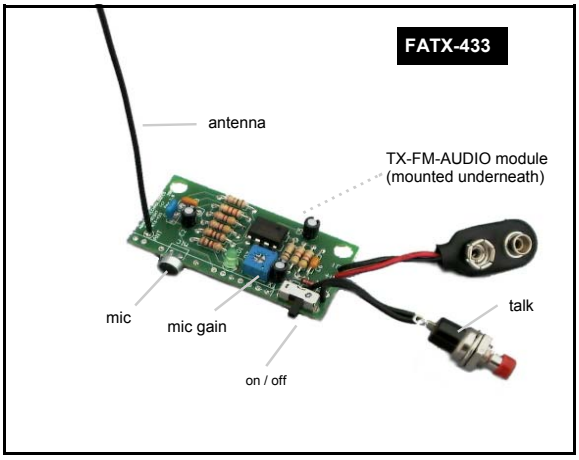
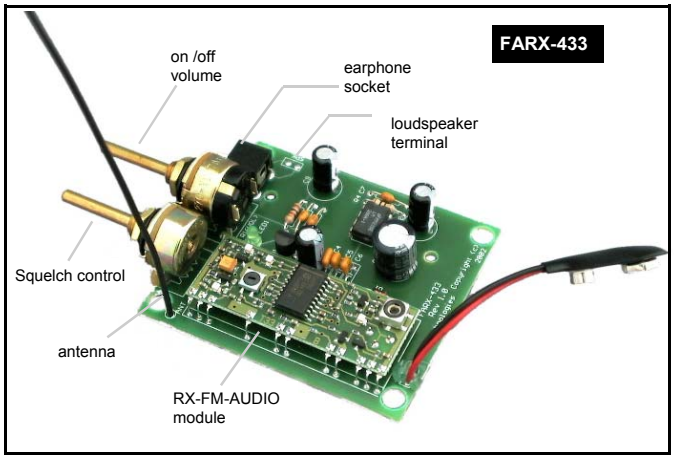
FATX-433 Wireless MIC Transmitter / Receiver Modules
FARX-433

The FATX-433 wireless microphone transmitter and companion FARX-433 receiver together create a simplex RF wireless audio link . Incorporating the TX-FM-AUDIO and RX-FM-AUDIO RF transmitter and receiver modules the FATX and FARX may be used as an evaluation kit for the these audio RF modules or they may be used a complete wireless microphone link.





FATX-433 Features

- Incorporates the TX-FM-AUDIO RF module
- 7.5V to 12Vdc Operation, 20mA
- Highly Sensitive Micro Miniature MIC
- Adjustable MIC sensitivity
- 433.8MHz FM operation. SAW stability
- Designed to drop into PAC-TEC JM22 enclosure
- Talk switch (may be bypassed for continuous operation)
- Evaluation kit for TX-FM-AUDIO RF transmitter module
- Up to 600ft range

FARX-433 Features

- Incorporates the RX-FM-AUDIO module
- 5V to 9Vdc operation, 20mA
- 433.8MHz FM operation, 75KHz deviation
- Switched Earphone Socket
- Loudspeaker Terminal
- Volume Control
- Squelch Control
- Designed to drop into Hammond 1593Q enclosure
- Evaluation Kit for RX-FM-AUDIO RF receiver module.

Typical Applications

- Covert operations
- Simplex “walkie-talkie”
- Security monitoring

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Operation

FATX-433 Transmitter

The FATX-433 module may be powered from a 9V battery or any other dc power supply in the range of 7.5V to 12Vdc. With power applied and the ON/OFF slide switch in the ON position, the transmitter is ready to transmit audio signals. The condenser microphone is highly sensitive and will pickup low level sounds at long distances.

FATX Placement and MIC gain Adjustment
For undistorted output from the receiver the FATX should be kept a distance away from the loudest audio source. Experimentation will determine the ideal FATX location for optimal results. The sensitivity (gain) of the microphone may be adjusted to suited the user's operating conditions. Adjusting the variable resistor counter clockwise (in the direction of the mic side of the assembly) reduces the mic sensitivity and clockwise adjustment increases the mic sensitivity.

As with any microphone application, if the mic is brought too close to the output loudspeaker feedback will occur resulting in a howling sound from the loudspeaker. This situation is remedied by reducing the gain on the FATX and/ or reducing the output volume of the FARX module.

FATX push-to-talk (PTT) Button
The PTT button allows for manual control of the FATX audio transmission. While pressed, the FATX will transmit the ambient sounds at the microphone pickup, and when released the transmission will cease. When activating the PTT button, a short delay will be present before the signal is output at the FARX. This time delay is the startup time required for the system and should be accounted for when transmitting an audio message.

Some applications may require continuous transmission and therefore do not require the PTT switch. For these applications, the user may simply bypass the switch by shorting the PTT switch contacts.

Antenna
The FATX-433 modules are supplied with a 1/4 wave wire omni-directional whip antenna. For maximum omni directional field strength, the antenna should be oriented vertically and should have as much free space around it as possible. Alternative optional manufactured antenna with SMA, BNC or Bulkhead connectors are also available.

Optional Enclosure
The FATX is designed to drop into Pac-Tec type JM22 enclosure. This enclosure will accommodate the FATX-433 transmitter and a standard 9V battery resulting in a highly compact finished product. Some minor machining or drilling to the removable front panel of the enclosure will be required by the user to complete the final assembly. The enclosure may be ordered as an optional item from our sales department. (Part # PT-JM22).

FARX-433 Receiver

The FARX receiver module requires only a power supply and connection to an external audio transducer such as a loudspeaker or earphone (headphone). The module may be powered from an unregulated dc power supply from 5V to 9Vdc. The module is supplied with a standard 9V battery snap.

External Loudspeaker / Phones

The FARX module is features a 2.5mm switched mono phone socket and a loudspeaker connection terminal. With the phone jack is plugged in, the speaker terminal is disconnected. The type of loudspeaker used with the FARX is left to the user's preference. A typical loudspeaker would be 8ohms, 0.5Watts.

As with any audio application, the quality of the output produced is highly dependant on the loudspeaker characteristics and most importantly the enclosure. It is important to note that the sound quality from a loudspeaker operating outside of, or without an enclosure leaves much to be desired. It is therefore recommended that an enclosed speaker is used.

Volume Control and Power Switch

The volume control for the FARX module also incorporates of the ON/OFF power switch. In the extreme counterclockwise position, the volume control is at a minimum and at a maximum in the extreme clockwise position. In the extreme counterclockwise "clicked position" the module will be switch OFF.

Squelch Adjust

The FARX-433 module feature a squelch control which is designed to eliminate the "white noise" on the speaker/ phone output in the absence of a transmitted signal. The squelch position adjustment will be optimal when rotated to a point where the "white noise" (hiss) is absent when a signal is not being sent by the FATX transmitter, and yet still receive the signal from the FATX when transmitted. Experimented will quickly allow the optimal squelch level to be adjusted.

With the squelch level adjusted the power amplifier is effectively switch OFF, resulting in effective power saving.

Antenna

As with the FATX-433, the FARX-433 modules are supplied with a 1/4 wave wire omni-directional whip antenna. For maximum omni directional field strength, the antenna should be oriented vertically and should have as much free space around it as possible. Alternative optional manufactured antenna with SMA, BNC or Bulkhead connectors are also available.

Optional Enclosure

The FARX is designed to drop into Hammond Manufacturing type 1593Q enclosure. This enclosure will accommodate the FATX-433 transmitter and a standard 9V battery resulting in a highly compact finished product. Some minor machining or drilling to the removable front panel of the enclosure will be required by the user to complete the final assembly. The enclosure may be ordered as an optional item from our sales department. (Part # 1593QBK).