Miccus® Home RTX 2.0 Long Range Wireless Audio Transmitter or Receiver

Model No.: MHRTX-20

Contents:

Quick Start Guide:

1. **Attach the antenna:** On the back of the Home RTX 2.0, remove the white cover and attach the antenna. Turn clockwise until slightly snug. Position the antenna upright.

2. **Connect the audio:** Connect the appropriate included cable (Optical/TOSLINK or RCA to 3.5mm) to the appropriate audio input (TX mode only) or output (RX mode only) on the back of the RTX 2.0.

3. **Power on/off:** Connect the micro end of the USB cable to the RTX 2.0 and the other end to any USB port or 5v/500mA USB power supply; the Home RTX 2.0 will automatically power on. If powered off, the Home RTX 2.0 can be powered back on by holding the multi-function button for 5 seconds until the LED indicators power on.

4. **Pairing:**
   1. Set the selector switch to TX (transmit mode), or RX (receive mode)
   2. Place your Bluetooth® receiving or transmitting device into pairing mode.
   3. Place the Home RTX 2.0 into pairing mode by pressing the multi-function button for 3 seconds until a until a channel (CH) blue light begins flashing rapidly. This indicates pairing mode.
   4. Once paired the CH LED light will change to either solid blue or blink twice every 5 seconds if connected in aptX Low Latency.

Note: if your phone or tablet requires a passkey use: **0000**

CH1 or CH2 LED	Function
Rapidly Flashing Blue	Pairing mode
Solid Blue	Connected with SBC or aptX codecs (slight delay)
2 blue blinks every 5 seconds	Connected with aptX Low Latency codec (no delay)

About the Miccus® Home RTX 2.0

The Miccus® Home RTX 2.0 is the world's first dual link long range wireless transmitter or receiver featuring Bluetooth® v4.2 and two simultaneous aptX Low Latency audio streams. Use as either a Bluetooth® receiver or transmitter and add Bluetooth® technology to your existing television or stereo equipment. The Home RTX 2.0 supports dual link pairing; which means two devices can be paired at the same time. The Home RTX 2.0 also features optical audio pass thru. Use the same audio source and daisy chain two or more Home RTX 2.0's together; double or even triple the number of low latency audio streams available for use. Avoid the use of an optical splitter box; use the digital audio pass thru of the Home RTX 2.0 to send television audio to both the RTX 2.0 and your soundbar.

What's in the Box?

A. Miccus® Home RTX 2.0

B. Dipole Antenna

C. Optical/TOSLINK digital
   audio cable

D. 3.5mm male to 3.5mm male
   Audio Cable

E. Micro USB charging cable

F. USB Power Supply

G. 3.5mm to RCA Stereo
   Y cable

H. User Manual

Getting Aquainted

① Antenna

② CH1 Indicator (blue)

③ CH2 indicator (blue)

④ Optical Indicator

⑤ 3.5mm Indicator

⑥ 3.5mm audio output

⑦ Optical audio output (TOSLINK)

⑧ Antenna Connector

⑨ USB

⑩ Optical audio input (TOSLINK)

⑪ 3.5mm audio input

⑫ RX/TX Mode

System Requirements

The Miccus® Home RTX 2.0 transmits or receives high quality stereo audio paired with any compatible A2DP Bluetooth® profile transmitting or receiving device.

Transmit Mode (TX): Use the RTX 2.0 with any device capable of *Receiving* a Bluetooth® wireless audio signal (A2DP), including Bluetooth® enabled headphones, speakers or adapters such as the Miccus® Home RTX 2.0, Swivel Jack RTX, Home RTX Mini, and SR-71 Stealth Headphones,Stealth Mini Sport Earbuds.

Receive Mode (RX): Use the RTX 2.0 with any device capable of *Transmitting* a Bluetooth® wireless audio signal (A2DP). Such capable devices include phones, tablets, and adapters such as the Miccus® Home RTX, Home RTX Mini, Swivel Jack RTX.

Bluetooth® Codec Support: The Miccus® Home RTX 2.0 provides support for four common Bluetooth® audio codecs: SBC, AAC, aptX, aptX Low Latency. The Home RTX 2.0 will automatically pair at the highest quality common codec that both devices support.

Use with TV: aptX Low Latency codec
aptX Low Latency codec requires that both the transmitter and receiver support aptX Low Latency. If you use the RTX 2.0 with Bluetooth headphones that do not support aptX Low Latency, the 2.0 will default to the standard aptX or SBC codec. If TV or video audio is your primary use, consider purchasing Bluetooth headphones that support aptX Low Latency like the Miccus SR-71 Stealth Headphones.

When paired with two sets of aptX Low Latency headphones, the Home RTX 2.0 will stream in aptX Low Latency to BOTH headphones, unlike other adapters that drop the aptx LL codec in dual link mode.

Other End Bluetooth Device	Audio Latency
aptX Low Latency	38ms (+ or – 5ms)
aptX	70ms (+ or – 10ms)
SBC	220ms (+ or – 50ms)

LED Indicator Light Guide

The Home RTX 2.0 communicates with you via LED indicator lights. Following is a brief description of what each means. Refer to this guide as needed while reading the manual and working with your new RTX 2.0.

LIGHT	FUNCTION
LED solid blue	CH 1/CH 2 pair active
LED blinks blue rapidly	Pairing mode
LED solid green	Optical or 3.5mm active
CH 1 and CH 2 blue LED off or blinking slowly	Standby Mode (no pairing detected)
LED solid blue	Connected with either the SBC or aptX codecs
LED blue stays on with 2 blinks every 5 seconds	Connected with the aptX Low Latency codec

Detailed Instructions for Use

Attach the antenna
On the back of the Home RTX 2.0, remove the white cover and attach the antenna. Turn clockwise until slightly snug. Position the antenna upright.

Connect Power Cable
The RTX 2.0 is powered only by micro USB power; there is no battery to charge.

Connect the micro end of the included USB power cable to the RTX 2.0's micro USB jack; connect the other end to the compatible USB power supply unit (5V/500mA), computer, or television USB port.

For optimal performance, always use the provided USB cable which features a ferrite core to help eliminate radio frequency interference

during operation. While any USB charger that is rated at an output of 5V@500MA or higher is compatible, you may experience buzzing or less signal range while using another USB cable.

Connect Audio Cable
To connect the RTX 2.0 to other audio devices to receive or transmit audio, Miccus has included 3 audio cable options to select from dependent on your audio needs. You will only need 1 audio cable to connect the audio.

 a)   TOSLINK digital optical cable

 b)   3.5mm (mini-plug) male to 3.5mm (mini-plug) male cable

 c)   3.5mm to RCA Y cable

Note: If your TV or stereo system requires a different cable, please contact Miccus Customer Support and we may be able to help you: support@miccus.com, 616-604-4449.

To transmit in TX (transmit) mode, the RTX 2.0 must be connected to an audio source with audio to transmit such as a TV, stereo, computer, tablet, or phone etc.

  1. Determine which cable is needed by your audio source (your TV, stereo, etc.)
  2. Connect the appropriate cable to the auxiliary output on your audio source (your TV, stereo, etc.)
  3. Connect the other end of the cable to the back of the RTX 2.0 "From TV" label, either TOSLINK / optical to the "Optical In" or 3.5mm to the "3.5mm In."

To receive in RX (receive) mode, the RTX 2.0 must be connected to a stereo or powered speaker system to receive audio on.

1. Determine which cable is needed by your stereo or powered speaker system's auxiliary input: either TOSLINK/optical or 3.5mm.
2. Connect the appropriate cable to the auxiliary input on your stereo or powered system
3. Connect the other end of the cable to the back of the RTX 2.0 "To Speaker" label, TOSLINK/optical to the "Optical Out" or 3.5mm to the "3.5mm Out."

Power On/Off
There are three ways to power on the RTX 2.0:

1. Connect the RTX 2.0 to USB power and it will automatically power on

2. If already connected to USB power and powered off, press and hold the power button for 5 seconds until the indicator lights come on

3. If off, switching the RTX 2.0 between TX and RX modes will automatically power it on

To power off the RTX 2.0: press the multi-function button for approximately 6 seconds until the 2.0 powers down.

Pairing

The pairing process creates a Bluetooth bridge between a Bluetooth transmitter and a Bluetooth receiver. The versatile Home RTX 2.0 can function as either a Bluetooth transmitter OR receiver. The pairing process should take no more than 5-10 minutes.

For quicker, easier pairing:

• Verify the RTX 2.0 has power and audio connections completed (see above)

• Make sure the RTX 2.0 and your Bluetooth® device are physically located near each other during the pairing process, no more than 3ft apart.

• Make sure any previously paired devices, Bluetooth headphones, speakers, adaptors are turned off so the Home RTX 2.0 is ready to look for a NEW device to pair to.

- Please follow the below steps in a timely manner, without interruptions for best results.

Transmit Mode (TX):

1. Locate the RX/TX switch on the back right of the Home RTX 2.0. Select TX mode by pressing the button into the "In" position.

2. Verify that the audio cable is connected in the "From TV" label on the back of the RTX 2.0, either the 3.5mm audio input or the TOSLINK/optical audio input.

3. Power on and start the pairing mode on your receiving device, i.e. Bluetooth enabled headphones, speaker or other compatible A2DP Bluetooth® profile device.

4. Power on the RTX 2.0. There are three ways to power on the Home RTX 2.0: **1)** connect the RTX 2.0 to USB power, **2)** If already connected to USB power and powered off, press and hold the power button for 5 seconds until the indicator lights come on, **3)** In the off position, switch the RTX 2.0 between TX and RX mode.

5. Start the pairing mode on the RTX 2.0: press and hold the multi-function/power button for 3 seconds until the CH 1 light begins flashing rapidly.

6. WAIT for the devices to connect. This may take up to 30 seconds.

7. Once paired, the Home RTX 2.0 CH 1 indicator light will change to either solid blue or blink twice every 5 seconds if in Low Latency codec.

8. To begin streaming music wirelessly, simply press the play button on your audio source, adjust the volume as needed and enjoy!

9. If you want to pair to a second device, follow these steps:

    1. Pair your first Bluetooth receiving device (headphones or speakers) to the Home RTX 2.0. (steps 1-8 above)

    2. Start the pairing mode on the RTX 2.0 by pressing the multi-function button for 3 seconds until the CH 2 light begins flashing rapidly.

    3. Wait for the devices to connect. This may take up to 30 seconds.

    4. When the second set is paired, both CH 1 and 2 lights will light either solid or will blink twice every 5 seconds indicating aptX Low Latency codec.

USB Mode: The Home RTX 2.0 has a special function,when in TX mode and plugged into a PC USB port, the Home RTX 2.0 will function as a long-range USB dongle allowing you to use your Bluetooth Headphones or speakers for 2-way communication in Gaming and VoIP calls.

1. Pair the Home RTX 2.0 with your favorite Bluetooth headphones or speaker.
2. Using the supplied USB cable, connect the Home RTX 2.0 to your PC or Macintosh.
3. On the computer navigate to the audio settings and select CSR audio dongle for speaker output and microphone input.
4. Now you can communicate wirelessly with others in online games and video calls.

NOTE: If your computer does not automatically recognize the Home RTX 2.0, please check that your audio settings are set to (CSR Audio Dongle) for speakers and microphone.

Voice Prompts (RX Mode):
To make the pairing process easier in RX mode, Miccus has added friendly voice prompts to communicate the status. From your speaker or headphones, throughout pairing and use you will hear:

• Power On – Home RTX 2.0 has been turned on
• Pairing – Home RTX 2.0 is looking for a device to pair to
• Connected – Your devices are connected and ready to use
• Disconnected – Your devices are no longer connected or paired
• Power Off – RTX 2.0 is off

To Turn Off Voice Prompts:

1. Place the RTX 2.0 into RX pairing mode by holding down the MFB button. The voice prompt says "pairing".

2. Double click the multi-function button and the voice prompts are now turned off.

3. To turn prompts back on, put the RTX 2.0 into RX pairing mode again, and double click the multi-function button.

Pairing Mode (RX):

1. Locate the RX/TX switch on the back right of the Home RTX 2.0. Select RX mode by pressing and releasing the switch to the "Out" position.

2. Verify that the appropriate audio cable is connected in the "To Speaker" label on the back of the RTX 2.0, either the 3.5mm audio input or the TOSLINK/optical audio input.

3. Power on the Home RTX 2.0. There are three ways to power on the Home RTX 2.0: 1) connect the RTX 2.0 to USB power, 2) If already connected to USB power and powered off, press and hold the power button for 5 seconds until the indicator lights come on, **3)** If powered off, switch between TX and RX mode

4. Start the pairing mode on the RTX 2.0: press the multi-function button for 3 seconds until the CH 1 light begins flashing rapidly. You will hear a voice announcing "Pairing."

5. Open the Bluetooth menu on your phone, tablet or other compatible A2DP Bluetooth® profile device and select the Miccus Home RTX 2.0. If your tablet or cell phone requires a passkey, use "**0000**."

6. WAIT for the devices to connect. This may take up to 30 seconds.

7. Once paired, you will hear a voice announcing "Connected" and the Home RTX 2.0 CH1 indicator light will change to either solid blue or blink twice every 5 seconds if in Low Latency mode.

8. To begin streaming wireless audio, simply press play on your audio source, adjust the volume to preference, and enjoy!

9. If you want to pair to a second device, follow these steps:

    1. Pair your first phone or tablet to the Home RTX 2.0 (steps 1-8 above)
    2. Start the pairing mode on the RTX 2.0 by pressing the multi-function button for 3 seconds until the CH 2 light begins flashing rapidly
    3. Open the Bluetooth menu on your phone, tablet or other compatible A2DP Bluetooth® profile device and select the Miccus Home RTX 2.0. If your tablet or phone requires a passkey, use "**0000**."
    4. Wait for the devices to connect. This may take up to 30 seconds.
    5. When the second set is paired, both CH 1 and 2 lights will light either solid or will blink twice every 5 seconds indicating aptX Low Latency codec.

Note: In RX (receive mode) two phones or tablets can be simultaneously paired with the Home RTX 2.0, but only 1 device at a time can stream audio to the Home RTX 2.0. Shift the audio freely between devices by pausing the audio on one and pressing play on the other.

Reconnection

Now that the Home RTX 2.0 is paired, if left powered on or if powered back on, the Home RTX 2.0 will automatically reconnect to the last paired device when within range. In Receive mode, you will hear a voice announce "Connected" to confirm the connection.

Factory Reset

If for any reason the Home RTX 2.0 is not working as expected, perform a factory reset to clear the memory and restore the default settings.

1. Power off the RTX 2.0 by pressing the multi-function button for roughly 6 seconds until the lights turn off.
2. Press and hold the multi-function button for roughly 10 seconds. The RTX 2.0 will power back on and then power off again.
3. Release the button once this cycle is complete and the RTX 2.0 is powered off.
4. Power the RTX 2.0 back on again. The Ch1 light will be blinking fast indicating you have reset the device.
5. Pair again for use.

FAQ and Troubleshooting

PROBLEM	SOLUTION
Miccus Home RTX 2.0 does not turn on	1. Check the USB power connection 2. Make sure to press and hold the power button for 5 seconds.
Audio breaks up or wireless range is too low	1. Make sure the antenna is attached securely and positioned correctly. 2. Move the Miccus Home RTX 2.0 away from other 2.4 GHz equipment such as Wi-Fi routers and microwaves.
No sound/audio output	1. Check the cables to make sure they are connected to the correct jacks. 2. Press play on your music source. 3. Check to make sure your volume is set to a listenable level.

PROBLEM	SOLUTION
Can't control Volume	1. By design the Miccus Home RTX 2.0 is a passive transmitter or receiver and has no volume control. User volume level must be adjusted via the input and/or output sources connected to the Miccus Home RTX 2.0.
Static or noise in the audio	1. Make sure to use the supplied USB adapter as television, stereo, or PC USB ports can introduce noise into the signal. The Home RTX 2.0 ships with a USB cable featuring a ferrite core to help eliminate potential RF (radio frequency) interference.
	2. Move the Miccus Home RTX 2.0 away from any amplifiers or powered speakers.
	3. Make sure the Miccus Home RTX 2.0 is cabled to the correct line level input or output on your stereo receiver.
	4. Dual link pairing: your first receiving device may experience an audio interruption / noise while your 2nd receiving device is connecting. This is due to audio buffering. It may take roughly 30 seconds for audio to stream as normal.

PROBLEM	SOLUTION
Can't pair my device with the Home RTX 2.0	1. Make sure the Miccus Home RTX 2.0 and the device you're pairing with are right next to each other.
	2. Make sure all other Bluetooth compatible receiving or transmitting devices you're not trying to pair with are either powered off or Bluetooth disabled.
	3. Make sure both devices are in pairing mode. LED equipped devices will typically flash fast when in pairing mode and flash slow when connected.
Can't pair my device with the Home RTX 2.0	4. Make sure your device is compatible with the wireless A2DP Bluetooth stereo audio profile.
Can't dual link pair my devices to the Miccus Home RTX 2.0	1. When the standard Dual-Link Pairing procedure won't connect more than one device, follow standard pairing steps 1-6 to pair both receiving or transmitting devices individually then power down the Miccus Home RTX 2.0 and your second device. Next, power on both receiving or transmitting devices again then place the Miccus Home RTX 2.0 into pairing mode again. Wait for both devices to reconnect. Both CH1 and CH2 indicator lights will light solid when reconnected.

Care and Maintenance

- To keep from damaging the Miccus® Home RTX 2.0's internal circuit, avoid exposure to liquid, moisture and humidity.
- Extreme temperatures can shorten the life of electronic devices.
- Don't use abrasive cleaning solvents to clean the Miccus® Home RTX 2.0.
- Do not dispose of the Miccus® Home RTX 2.0 in fire as it will result in an explosion.
- Avoid contact with sharp objects. They may scratch or damage the Miccus® Home RTX 2.0.
- Do not drop: dropping the Miccus® Home RTX 2.0 can damage the internal circuit.

Specifications

- Bluetooth v4.2
- Supports both the A2DP, and AVRCP Bluetooth® profiles
- Audio Codec Support: SBC, AAC, aptX, aptX Low Latency
- Optical Audio Support: PCM, LPCM @ 48KHz
- Operating Range: Up to 160ft (50 meters) line of sight
- Operating Frequency: 2.402 GHz to 2.480 GHz
- USB Power: DC 5V @500mA or higher
- Size: 4.37 x 2.5 Inches Weight: 3.0 oz

Support

Further details and answers to common questions are found at
http://www.miccus.com/help.asp

If your question is not answered via the support page, feel free to email us at **support@miccus.com**; please include a product name in your email subject line. For live technical assistance please call **1 (616) 604-4449** Monday-Friday, 11am-4pm EST.

FCC Information

This device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions: **(1)** This device may not cause harmful interference, and **(2)** this device must accept any interference received; including interference that may cause undesired operation.

Federal Communications Commission (FCC) Statement:
This Equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However: there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

• Reorient or relocate the receiving antenna.
• Increase the separation between the equipment and receiver.
• Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
• Consult the dealer or an experienced radio/TV technician for help.

Warning
Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user authority to operate the equipment. Tested to comply with FCC standard: FOR HOME OR OFFICE USE. This equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. This device and its antenna(s) must not be co-lated or in conjunction with any other antenna or transmitter.