

West Mountain Radio RIGBlaster Pro

In the last few years I have really been bitten by the digital radio mode bug. This is very obvious if you look at my amateur radio logbook. When I sit down in front of the ham rig to do a bit of operating, most of the time I'm using digital modes in the ham bands.

Last Christmas I wanted a new interface that would consolidate the many connections and two boxes that I was using to operate on the new modes that used my digital sound card. So, after several years of operation, I replaced my older West Mountain Radio (WMR) RIGBlaster interface unit with a newer model. That new model was the RIGBlaster Pro.

The RIGBlaster Pro is considered by many hams as the Cadillac of all the interface units that are available in the ham marketplace today. And that praise is well earned. The RIGBlaster Pro is the ultimate interface for phone and digital operating.

The Pro model incorporates the proven operation of the WMR M8 and Plus model RIGBlasters with the addition of many new features, while providing the operator with a simplified operation and greater flexibility.

Full front panel LEDs display the status of PTT, CW, FSK, audio source, and transmit audio level operations. An audio level indicator shows the presence of adequate computer transmit audio; the other LEDs show the status of the software's serial control activity, and indicate the automatic switching between computer and microphone audio sources.

❖ Rig Control

One of the biggest selling points for me was the built-in rig control interface. I use an Icom IC-706G MKII transceiver that uses the company's CI-V interface for rig control. By adding the Pro to my setup, I got rid of my old CI-V interface box and several cables that were dedicated to this function.

In addition to the Icom radios, the Pro's built-in computer rig control interface also provides that function for rigs that utilize the Yaesu CAT or Ten Tec TTL technology. This built-in interface facili-

tates computer control of your transceiver, sound card operation, and CW mode operations using only one serial port with programs such as Hamscope, MixW, Logger 32, MultiPSK and several others. If you are running two separate software programs – one for sound card PTT switching, CW and RTTY and another program for rig control – you have the option to use two serial ports instead of one.

Another interesting feature of the Pro is the ability to utilize transmitted speech processing. By running a sound card based DSP software, the Pro will turn your setup into a high performance microphone equalizer, speech processor, and/or noise gate. Performance and flexibility are far better than with some expensive stand-alone hardware processors. You will be able to optimize your transmit audio exactly the way you want it for DX, rag chewing or even Hi-Fi SSB communications. Downloadable, real-time audio processing programs are available on the Internet, and rumor has it the WMR is developing a custom, high performance, amateur radio software package that will only be available to RIGblaster Pro registered owners.

With this new program now under development, the Pro will automatically switch between DSP transmit speech processing and receive DSP filtering using circuitry in the Pro that "tells" the software that the microphone is in use. This will also allow for optimization of the switching times between transmit and receive.

❖ Features Galore

There are many new features in this transceiver to computer interface, including:

Receive audio muting. When running the Pro in the transmit speech processing mode, the computer speakers will be muted whenever PTT is activated via the microphone or the foot switch jacks.



The West Mountain Radio RIGblaster Pro connects to several items in your shack. Please note that many items in this diagram (mic, PC, radio, foot switch, speakers, etc.) are not included.

Isolated microphone audio output continuously supplies microphone audio to the computer's mic input for contest DVK (digital voice keyer) message recording on the fly. This feature can also be used to process microphone audio and to provide for digital recording of both sides of a QSO at any time.

Not one, but two, independent, keying outputs, one for true FSK, and another for keyboard CW keying.

The Pro has an Electret microphone bias circuit allows you to use an electret condenser microphone with radios that have no provision for using this modern type of microphone.

Second microphone operation. Quick plug-in automatic switch-over between the main station mic and a headset microphone. Special radio microphone adaptors will no longer be needed for the headset connections. You can leave your main station microphone connected when using a headset microphone.

Dual headphone outputs with 1/8" and 1/4" jacks. Both may be used to monitor receive and/or transmit audio. Just like the other RIGBlasters, computer speaker jacks are available for normal use and may be turned down or off while using headphones. Computer speakers are automatically muted when in the transmit processing mode.

Dual RCA type, PTT input and output jacks that can be used with a foot switch or for external control. These may also be separated to provide a transmit sequencer loop for high power amplifier switching.



SPECIFICATIONS

Overall Dimensions: 1.5" H x 10.75" W x 5.75" D (without cables)
 Weight: 19 oz (without AC adapter)
 AC Power requirements: 120 VAC <2.5 Watts (with supplied AC adapter)
 DC Power requirements: 13.8 Vdc nominal < 220 mA

Frequency response
 Sound card microphone output: Process mode 100 Hz - 15 kHz, + - 1dB
 Sound card input: 100 Hz - 15 kHz, + - 1dB

Distortion sound card input: Less than 0.1 % THD @ 1kHz
 Input impedance (from sound card) : 600 ohms resistive, minimum
 Sound card level adjustment range: -34 dB to > -120 dB
 PTT maximum contact rating: 2 A @ 24 V or 1 A @ 48 V
 CW direct keying ratings: Transistor logic only, tube amps not supported. Positive pull down .15 V min. @ 20 ma. max
 FSK direct keying ratings: Transistor logic only, tube amps not supported. Positive pull down .15 V min. @ 20 ma. max

Serial interface ports A and B (DB9F connector) Standard RS232
 RS232 Pin assignments serial port A (DB9 PC signal set)
 Pin 2 Receive Data (Rig control default)
 Pin 3 Transmit Data (Rig control default or FSK option)
 Pin 4 Data Terminal Ready (CW Keying control)
 Pin 5 Signal Ground (isolated digital common)
 Pin 6 Data Set Ready (PTT interrupt)
 Pin 7 Request To Send (PTT control)
 Pin 8 Clear To Send (PTT interrupt)

RS232 Pin assignments serial port B (DB9 PC signal set)
 Pin 2 Receive Data (Rig control option or pass)
 Pin 3 Transmit Data (Rig control option or pass FSK option)
 Pin 5 Signal Ground (isolated digital common)

TTL Rig control interface ports:
 Standard TTL 5V logic, selectable bi-directional or uni-directional via a dual circuit mini jack connector.

Radio speaker loop through. This allows you to re-connect an external radio speaker when using a radio's speaker output instead of a fixed level audio output.

Radio line level receive microphone jack connection. This provides a line level receive connection for radios that have receive audio on their microphone jack, simplifying the connections.

Power ON/OFF switch. Even though WMR's RIG-Blasters draw almost no power and have fully automatic bypass operation, they have added a power switch on the Pro that disables and bypasses the unit's operation.

The microphone audio is completely isolated

from all other grounds. The three sound card audio signals are isolated using three audio transformers. The computer is isolated using three DPDT relays, three opto-isolators, and an isolating DC to DC converter. A high grade DC blocking capacitor is on the sound card to microphone output for use with radios that are designed for use with amplified or electret microphones.

Another interesting feature are the relays that provide current and voltage capability to switch tube rigs. These relays also provide automatic switching between sound card audio, transmit muting and the microphone override and interrupt features on the RIGBlaster Pro unit.

❖ What's in the box?

In addition to the interface box, the RIG-Blaster Pro USB kit includes the items you need to get up and running including: an AC to 12 VDC power supply (wall wart), a software CD (including USB to serial port drivers), transceiver microphone cable [8 pin], USB cable, six stereo mini 6-foot patch cables, a patch cord label stickers sheet, 11 white wire jumpers, six blue shunt jumpers, one adapter (mini to 1/4 inch), and adhesive pads for mounting the unit.

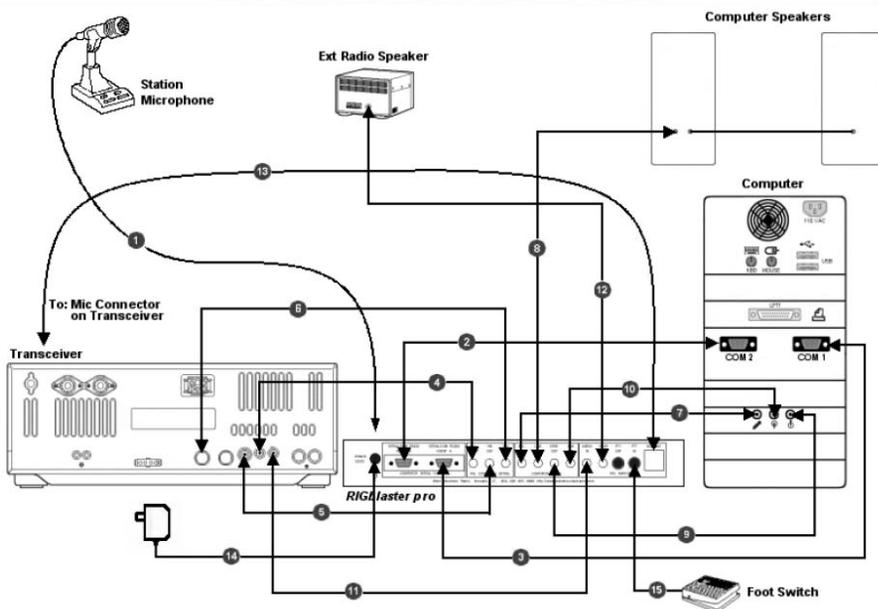
❖ Bottom Line

I found the RIGBlaster Pro very easy to install, easy to integrate with my existing sound card software packages, and easy to use. The added information displayed on the front panel makes digital mode and voice operations a lot more comfortable for the operator. The instruction manual was well written and installing the USB drivers for serial to USB operations with my laptop went off without a hitch.

All-in-all, the West Mountain Radio RIG-Blaster Pro was a wise choice and has added some new capabilities to operations in my ham shack.

The unit retails for \$279.96 and is available from Universal Radio and other major ham radio dealers nationwide.

You can learn more about the RIGBlaster Pro (including a downloadable PDF version of the unit's manual) and all the other West Mountain Radio products on their website at www.westmountainradio.com/



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