108MHz	Audio Frequency Response:	50Hz~15000Hz
Frequency Step:	100KHz	Audio input level:	-15dbV (Max: -30dbV)
Frequency Stabilize Style:	PLL	Stereo Separation:	Better than 40db
Pre-emphasize:	Default 50µs (Optional 75µs)	SNO Rate:	Less than 60db
Output power:	0 to 1 W adjustable (11 settings)	Antenna Connector:	TNC type
Output resistance:	50 OHM	Audio Output:	Mono or Stereo
Line-In Jacks:	RCA (left & right) jacks	Source Options:	Card, Line-In, or Bluetooth
MIC input Level:	-15dbV (Max: -45dbV)	Product Dimension:	162x120x40mm
MIC Jack:	3.5mm headphone connector	Packing Weight:	0.99kg
Microphone Distortion:	less than 0.2%	Battery (internal):	lithium ion (~4hrs)

## FRONT PANEL



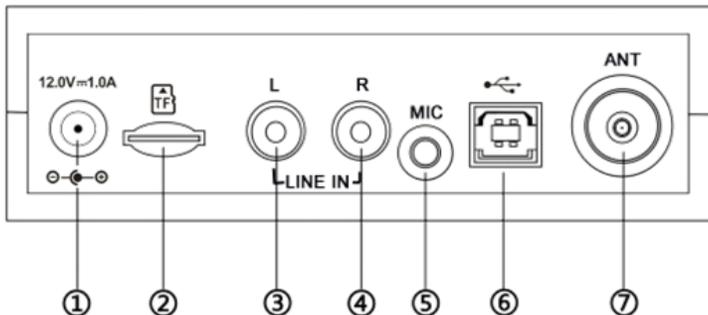
1. Display Screen
2. Volume Control
3. Play/Pause  
(Press and hold: Power On/Off)
4. Decrease/Previous/Down
5. Increase/Next/Up
6. Transmit Power Control
7. Microphone Volume Control
8. Audio Source Selection
9. Frequency Selection
10. Mono/Stereo Selection  
(Press and hold: Pre-emphasis)

## LCD SCREEN



1. Line-in Volume Level
2. RF Power Output Level
3. Microphone Input Level
4. Mono/Stereo Indicator
5. Internal Battery Power  
(charges while plugged-in)
6. Current Frequency Output
7. Line-in Source [Active]
8. Pre-Emphasis
9. Song Number (Card Source)
10. Card Source [Active]
11. Bluetooth Source [Active]

## REAR PANEL



1. AC Adapter Input (12V 1A; 2.1mm)
2. TF (microSD) Memory Card Slot  
[Maximum: 32GB memory]
3. Left Stereo Input (Line-in)
4. Right Stereo Input (Line-in)
5. Stereo Microphone Input
6. USB Connection Port
7. Antenna Connection Port

**(DO NOT USE A MONO PLUG-TYPE MICROPHONE, DOING SO MAY CAUSE PERMANENT DAMAGE)**

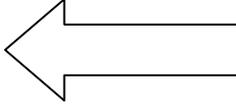
*Helpful Hint:* When using the FSX-01C FM transmitter with a PC or MAC computer, the volume level will need to be adjusted to 50% at three different places: (1) OS volume control, (2) Media player software, and (3) FM receiver radio. Next, slowly adjust transmitter volume higher or lower to reach the optimum volume level. Failure to properly adjust all audio amplification will result in static and poor quality audio transmission.

## OPERATOR'S GUIDE

**ALWAYS PHYSICALLY INSPECT YOUR TRANSMITTER BEFORE USE ; CHECK FOR ANY DAMAGE OR CORROSION.**

Make sure that you have the proper antenna attached before inserting AC Adapter.





ANTENNA BEFORE ATTACHING POWER

12.0V=1.0A



Insert the AC Adapter into the unit and then you can **HOLD** down the On/Off button to initiate power.



**AUDIO**

Press the Audio button to select the audio source.

CARD LINE BLUETOOTH

**WARNING!**

DO NOT insert/remove card while power is applied. Unit could become inoperable.

**CARD**



microSD (32gb max)

**LINE**



L R  
LINE IN-J  
RCA plugs

**BLUETOOTH**



Enable source device, then select <CZERF>.

(Unit must be powered-on to connect)

Play/Pause will only function when Bluetooth or Card.



When Bluetooth or Card, Next/Previous will change the current song selected.



When in Frequency menu these same buttons will adjust frequency Up/Down. When in Volume, Mic, or Power menus they will Increase/Decrease.

**POWER**

RF Output Power Settings: 0-10 (100mW steps)

**ATTENTION!**

RF Output Power Button will not turn the unit on or off.

**ST/MO** Stereo/Mono Selection

Microphone Volume Settings: 0-10

**VOL** Volume Control Settings: 0-10

**MIC**

**CAUTION!**

Microphone will be given preference and may cause feedback to the transmitter.

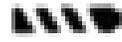
**USB**



Consumer Disabled

000 1 Songs are placed in their order based on the time the song uploaded to the memory card. \*memory card not included

Battery charges while the AC Adapter is attached.



**FREQ**

98.0 MHz

76-108MHz (100KHz)

**3.5mm Stereo Audio Jack**

You can attach a stereo input microphone to the transmitter.\*

Mono microphones may damage unit.

\*microphone not included



## TROUBLESHOOTING



<b>POOR QUALITY TRANSMISSIONS</b>	<ul style="list-style-type: none"> <li>- Poor Antenna Placement</li> <li>- Improper Volume Adjustment</li> <li>- AC Adapter is damaged</li> <li>- Poor quality source</li> </ul>	<ul style="list-style-type: none"> <li>- Line of sight is best. Obstacles will degrade signal quality.</li> <li>- Improper volume settings are common and easy to reset.</li> <li>- Damage to adapter will produce interference to transmission.</li> <li>- The output signal can only be as good as the source of audio.</li> </ul>
<b>NO SIGNAL AT RF RECEIVER</b>	<ul style="list-style-type: none"> <li>- AC Adapter is damaged</li> <li>- Output power/volume is zero</li> <li>- Poor Antenna placement</li> <li>- Wrong frequency</li> </ul>	<ul style="list-style-type: none"> <li>- Improper voltage to transmitter may prevent signal production.</li> <li>- The zero (0) setting is essentially a mute for the transmitter.</li> <li>- Signal degradation will eventually become a lost signal.</li> <li>- Frequency of receiver must match transmitter frequency.</li> </ul>
<b>UNIT WILL NOT POWER ON</b>	<ul style="list-style-type: none"> <li>- AC Adapter is damaged</li> <li>- Unit operated w/o antenna</li> <li>- Feedback damage to unit</li> </ul>	<ul style="list-style-type: none"> <li>- Improper voltage may prevent unit from operating.</li> <li>- Power without antenna will damage internal components.</li> <li>- Feedback (and other interference) may damage components.</li> </ul>

### A brief introduction to the rules of the FCC and your FM Transmitter

It is the policy of FS Electronics, that knowing and observing the lawful use of all transmitters is a first responsibility of our end users. We do not endorse any unlawful use of any of our transmitters, and we try to give you as much common sense help about normal and lawful use as we can. Further, it is the policy of FS Electronics to cooperate with all applicable federal regulations in the design and marketing of our electronic devices. Finally, we urge all of our overseas customers to observe the regulations of their own national telecommunications authorities. In all instances, compliance with FCC rules in the operation of what the FCC terms an "intentional radiator" is always the responsibility of the user of such an "intentional radiator".

FS Electronics only offers this information to make the user aware of the full impact a transmitter can have. In no way should this brief discussion be construed as a definition of the FCC rules, it is the users obligation to obtain a copy of the rules and operate legally according to them. FS Electronics makes no representation as to the following discussion being legally correct - it is simply offered as an introduction to the responsibilities that a user must realize. To order your copy of the FCC rules part 15, call the US Government, Superintendent of Documents, at 202-512-1800, or fax at 202-512-2250. To order the correct document, ask for "CFR Title 17: Parts 1 to 199." The cost is \$24.00. Master Card and Visa are accepted.

The present edition of Part 15 of the FCC rules provides detailed guidance on ALL aspects of using a low-power transmitter. The main points to consider are; to remain within the field strength limitations, that you may not cause any interference whatsoever to licensed broadcast services, and that you must be willing to put up with any interference that you may experience. Remember, the FCC doesn't need to be bothered by policing a privilege given to unlicensed operators. If the rules are flagrantly violated, they might just revoke the privilege altogether!

If you become further fascinated with the service rendered by low-power broadcasting, other FCC regulations explain how to apply for a license or other authorization which may permit you to upgrade your equipment to accomplish any objective which the FCC sees to be in the public interest and not interfering with other authorized uses of the radio spectrum. Keep some of the following in mind with regard to use of a radio frequency transmitter:

- Follow all instructions, suggestions, and warnings regarding the use of your transmitter lawfully and safely.
- Use the stock antenna supplied within the case. Augmenting the range of your transmitter may cause unlawful interference to licensed frequencies.
- Do not modify your transmitter in any way. Shock injury to a person may cause burns, seizures, and possibly death. Do not disassemble transmitter.
- Check your intended operating frequency very carefully, to ensure you will not cause interference to reception of licensed broadcasting. Interfering with a frequency that is licensed to another individual, corporation, government organization, or community is illegal. ( <http://www.radio-locator.com> )
- If you receive ANY complaint about your transmissions interfering with broadcast reception, stop or change your operation IMMEDIATELY.
- If you are contacted by the FCC regarding use of this device, cooperate fully and promptly. Obstruction of an investigation is a criminal offense.
- Do your own homework and research to understand and comply with present and future FCC rulings concerning devices of this kind. Do not rely only upon this short discussion. Each location has its own web of local, state, and government laws concerning proper use...and they are always changing.
- Do not use made-up "station call signs" to identify your transmissions. Only the FCC has the authority to issue such call signs. Use some other way to identify your transmitting activity, and caution toward immediately adjusting frequencies if you receive complaints about interference from transmitter.
- Identify the location and purpose of your transmissions from time to time. This is common courtesy toward other persons who may hear your signal. The FCC is toughest about clandestine transmission which cost time and money to track down. It is illegal to directly incite violence or create a state of panic.
- Do not assume that the mere fact that you purchased this transmitter gives you any specific right to use it for any purpose beyond generating a low-level RF signal which is barely detectable beyond the perimeter of your personal dwelling space (property that is rented or leased may not allow any use).

Finally, the FCC Rules call for the posting of printed notices on devices intended for non-licensed operation under Part 15 Rules. You will find such notices written up on the front or back of the instruction manual for nearly any computer or video accessory that you have seen in recent months. Consult the Part 15 Rules for the exact wording of such notices. Below is an example of a common notice to refer to FCC Part 15 Rules for guidance on transmitter usage.

### NOTICE:

**The individual users of this device assume responsibility for lawful uses conforming to FCC Part 15 Rules. Regulations change over time and being informed is the user's responsibility. Operation of the unit in most locations is typically subject to the following:**

1. This device may not cause harmful interference, and
2. This device must accept any interference received, including interference that may cause undesired operation.

### Final comment:

A well-informed person will see today's FCC Rules to be evolving and progressively less restrictive. Even though today's technology is far more complex than what was possible at the time of the Communications Act of 1934, the FCC rules are becoming more relaxed, giving radio experimenters more and more opportunities to explore many frequency bands, using many communications modes, with no need for a formal license of any kind. A thorough study of Part 15 of the FCC Rules, which is completely beyond the purpose of this brief discussion, will show you many legal uses of radio transmitting devices which do not require licensing, either amateur or commercial. To provide more personal and club radio learning opportunities, and to cut down on administrative costs, today's FCC permits far more non-licensed activity than at any time in previous history. On the other hand, today's FCC enforcement actions get bigger fines and real prison terms for scofflaws. From CB radio to easy entry-level Amateur Radio with long-term licensing, to numerous unlicensed Part 15 operations, the FCC is beginning to look out for the interest and good plans and intentions of private citizens, local government organizations and school-community groups as never before in radio communications history.