



RAM SYSTEM 500 USER MANUAL



Qualcomm®
aptX™



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INSTALLING THE RAM SYSTEM 500

Thanks for purchasing the RAM System 500. Please make sure the following items are in the box when you open it.

- This manual.
- RAM System 500 main unit.
- Bluetooth antenna.

Depending on your system requirements, you will need several TRS and/or XLR cables to hook up your system. Please check your input sources and output destinations and buy the correct cables.

Additionally, please insert the Bluetooth antenna in its threaded connector in case it comes unplugged from the factory.

The RAM System 500 is a 2-slot 500 Series module and should be able to operate in any 500 series chassis without issues. However we recommend our OST boxes, due to the individual power supplies per slot they provide.

Please note that after turning on the unit, MUTE will always be engaged regardless of the level shown on the red knob. This is to prevent damage of your speakers due to excessive level on startup.

Any time you plug the unit on, the status of the RAM System will be that of the last time it was turned off. Last input chosen is stored.

GENERAL DESCRIPTION

The Heritage Audio RAM SYSTEM 500 is a professional monitor controller in an innovative 500 Series format. It is specifically designed for small studios requiring a mastering grade monitoring section without needing a plethora of input and output connections. With a pair of analog inputs and main output, and the innovative professional quality HA Bluetooth technology, the System

500 will cover all the monitoring needs of the most demanding project facilities at a price never heard before.

The level control is taken care of by means of microprocessor controlled gold plated relays, giving an exceptional resolution of 64dB of attenuation in 1dB steps. Keeping active electronics to a minimum, the attenuator is buffered using state of the art Burr Brown circuitry for negligible coloration and no noise.

Headphone monitoring is as critical as main speaker is. Usually a weak part even in the most expensive units, the RAM System 500 employs very high current drivers in a diamond buffer configuration which are able to drive any headphones to very high levels without coloration or noise. It has one stereo amplifier which follows the selected input signal.

INPUT FEATURES

The RAM System 500 has the following stereo inputs:

- **BACK INPUT (B):** Balanced, accessible on the 500 Series chassis connectors.
- **FRONT INPUT (F):** Exactly as Input 1, but located on the front panel of the unit by means of a pair of combo XLR/TRS jacks.
- **BLUETOOTH (BT):** This input features the same architecture found in the acclaimed Heritage Audio BT-500. If you are not familiar with it, the BT-500 is an Audio Streaming device in a convenient 500 Series format. It streams audio from your Bluetooth-equipped device and delivers a fully balanced, +22dBu stereo output. Integration of mobile devices into a professional studio environment has never been easier. More info on the Bluetooth features later.

MONITORING OUTPUT FEATURES

The RAM System 500 features one pair of balanced outputs available on the connectors on the back of the 500 Series chassis of your choice.

ADDITIONAL MONITORING FEATURES

The RAM System 500 has the usual MUTE, DIM and MONO functions often found in this type of units as follows:

- **MUTE:** Global Mute, equivalent to rotary knob all fully counter clockwise.
- **DIM:** Attenuates further 20 dB from the attenuation marked by either the red knob or the level preset.
- **MONO:** It outputs a mono signal to the left and right outputs.

HEADPHONE MONITORING

Your RAM System 500 provides with a mastering grade headphone amplifier, accessible at the front panel of the unit. It is capable of extremely loud levels without distortion, noise or coloration of any kind so, before plugging your headphones in, make sure the headphone level is at its minimum setting, and adjust accordingly.

The headphone amplifier follows the input signal selected.

UNDERSTANDING THE BLUETOOTH INPUT

There is still a popular misconception that Bluetooth is detrimental to the audio quality. Although this has been true in the past, it is no longer the case. Bluetooth is just a “wireless serial port” and, as so, has no ability to interact with your sound quality. However, in order to fit the heavy data traffic that

digital audio needs, digital audio compression is applied. **This is the real source for audio degradation in Bluetooth connections.**

This being said, modern Bluetooth technology allows for very high quality codecs taking care of the audio data and, which is more important, pre coded data (such as that in iTunes) is kept unmolested.

NO MORE MINI JACKS

Employing last generation audio specific Bluetooth technology, the best Codecs your devices can support and a state of the Art, Burr Brown based analog signal path, it solves the already classic, irritating problem of connecting your iOS or Android device to your Studio setup.

To this day this has been solved using mini jack to XLRs adaptor cables, but the limitations of mobile devices' analog audio paths have become clearly apparent.

Listening to references on the iTunes Store, recordings sent by email, Spotify, You Tube, you name it. You do it every day, all the time. Nevertheless integration has been non convenient to say the least, until now.

SOUND QUALITY OVER BLUETOOTH

The RAM System 500 Bluetooth device automatically recognizes your device's best Codec option and uses it for streaming.

Apple's iTunes Store and You Tube use AAC* as native so streaming from an iPhone or iPad will result in a lossless transmission, much better than an analog wired connection!!

Vast majority of Android devices have already adopted the amazing sounding "Qualcomm® aptX™ audio" Codec **, which is nearly lossless and the standard that wireless high quality headsets and sound bars are adopting.

For a complete list of devices currently supporting aptX please visit:
<http://www.aptx.com/products/browse/categories>

In case your device can't support neither AAC nor aptX, the RAM 500 will stream audio using the classic SBC codec.

(*) Heritage Audio is an official AAC licensee.

(**) Heritage Audio is an official aptX licensee.

BURR BROWN'S PEDIGREE IN THE ANALOG PATH

The RAM System 500 Bluetooth device substitutes your mobile device's analog circuitry with a state of the art, fully differential Burr Brown balanced output stage which delivers a full 0dBfs = +22dBu output able to drive a load of 600 ohms. This allows direct level comparisons while mastering or mixing with Apple's iTunes Store or mobile stored reference mixes.

SYNCHRONIZING YOUR DEVICE WITH THE RAM SYSTEM 500

Synchronizing your mobile device with the RAM System 500 is as simple as pairing any other Bluetooth device. It will appear as "**HERITAGE CM 500**" on your Bluetooth devices' list.

You Tube hosts nice tutorials about how to do so in both Android and iOS if you need help.

The System 500 automatically selects the best Codec supported by your mobile device, so no configuration is needed.

OPERATION

Whenever a device is paired with the RAM System 500, the "**SYNC**" LED will light. From then on, your mobile device takes over the transmission, including Transport control (PLAY, STOP, etc.) and Level (Volume).

Active streaming is confirmed by corresponding Codec LED being turned on.

Please note Codec **IS NOT** configurable. It is automatically chosen from the best available option on your mobile device.

Devices can only be paired one at a time. Whenever a different device needs to be paired, Bluetooth needs to be reset, so **RESET** button must be pressed down.

TECHNICAL SPECIFICATIONS

- Maximum analog input level: Over +27.5 dBu
- Bluetooth input: AAC, aptX or SBC, 0dBfs=+22dBu at the output, all fader up.
- DIM attenuation: -20db.
- Maximum output level: Over +27 dBu into 600 ohms.
- Noise: Better than -99 dBu.
- THD: Better than .001% at 1Khz, balanced input to balanced output, all fader up.

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LIMITED 2 YEAR WARRANTY

Heritage Audio RAM SYSTEM 500 is warranted by Heritage Audio SL to be free from defects in materials and workmanship for the period of 2 years to the original purchaser. In the event of such defects, the product will be repaired without charge or, at our option, replaced with a new one if delivered to Heritage Audio prepaid, together with a copy of the sales slip or other proof of purchase date. The warranty excludes problems due to normal wear, abuse, shipping damage or failure to use the product in accordance with the specifications.

Heritage Audio shall not be liable for damages based upon inconvenience, loss of use of the product, loss of time, interrupted operation or commercial loss or any other damages, whether incidental, consequential or otherwise.

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