



Telos Alliance Omnia VOLT Broadcast Audio Processor Installation Guide

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Omnia VOLT Broadcast Audio Processor

THANK YOU FOR PURCHASING THE OMNIA VOLT.

We have made this Omnia processor easy to set up and configure. This quick-start guide will take you through the basic steps needed to configure your new Omnia VOLT. You're just a few steps away from being able to deliver cleaner, clearer, louder, and more consistent FM sound. Before we get started, let's make sure you have what you need.

THE FOLLOWING ITEMS ARE REQUIRED FOR INSTALLATION:

- Omnia VOLT Audio Processor
- AC Power Cable
- RJ45 Studio Hub standard pinout AES Adaptors
- 4 rack screws
- Rack with an EIA rack space for mounting
- Philips screwdriver or screw gun
- Standard XLR connectors if setting up a line-level analog audio source
- Ethernet cable if setting up a Remote and/or Livewire connection

INITIAL SET UP & AUDIO CONNECTIONS

RACK MOUNTING



1. Install the VOLT in your equipment rack using the 4 supplied screws. If only two screws are used for installation, they **MUST** be installed in the bottom holes (A) of the rack ears. As a best practice, leave a blank space above and below the unit for proper ventilation and cooling.

AUDIO CONNECTIONS

1. Determine the inputs and outputs that are appropriate for your installation.

AUDIO INPUT – Both analog and digital input sources may be connected simultaneously, however, only the input source that has been selected in the Input menu will be active. For the SG, these should originate from an external FM audio processor and ideally should be pre-emphasized and fully band limited to 16kHz.



- a. For balanced line-level analog audio, connect XLR audio cables to the ANALOG LEFT IN and RIGHT IN jacks (B).
- b. For AES digital audio, connect the dual female XLR “Studio Hub” adaptor cable provided to the RJ-45 AES IN/SYNC jack (C).
- c. For an existing Axia or Livewire system, connect an Ethernet cable from the Livewire network to the Livewire jack (D).

AUDIO OUTPUT – All outputs are active simultaneously. The analog XLR, AES/EBU and Livewire outputs are discrete outputs that can be used for monitoring or relaying to another stereo generator. The outputs are just

monitors of the input. They are not decoded from the composite signal, so they do not reflect composite clipping, etc. They do have level adjustments and the option to apply de-emphasis.



- a. For balanced line-level analog, connect XLR audio cables to the ANALOG LEFT OUT and RIGHT OUT jacks (E).
 - b. For Digital audio, connect the male XLR “Studio Hub” adaptor cable provided to the RJ-45 AES OUT jack (F).
 - c. For an existing Axia or Livewire system, the single Livewire Ethernet connection made in the input setup is all that is needed for audio I/O (D).
- COMPOSITE MPX OUTPUT** – Two separately adjustable BNC outputs are available.
- a. Connect one of the composite MPX BNC outputs (G) to your FM exciter or composite STL transmitter. The 2 outputs are separately adjustable so if needed, you can connect the other output to your backup transmitter as well.
2. Connect the Omnia VOLT to AC Mains (H) using the AC power cable supplied. Make sure the power source is properly grounded. There is no power switch.



3. Once power is supplied, a red power indicator (I) next to the LCD (J) will light up. The LCD will remain dark for about 25 seconds, then will display “Omnia VOLT” as the startup sequence progresses. A few seconds later, the main menu will be displayed.

CONTINUE TO AUDIO CONFIGURATION

The initial set-up of your Omnia VOLT is complete and ready to be configured. Continue to the “Audio Configuration” instructions.

AUDIO CONFIGURATION

INPUT CONFIGURATION

The Omnia VOLT can be set up directly from the front panel. Note that all of front panel functions, and more, can also be accessed via password protected login from networked computers, tablets or smartphones. For instructions on how to configure via networked devices, please refer to the Remote Control chapter in the Omnia VOLT manual.



1. Navigating input configuration on the front panel is simple and intuitive. Rotate the red jog wheel (K) to scroll through options displayed on the LCD screen (J), increase/decrease numeric options and more. Press the jog wheel (K) to make a navigation selection or to enter settings.
2. From the front LCD screen, rotate the red Jog wheel until Discrete I/O is highlighted. Press the jog wheel in to select.
3. Rotate the jog wheel until Input is highlighted. Press to select.
4. Rotate the jog wheel until Input Src is highlighted. Press to select.
5. Rotate the jog wheel to select the appropriate input source. Press to select.
6. Feed regular program material at your station's normal level. Tones are not needed for calibration.

Note: On the front panel, only the input and output meters function. There is no multiband processing on the SG version.



INPUT CALIBRATION

1. The VOLT SG is designed to accept pre-processed audio from an external FM audio processor. Ideally, this audio should be pre-emphasized and sourced only through a lossless link using Livewire or AES/EBU. Analog L/R XLR input can also be accepted. Since the VOLT SG includes a composite clipper for removal of overshoots, it is very important to calibrate the input level properly so that when the Composite Clip Drive control is set to 0.0, no composite clipping is taking place. The input level for 100% modulation (composite clip threshold) is -12dBFS. On the analog input, this corresponds to 10dBu. Using typical program material, temporarily turn up the main clipper drive on your external FM processor to provide a more steady "worst-case" level at the input of the VOLT SG. If using a digital output on the external FM processor, set its peak output level to -12.0dBFS if possible. If so, set the Omnia's input Level control in the Discrete I/O / Input menu to 0.0dB to start.

Note: The VOLT SG's input meters are specially calibrated with higher resolution above -12dBFS for easy and precise input level calibration. Above -12dBFS, the input meter on the front panel has a "zoom" function. It zooms by 10X, so each segment is 0.4dB instead of 4dB. That is, the actual values, going up from -12dB are: -12.0dBFS, -11.6dBFS, -11.2dBFS and -10.8dBFS. Any value higher than that just saturates the meter. The composite clip point (with 0.0dB drive setting) is -12.0dBFS. Note that on the web GUI, there is a separate "Input Zoom" meter with more range.

2. Adjust VOLT's appropriate input Level control until the peak-reading input bargraph meters are just lighting only the -12 LED. If there is some overshoot in the output of your external FM processor or the link between it and the VOLT SG, more than just the -12 LED may light. This should be OK as long as there is not more than a dB or so of overshoot. (remember, the meter scale above -12 is 0.4dB instead of 4dB so the red 0dB LED indicates +1.2dB) If there is more overshoot than that and the red 0 LED is flashing frequently or is on steadily, you may need to lower the input level a bit. Press the jog wheel to accept the setting.
3. Rotate the jog wheel until Exit is highlighted. Press to return to the Discrete I/O menu screen. Highlight Exit again and Press to return to the main menu.
4. Ideally, the de-emphasis in the output of your external FM processor should be defeated so that the VOLT SG is receiving a pre-emphasized, 16kHz band-limited signal. If not, you can turn pre-emphasis and lowpass filtering on. Highlight Stereo Generator, press to select and then highlight Adjust SG and press to select. Ensure that the mph Std (50us or 75us), Pre-Emph (Off or On) and Input LPF (Off or On) settings are correct for your system and your location. For best performance, Pre-Emph and Input LPF should normally both be off when the VOLT SG is receiving a pre-emphasized, 16kHz band-limited signal from an external FM processor. If there is something in-between that can't handle pre-emphasis and may not be fully band-limited, you can turn these options on.
5. Exit twice back to the main menu.

OUTPUT CONFIGURATION

1. Navigating output configuration on the front panel is simple and intuitive. Rotate the red jog wheel (K) to scroll through options displayed on the LCD screen (J), increase/decrease numeric options and more. Press the jog wheel (K) to make a navigation selection or to enter settings.
2. If you're using L/R audio to feed a monitor or other stereo generator, once you are on the Discrete I/O menu screen, rotate the jog wheel until Output is highlighted. Press to select.
3. Rotate the jog wheel to highlight the appropriate Level control for the output being used. Press to select.
4. Rotate the jog wheel to adjust the output level as appropriate for the next device. Press to accept the setting. De-emphasis for each output can also be turned on here if needed.
5. Exit and return all the way to the main menu screen.
6. Rotate the jog wheel to highlight Stereo Generator. Press to select.
7. Rotate the jog wheel to highlight Adjust SG. Press to select.
8. Navigate down to the Comp #1 or Comp #2 controls and adjust the appropriate control for 100% modulation on your station's modulation monitor. Similarly, adjust the Pilot Lvl control so that the 19kHz stereo pilot injection level indicates between 8 and 10 percent as shown on your station's stereo modulation monitor. If your modulation monitor does not show pilot injection but you are certain that the total modulation is correct at 100%, simply set the Pilot Lvl control to 9.0%.
9. To save your settings as an SG Config preset, navigate to the Save SG Config setting in the Stereo Generator

menu, click on “Name”, enter a preset name using the jog wheel, turn the jog wheel one more click clockwise and click on “Save”. Similarly, I/O configuration presets can also be saved from the Discrete I/O menu.

10. Remember to return your external FM processor’s main clipper drive control to its previous level.

Note: To engage the special single-sideband mode available in the VOLT SG, navigate to the Stereo Generator / Adjust SG submenu and set the SB Mode control to “SSB”. No other adjustments should be needed.

11. Note that the “One Louder” Embedded Pilot is always on in the Omnia VOLT SG, so there are no user controls for this feature.

12. Read the complete user manual! There are many layers to Omnia VOLT, and our easy to read manual will help teach you how to shape your sound with the best in Omnia processing for your station and market.

Take the time to experiment, learn, and enjoy the results!

YOUR SETUP IS COMPLETE!

That’s it! You are now ready to experience Omnia VOLT, for sound like never before.

INSTALLATION HELP

For more details about the Omnia VOLT, or to download the full manual please visit

<http://www.TelosAlliance.com/Volt>.

If you have more questions, call the Telos Alliance 24/7 Support Team at +1 (216) 622-0247, or email us at support@telosalliance.com.

We’re always happy to hear from you and offer help if you need it.

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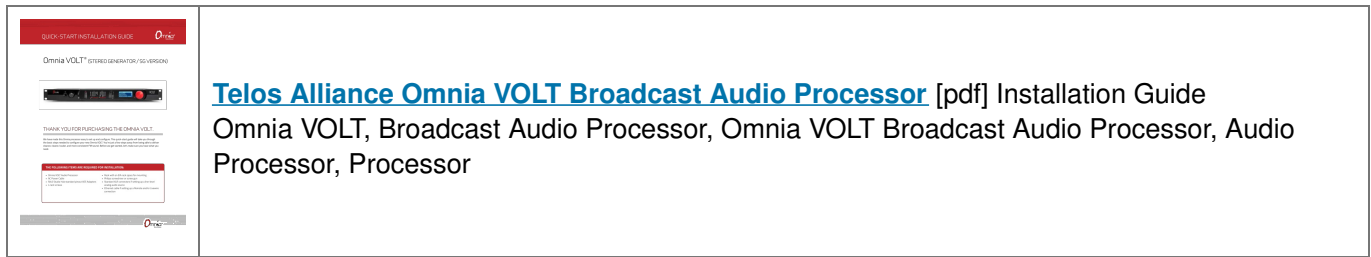
TV: support@linearacoustic.com



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Documents / Resources



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Omnia VOLT, Broadcast Audio Processor, Omnia VOLT Broadcast Audio Processor, Audio Processor, Processor

References

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