USB-to-CAT Interface Module #58247-1735

WEST MOUNTAIN RADIO

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Thank you for purchasing the USB-to-CAT Interface Module!

Contents:

• USB-to-CAT Interface Module
• USB Cable
• 1/8" Stereo Patch Cable
• Retention Clip for Powerpole®
• Owner's Instructions

The USB-to-CAT Interface Module is designed to allow equipment, (i.e. TARGETuner) to be connected to radios which only use a USB port for CAT (rig control) such as the the Yaesu FT-891. The device itself converts a CAT datastream from the USB port of a radio into a TTL datastream. It is bi-directional, meaning data flows in both directions. Note: Some radios, like the FT-891, draw transmit current from the USB connector; sometimes as high as 1A. Contact West Mountain Radio for information about USB isolation to provent this.

USB Ports

The USB-to-CAT has two USB connectors: a standard USB type-A female receptacle (USB->Radio) on the unit, and a micro-USB female receptacle (optional config) on the unit. When using the USB type-A receptacle, the USB-to-CAT acts as a USB host for talking to USB devices. In the example of a Yaesu FT-891, this connector is used to connect the USB-to-CAT to the readio. When using the micro-USB female receptacle, the USB-to-CAT acts as a USB device for talking to a USB host, such as a PC. This connection is provided so that the USB-to-CAT may be configured using a PC and for performing software updates to the USB-to-CAT module. ***Never use both USB connections at the same time! Using both connections may damage the USB-to-CAT and damage the devices connected to the module.***

Usage

1. Ensure the TARGETuner has the latest firmware. (It many be necessary to update the firmware on the TARGETuner to ensure rig control for the particular radio. The latest TARGETuner firmware can be found: www.westmountainradio.com/content.php?page=tt_firmware)

2. Connect a suitable DC cable to the Anderson Powerpoles®.

3. Make sure the radio and TARGETuner are set to the same data rate. (By default, the USB-to-CAT will be using 4800 baud. See the Configuration sectino of this manual for directions on how to change the baud rate. If the USB-to-CAT is running and able to communicate with the USB device, the LED should be green and should be passing serial data back and forth to the USB device.)

4. Connect the USB cable from the radio to the port marked USB-->Radio.

5. Connect the TTL cable between the TARGETuner and the port marked CAT-->TTL.

There is a small pushbutton on the USB-to-CAT, this is used to update the software and to add support for new USB devices. Directions for using this button and performing software updates are provided by West Mountain Radio if needed.

Status LED

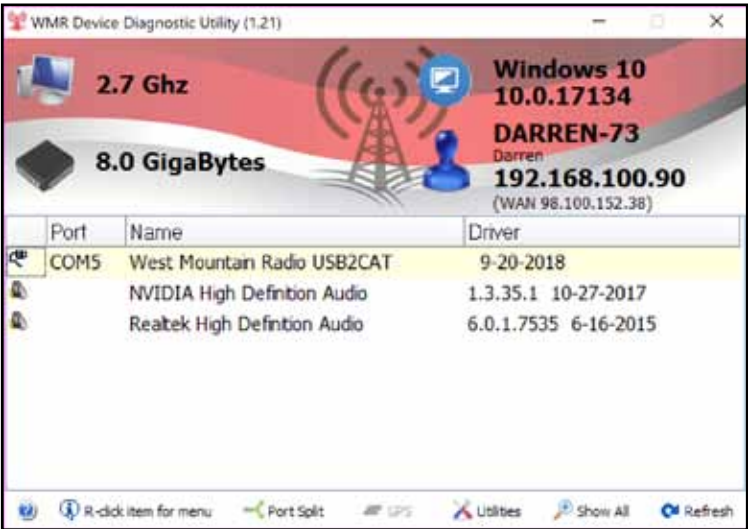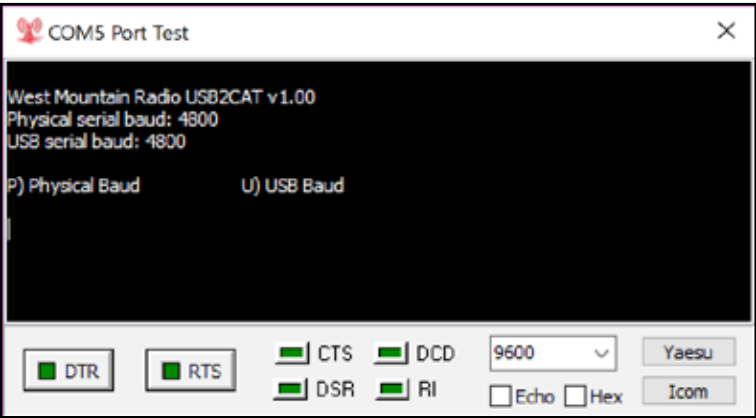| Red	USB-to-CAT is powered, but no USB devices are connected to either USB port. If a USB device is connected to the USB type-A receptacle, but the LED is still red, the USB device is not supported by the USB-to-CAT and contact West Mountain Radio Tech Support about adding support for this device.
Green (solid)	USB-to-CAT is powered and is able to talk to the USB device connected to the USB type-A receptacle. USB-to-CAT is passing serial back and forth to the USB device.
Green (slow blink)	USB-to-CAT is powered and a host (PC) is connected to the micro-USB receptacle.

Configuration

The USB-to-CAT has a few settings that can be changed. Connect the USB-to-CAT to a host PC using the micro-USB receptacle on the unit and the device will appear to the host as a serial port (COMx) device. Open this serial port in a serial terminal software package (i.e. Realterm or PuTTY) and use the console GUI for changing the configuration. The USB-to-CAT will not get power from the micro-USB receptacle - 12V must be applied to the Powerpoles.

The easiest way to access this on Windows devices is to download and install the WMR Diagnostics Utility from West Mountain Radio: http://www.westmountainradio.com/content.php?page=wmr-downloads

After installing and running the tool, a device labeled "West Mountain Radio USB2CAT" should be listed as a found device: 🖐

Double-click on the "West Mountain Radio USB2CAT". This will open a serial terminal, but it will be blank. Click in the black area and press the Space Bar on the keyboard to refresh the console GUI: 🖐

Baud Rate Options

Physical Baud	This is the serial baud rate used on the "CAT?TTL" connector. The TTL device should be configured to the same baud rate. In the example of a TARGETuner, the TARGETuner should be configured to the same baud rate. The default value for this setting is 4800.
USB Baud	This is the serial baud rate the USB-to-CAT will tell the connected USB device (i.e. Yaesu FT-891) to use on the USB A female receptacle. Most USB devices will not care what is set here and will accept any value sent by the USB-to-CAT. Some devices may have their own configuration value, thus, both the device and USB-to-CAT should be set to the same value. In the case of the Yaesu FT-891, this radio has a CAT baud rate setting and it must match the setting made here. The default value for this setting is 4800.

Specifications

DC Input: 9-15V

Micro-USB receptacle: 4.75V to 5.25V

USB-A receptacle: 5V, 500mA max output current
This receptacle is for the USB-to-CAT to act as a USB host.
There is no provision to use this port to charge a USB device.

TTL connector: 1/8" stereo jack
Tip - TX (3.3V output)
Ring - RX (3.3V to 5V input)
Sleeve/Shield - Ground

Supported USB
Devices (known): Yaesu FT-891
RIGtalk USB for Rig Control Interface
Any communication device class (CDC)
Any dvice using a Silicon Labs CP210x chipset using default VID/PID

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