QRO.cz RX Audite SDR Switch

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In my ham shack I have several SDR receivers that I like to use along with my main transceiver. I have only one antenna for 0.1 to 30 mHz so it is a benefit to seamlessly share this antenna with my SDR receivers and my transceivers. The RX Audite does exactly that. It provides antenna sharing with the SDR receivers while offering them protection from excessive RF coming from my transceivers.

Many hams use a device like this to run an SDR receiver as a panadapter for their transceiver.

The RX Audite is rated at 250 watts max. with 200 watts max. recommended.

Design and construction is very well done. All of the ferrite cores are glued to the board to prevent malfunction from vibration. This is often overlooked in other product designs. The housing is all aluminum.

I was previously using the MFJ-1798B SDR Antenna Switch. This device did the basic job but the insertion loss was high. The RX Audite has a lower insertion loss even without the optional preamp.

The preamp makes up for all of the insertion loss. The preamp power switch provides a convenient way to turn off the preamp when conditions require such as nighttime overloading on the AM Broadcast Band.

On the rear panel you will find several jacks.

GND. This is a place to connect your station ground wire.

DC. This is the 12v power input jack. A DC power cord is provided but no power supply is included. Most hams will connect the power cord to their transceiver's 12v power supply. I used a simple 12v wall wart because I want the RX Audite powered up all the time. I want to listen to one of the SDR receivers remotely when the ham shack is powered down.

PTT IN. This is where your transceiver provides a PTT signal to place the RX Audite into transmit mode.

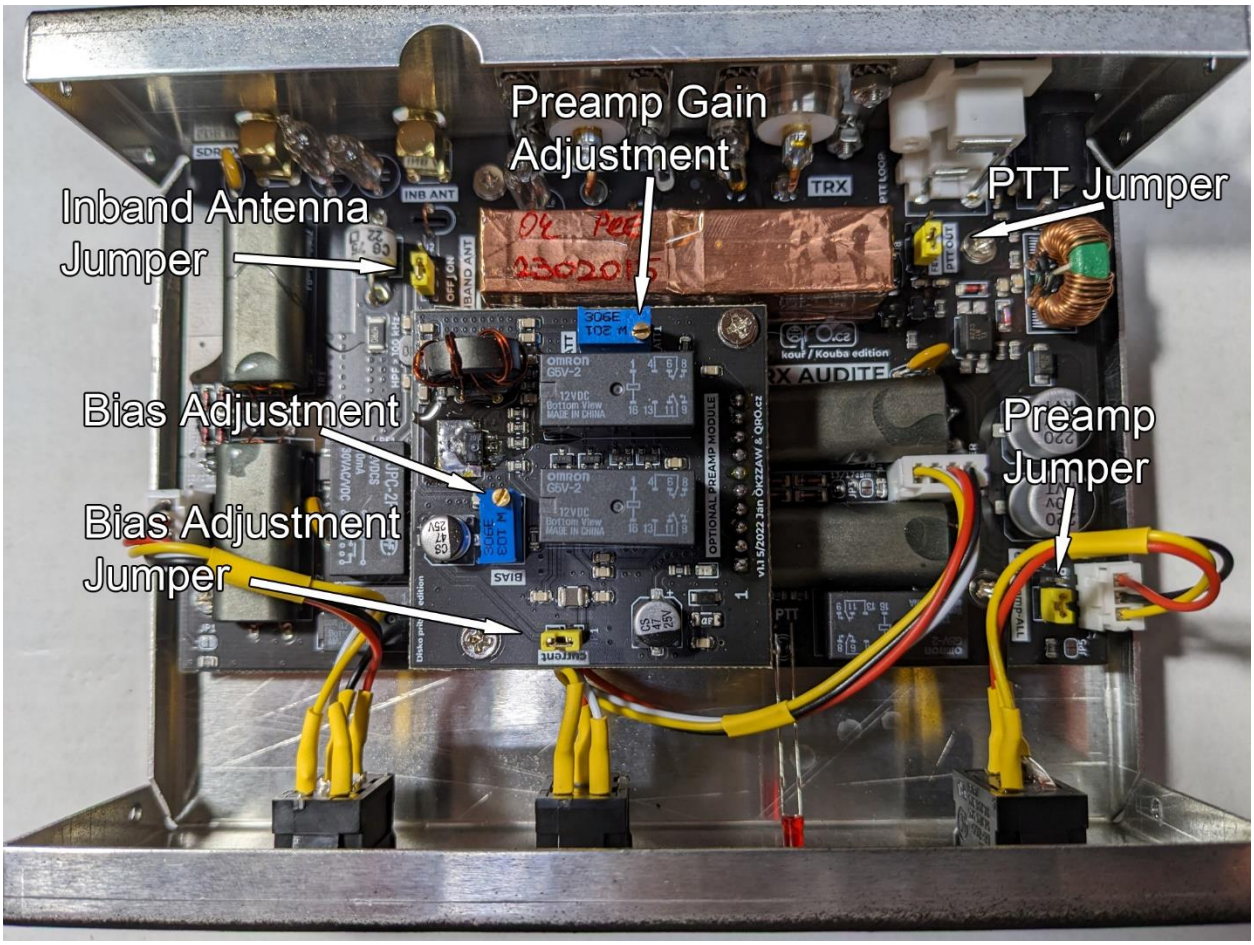
PTT OUT. This PTT signal would go to your amplifier to key the amplifier when your transceiver is transmitting.

TRX. This connects to your transceiver's antenna jack.

TX/RX ANT. Connect your outside antenna or amplifier here.

RX ANT (Inband). You can connect a secondary antenna here. Using a second antenna you can receive on the SDR while transmitting with some limitations. Your second antenna needs to be some distance from your transmitting antenna. The RX Audite will protect your SDR but will not prevent receiver front end overload of your antennas are too close to each other or if you are running high power.

RX (SDR). This is where you connect your SDR's antenna input.



Inside the RX Audite there are some jumpers and adjustments.

Inband Antenna Jumper. This jumper switches the Inband RX Antenna input between the antenna jack and an internal 50 ohm dummy load. As received, the jumper was set to the dummy load position. If you wish to use the Inband Antenna jack you would need to change this jumper to the position closest to the Inband Antenna jack.

Preamp Jumper. When set to the position closest to the power switch, the preamp will remain powered on even when the main power switch was turned off as long as the RX Audite has power applied to the incoming power jack. This is the default position.

When the jumper is moved away from the power switch, the preamp will be forced off when the main power switch is turned off.

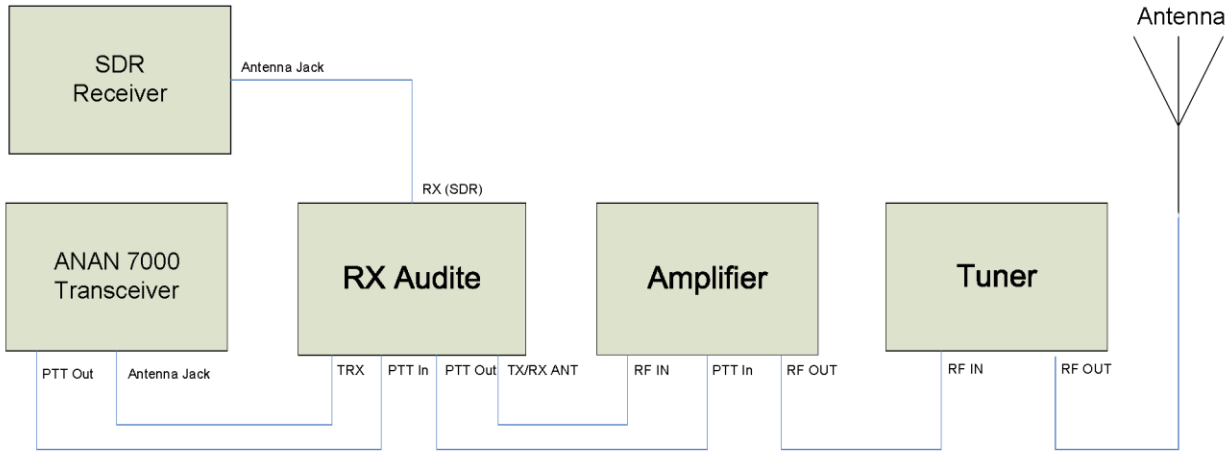
PTT Jumper. When this jumper is set to the position away from the rear panel, the PTT operates the FET output switch. In this mode, PTT In is buffered and controls an FET that provides the PTT Out signal. This mode isolates the PTT In from the PTT Out. The FET has the ability to sink 500 ma of current at 35 volts. In this mode, PTT out will not key unless the RX Audite power is on. This is the default position.

With the jumper set to a position closer to the rear, the unit operates in Sniffer Mode. In this mode, the PTT In is directly connected to the PTT Out and the PTT In signals the RX Audite to enter transmit mode. In this mode, PTT Out will follow PTT In even if the RX Audite is powered off.

Preamp Gain Adjustment ATT. This control allows you to set the gain of the optional preamp from 0 to about 18 dB. The default setting is about 6 dB.

Bias Adjustment and Bias Jumper JP1. Bias voltage is used to power devices like remote preamps over the feedline. To set the bias current you remove the jumper, connect a meter to the jumper terminal and set the bias adjustment to 40 mA. Then reinstall the jumper.

I did not have to change any of the jumpers or settings to use the RX Audite for my application.



Here is a simplified diagram of how the RX Audite is connected to my equipment. The RX Audite is connected between the transceiver and amplifier. The Audite is only exposed to the lower RF power from the transceiver and not the high RF power from the amplifier. Muliple SDR receivers can be connected to the RX (SDR) port using an RF power splitter.

It should be obvious, but do not place the RX Audite anywhere on the output side of your amplifier. You need to limit the RF power applied to the RX Audite to under 200 watts.

The RX Audite offers excellent receiver protection using neon lamps, a high power gas discharge tube, a resettable current limiting fuse and an RF limiter circuit.

MFJ-1798B SDR Switch has is RF sensing. The MFJ switch can operate without a PTT connection. It has the ability to sense RF coming in from the transceiver. The RX Audite does not have RF Sensing (called VOX in the manual.) It requires a wired PTT signal to operate properly. This would only be a problem if your transceiver does not have a PTT output.

I did not feel the need of going into great detail here in my review because the provided online manual and QST review are thorough and comprehensive. The manual has plenty of block diagrams showing various connections and internal signal paths.

Here is the RX Audite in service in my shack under my Apache Labs ANAN 7000.

RX Audite on the website
https://hamparts.shop/rx-audite-sdr-switch.html
Without preamp: 228.00 € ($244 USD)
With preamp: 241.00 € ($258 USD)

I selected FedEx economy shipping for $41. I selected FedEx which was more expensive because of their reputation of reliability. They did not disappoint. A detailed tracking was provided by QRO.cz. I was able to follow the shipping from the Czech

Republic into Germany and then the handoff to FedEx. It only took six days from the time of order for the unit to arrive at my home. Jan, OK2ZAW, was very responsive to my emails and offered to provide assistance if needed. Installation was simple and no assistance was needed.

My total for the RX Audite with preamp shipped to the US was $301 USD.

The MFJ-1798B SDR Switch is currently selling for around $140. In my opinion, the RX Audite is well worth the increase in price and is a much better device. You will notice the increased performance, excellent design and superior manufacturing quality. As a bonus, it offers better receiver protection using neon lamps, a high power gas discharge tube, a resettable current limiting fuse and an RF limiter circuit.

RX Audite Online Manual
https://hamparts.shop/blog/rx-audite-sdr-switch-manual.html

QST Review by Pete Smith, N4ZR
https://hamparts.shop/index.php?controller=attachment&id_attachment=85

The RX Audite has become a valuable addition to my ham radio station. After using it for a short time I consider it a piece of essential station equipment.