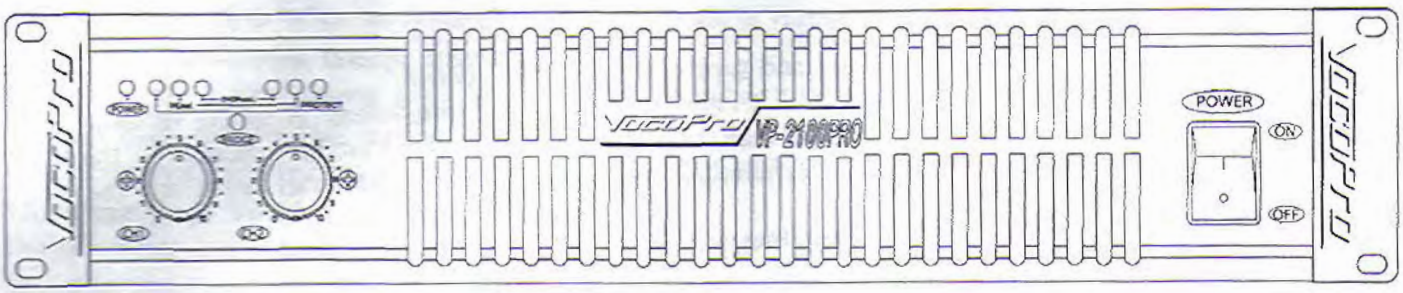
VOCOPRO

OWNER'S MANUAL



VP-2100PRO

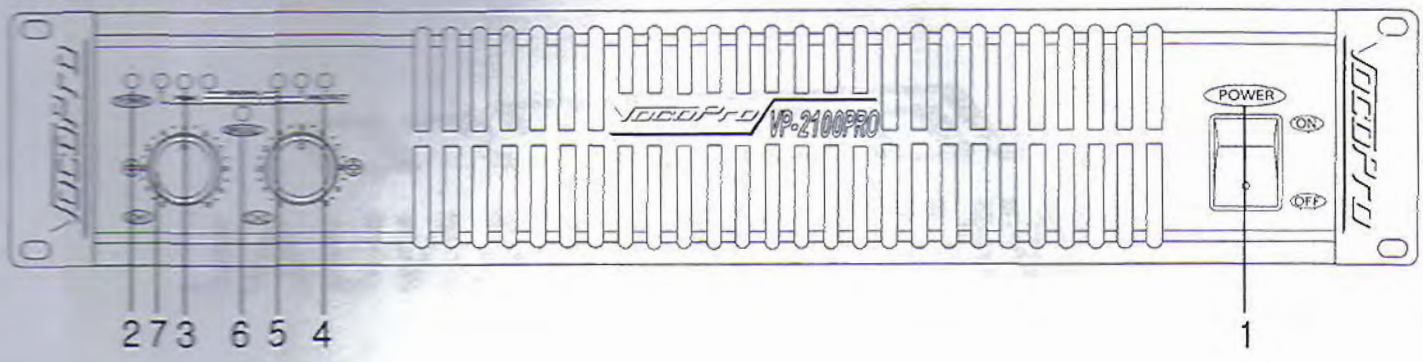
2 CHANNEL DIGITAL POWER AMPLIFIER

EXCELLENT FEATURES:

-1000 WATTS + 1000 WATTS OUTPUT AT 2 OHMS
800 WATTS + 800 WATTS OUTPUT AT 4 OHMS
2000 WATTS RMS OUTPUT AT 4 OHMS MONO/BRIDGE MODE
-SIGNAL TO NOISE RATIO : 100 dB
-BOTH COMBINATION JACK INPUTS & XLR JACK INPUT
-A HEAVY DUTY COMMERCIAL WORK HORSE

NAMES OF PARTS AND THEIR FUNCTIONS

FRONT PANEL



1. Power On/Off Switch

Before applying power, check all connections and turn down the gain control.
The "Soft Start" sequence start with the POWER indicator LED at half brightness. A couple seconds later the fan slow starts and the amplifier cycles through one second of protective muting, indicated by the CLIP and protect LEDs glowing bright red. The POWER indicator then changes to full brighteness and the amplifier is ready.
If you will find only POWER LED when operating QUS circuit for protect amplifier.

2. Power Indicator LED

3. Peak Indicator LED

Indicates that channel of the amplifier is being driven past normal power limits into distortion.

4. Protect Indicator LED

If protect conditions should occur, such as a short in a speaker cable or connector or excessively high operating temperatures, this LED will light and the amplifier will stop operation until the condition is corrected.

5. Signal LED

6. Mono/Bridge Mode Indicator LED

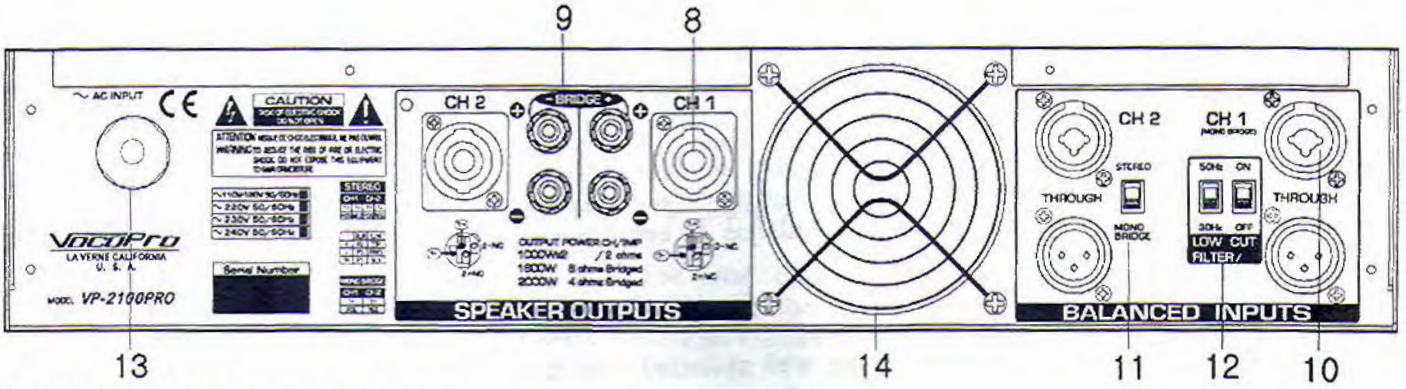
Shows when channels 1&2 are in the bridged mono mode.

7. Input Level Attenuators

Establishes the required input level for each channel. In the bridge mode, only the channel 1 attenuator is functional.

Operating voltage (AC mains)

Make sure you connect the amplifier to the AC line voltage which is shown on the AC input label of rear panel.
Connecting to the wrong line voltage is dangerous and may damage the amplifier
Must use AC line voltage for safety working.
USA : AC 120V (Acceptable 108V to 126V)
Europe and Asia : AC 230V
(Acceptable 207V to 242V)



8. Speakon Jacks Stereo Connections

Separate NL4 connectors for CH. 1 and CH. 2 stereo outputs.
Note: These connectors are in parallel with the MDP Banana connectors(9).
Care should be taken when attempting to use both types of connector simultaneously

9. Speaker Connections (Stereo Operation)

Connectors are 5-way binding posts for maximum versatility.

10. XLR AND 1/4" PHONE Inputs

Low impedance, balanced inputs accept a male XLR connector or 1/4" Phone jacks.

11. Bridge Mode Switch

Bridges inputs and outputs in pairs of channels as indicated.

12. Input filter(Low Cut Filter)

The low-frequency(LF) filter rolls of signals below either 30Hz or 50Hz.
This improves bass performance by limiting sub-audio cone motions making more power available for the speaker rated frequency range. The filter settings for each channel are controlled individually through the slide switch setting shown.

13. AC Power Cord.

14. Cooling Air Port.

Do not obstruct air flow to this opening

OPERATION

A. MOUNTING

The VP-2100PRO are designed for standard 19″ rack mounting.
In addition, the amplifier are provided with sturdy no-skid rubber feet for secure table top or stacked operation. When rack mounting one or more amplifiers or when mounting in combination with other equipment, be sure to allow adequate front and rear ventilation to avoid possible heat related damage to your VP-2100PRO or other rack mounted items.

B. OPERATING PRECAUTIONS

Your VOCOPRO VP-2100PRO amplifier are well protected from any external faults.
However, we recommend following these common-sense precautions:

1. Safety Instructions

On the separate precaution with the enclosed the unit.
Do not expose the VP-2100 PRO to water or other liquids.
Always unplug the unit if water is present. Failure to do so can result in injury or death from electric shock.

2. Grounding

If your power amplifier is supplied with a three conductor, grounded power cord and plug, connect the unit only to a properly grounded mains outlet. Do not use a ground lift adapter or otherwise attempt to defeat the ground on the plug. Failure to properly ground the unit can result in damage to the amplifier or other equipment connected to it and represents a dangerous safety hazard.

3. Line Voltage

Operate from AC mains not more than 5% above or below the specified line voltage. Failure to comply may invalidate your warranty.

4. Pre-Connection Caution

Always switch off the power and set all the level controls to minimum before making any connections.
This will eliminate any chance of unexpected, loud audio transients that could damage your speaker systems.

C. VP-2100PRO STEREO OPERATION

The basic method of operation is recommended for 4 Ohm applications. Each channel provides a separate and discrete signal at the speaker outputs according to the signal received at the inputs.
The VP-2100PRO has two channels for stereo operation. Follow these steps to use the amplifier in this manner:

1. Set Mono/Bridge switch

Set the mono/bridge switch on the rear panel to the stereo position. When the power is on, the mono/bridge LED on the front panel will not light. If the LED illuminates, you have the switch in the wrong position. Change the appropriate switch before continuing.

2. Input Connections

With the power off, connect your input source lines to channels 1 and 2 on the VP-2100PRO

3. Connect Speaker Systems

Connect speaker systems to speaker outputs as shown in figure2. The total speaker load for each channel must be at least 4 Ohms. The amplifier will not operate at load conditions lower than 4 Ohms per channel.

4. Level Controls

With all level controls set to 0, switch the power on. Apply a nominal signal to the inputs. The level of the input signal should be about as high as you will ever need it to be. This way, it will be as far above the amplifier's noise floor as possible, ensuring as excellent performance signal to noise ratio. Adjust the input level controls for each channel to achieve the desired maximum listening level or until the clip LEDs flashes momentarily during program peaks, whichever is lowest. Having set the levels in this manner will render a clean signal at any level as long as the clip LEDs are not constantly on. Remember, when the clip LEDs lights, there is distortion present in the amplifier's output section.

D. MONO/BRIDGE OPERATION

1. Set Mono/Bridge switch

Set the switch on the rear panel for channel you wish to operate in the bridge mode to the mono/bridge position. When the power is on, the mono/bridge LED on the front panel will light. If the LED does not illuminates, you have the mono/bridge switch in the wrong position. Change the appropriate switch before continuing.

2. Input Source Lines

With the power off, connect your input source lines to channels 1 on the VP-2100PRO..

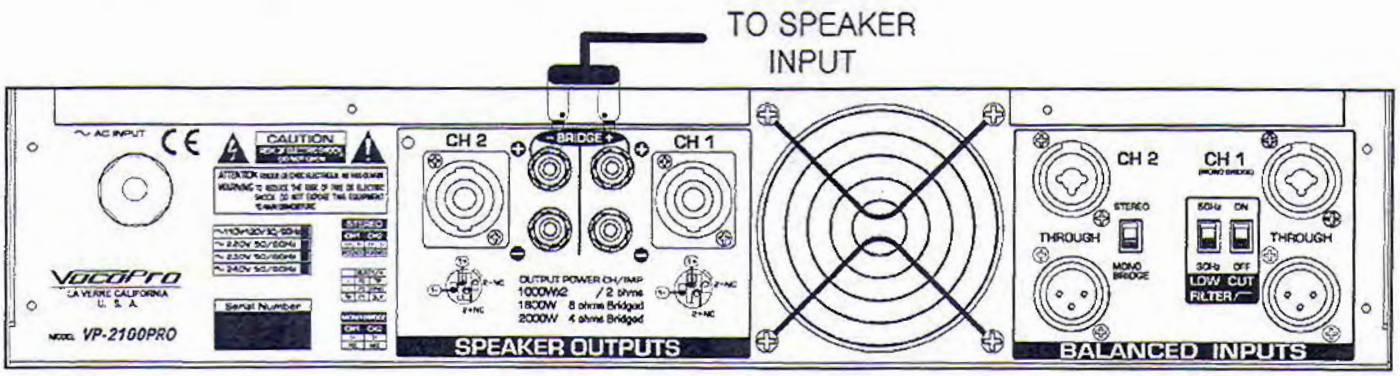
3. Speaker Outputs

Connect speaker systems to speaker outputs only. The total speaker load for each channel must be at least 2 ohms or above. If you try to operate at less than 2 Ohms in the bridge mode, the amplifier will go into protect mode and stop operation until you correct the load condition.

4. Level Controls

With all level controls set to 0, switch the power on. Apply a nominal signal to the inputs.
The level of the input signal should be about as high as you will ever need it to be. This way, it will be as far above the amplifier's noise floor as possible, ensuring as excellent performance signal to noise ratio.
Adjust the input level controls for channel 1, VP-2100PRO to achieve the desired maximum listening level or until the clip LEDs flash momentarily during program peaks, whichever is lowest. Having set the levels in this manner will render a clean signal at any level as long as the clip LEDs are not constantly on. Remember, when the clip LEDs light, there is distortion present in the amplifier's output section.

FIGURE 3. Speaker Connection Guide For Mono Bridge Operation



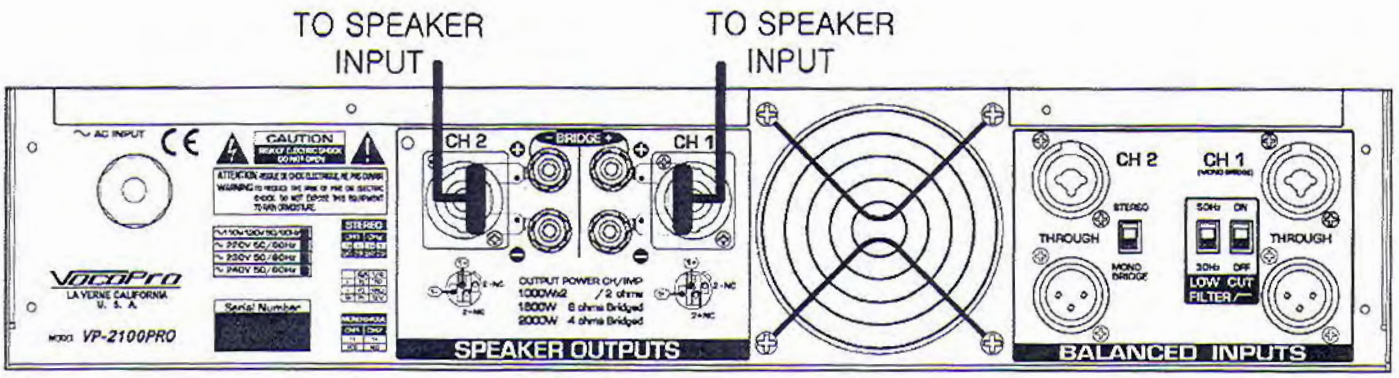
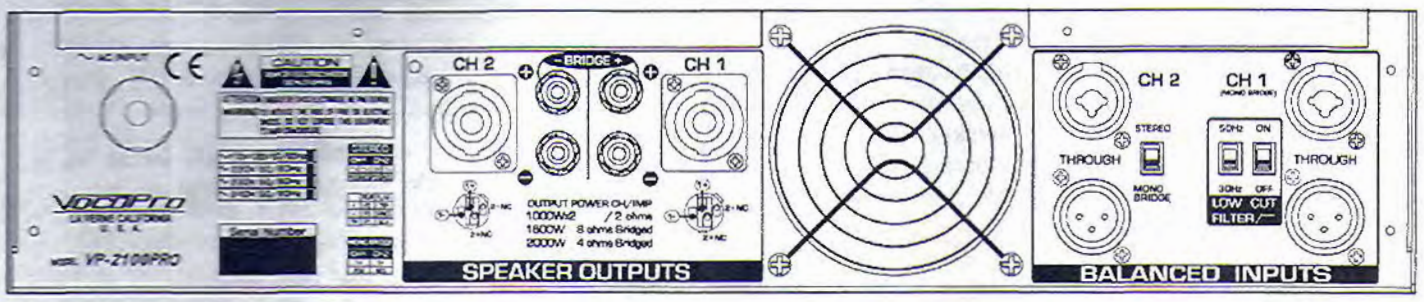


FIGURE 4. Speaker Connection Guide For Stereo Operation

Speaker Connection Type



• Speakon Connections

Speakon connectors are purpose-built for low voltage, high current applications.
Each connector incorporates two pair of conductors, labeled 1+, 1-.
By convention, single signals are sent on 1+ and 1-. The second pair, 2+ and 2-, are used only if there is a second unique signal present at the connector.
When attaching NL4FC mating connectors, be sure to insert the connector to its full depth, then turn the connector 45°clockwise to lock it in place.

• Connection for Stereo(Two-Channel) Operation

Connect the left speaker's positive terminal to the 1+ pin of output speakon connector CH1.
Connect the left speaker's negative terminal to the 1- pin of output speakon connector CH1.
Note that the speaker load impedance must be **4 ohms or greater.**
Connect the right speaker's positive terminal to the 1+ pin of output speakon connector CH2.
Connect the right speaker's negative terminal to the 1- pin of output speakon connector CH2.
Note that the speaker load impedance must be 4 ohms or greater.

• Connection For Bridged Mono Operation.

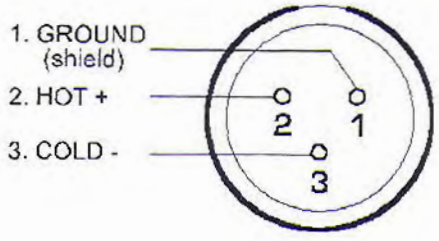
Connect the speaker's positive terminal to the 1+ pin of mono speakon output connector.
Connect the speaker's negative terminal to the 1+ pin of mono speakon output connector.
Note that the speaker load impedance must be **8 ohms or greater** since, in this configuration, each amplifier output is presented with half the mono bridged load

E. INPUT/OUTPUT CONNECTIONS

The VOCOPRO amplifier is designed to be as versatile as possible.
The following descriptions of the input and output connections are designed to help you maximize the unit's potential.

1. XLR Input Jacks

Electronically balanced inputs accepts a standard XLR male connector. Pin1=ground, Pin2=hot or positive(+). Pin3=cold or negative(-).



2. Speaker Outputs

Speaker connections are dual banana MDP/bare wire binding posts that will accept a standard dual banana plug or bare wire. Either method provides a safe and reliable connection capable of transferring high power signals if properly connected. To avoid ANY possible shock hazard, the power amplifier should be disconnected from the AC power source before making any connections. When connecting your speakers using either method, be sure to pay close attention to proper polarity. Although connecting your speaker systems out of phase using the wrong polarity will not damage your speakers, it will affect the quality of sound.
When using bare wire connections, be sure that your connections are "clean." If any strands of wire from one connector are allowed to touch the adjacent connector, damage to your amplifier and sound system could occur.

F. POWER REQUIREMENTS

Your VOCOPRO SERIES is pre-wired at the factory for the correct line voltage(120V or220-240V) and is furnished with the appropriate power cord and fuse. If fuse replacement is necessary, always use a fuse with the exact type and rating as specified on the specifications page of this manual or as indicated on the unit itself.

G. FRONT PANEL INDICATORS

The front panel of the VOCOPRO SERIES has several indicators to alert you to the status of various operating conditions. Knowing what these indicator LEDs are telling you will help you to use your VOCOPRO amplifier.

1. Peak LED

A clip LED for each channel indicates that your signal level is so strong that there is distortion at the output of that channel. While it is normal for the clip LED to flash during program peaks, the LED should not remain constantly lit during operation. If it does, most likely you will hear the results in the form of distorted sound that can be damaging to your speaker systems. In this case, reduce the signal level by lowering the input level control for the channel that is clipping or reduce the level at the source. Note that when using the amplifier in the bridge mode, both clip LEDs of the bridged channels will operate simultaneously.

2. Mono/Bridge LED

The mono/bridge LED will light when you have set the rear panel switch to the mono/bridge position for bridged operation. Always make sure that this switch is in the correct position and that all speaker connections have been made correctly for the mode of operation you wish to use before powering up the amplifier.

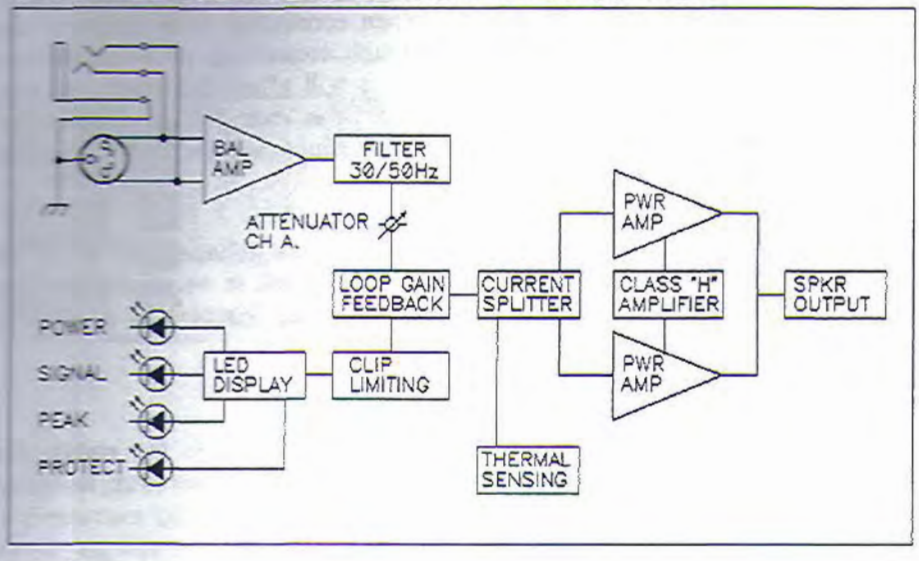
3. Protect LED

The protect LED indicates that there is a problem either in the amplifier's external connections, load or temperature conditions or its internal functions. If one of these situations occurs, the amplifier senses the problem and automatically switches into its "protect mode." The protect LED will light to warn you of the trouble and the amplifier will stop working. If this happens, switch off the amplifier and refer to the Trouble Shooting Guide at the end of this manual. If you feel that you have been able to correct the fault condition that caused the amplifier to go into the protect mode, restart the amplifier. If the protect LED remains lit when attempting to resume amplifier operation, do not use the amplifier.
Refer the amplifier to an authorized VOCOPRO service facility or contact your dealer for help.

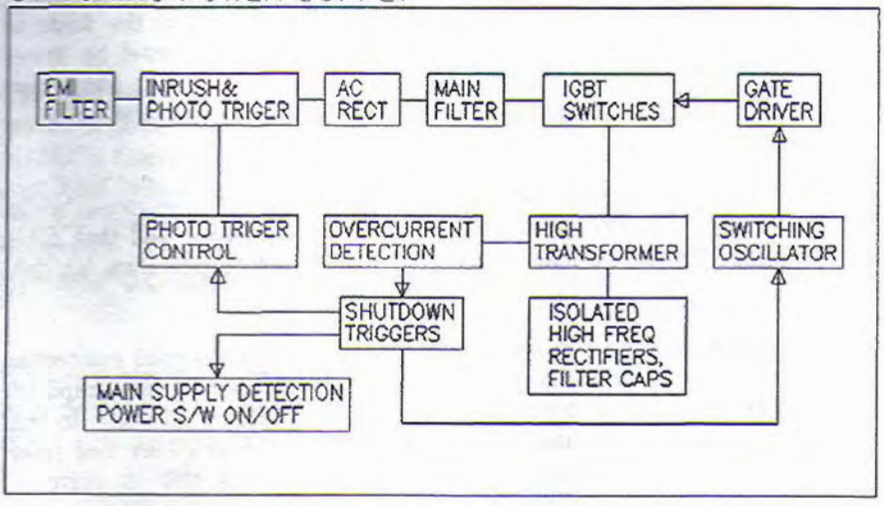
4. Power Indicator LED

The power indicator LED indicates that the power switch is in the on position.

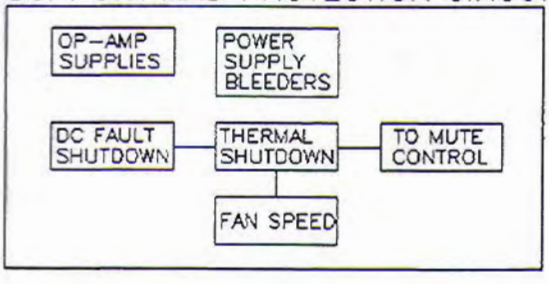
CHANNEL 1&2 AUDIO CIRCUIT<VP-2100PRO>



SWITCHING POWER SUPPLY



SUPPORT AND PROTECTION CIRCUIT



SPECIFICATION

Model		VP-2100PRO
Output Power at 1 kHz/THD ≤1.0% EIA 2 ohms 4 ohms 8 ohms 8 ohms bridged 4 ohms bridged		 2 x 1000W 2 x 800W 2 x 450W 1 x 1600W(Bridged) 1 x 2000W(Bridged)
T.H.D f=1 kHz, at rated power		≤0.05%
Frequency response -1dB, 1Watt Output		20Hz~30kHz
Signal to Noise Ratio A-Weighted, RMS		≥100dB
Damping Factor 8 ohm, 50Hz		More then 300
Channel Separation 8 ohm, 1kHz, Rated Output		≥70dB
Input Sensitivity		+4dBm(0.78V)
Input Impedance		≥10k ohm
Cooling		Variable Speed Fan
Protection Circuit *1		1,2,3,4,5,6,7,8,9
Dimension(W x H x D)		483 x 88 x 460 mm
Weight lbs(Kg)	Net	25.8 (11.7)
	Shipping	31.5 (14.3)
Power Consumption		2800W (at AC 120V/60Hz)
Connector (Input/Output)		XLR & 1/4" Input, Binding post, Speakon(NL4)

Note: Specifications subject to change without notice.

**1: Protection Circuit : 1) Short Circuit 2) Current Limit 3) Thermal ShutDown*
4) Power Up/Down transients 5)AC Line Fuse 6) Limiter 7) QUS Circuit
8) DC fault Shut Down 9) RF Protection