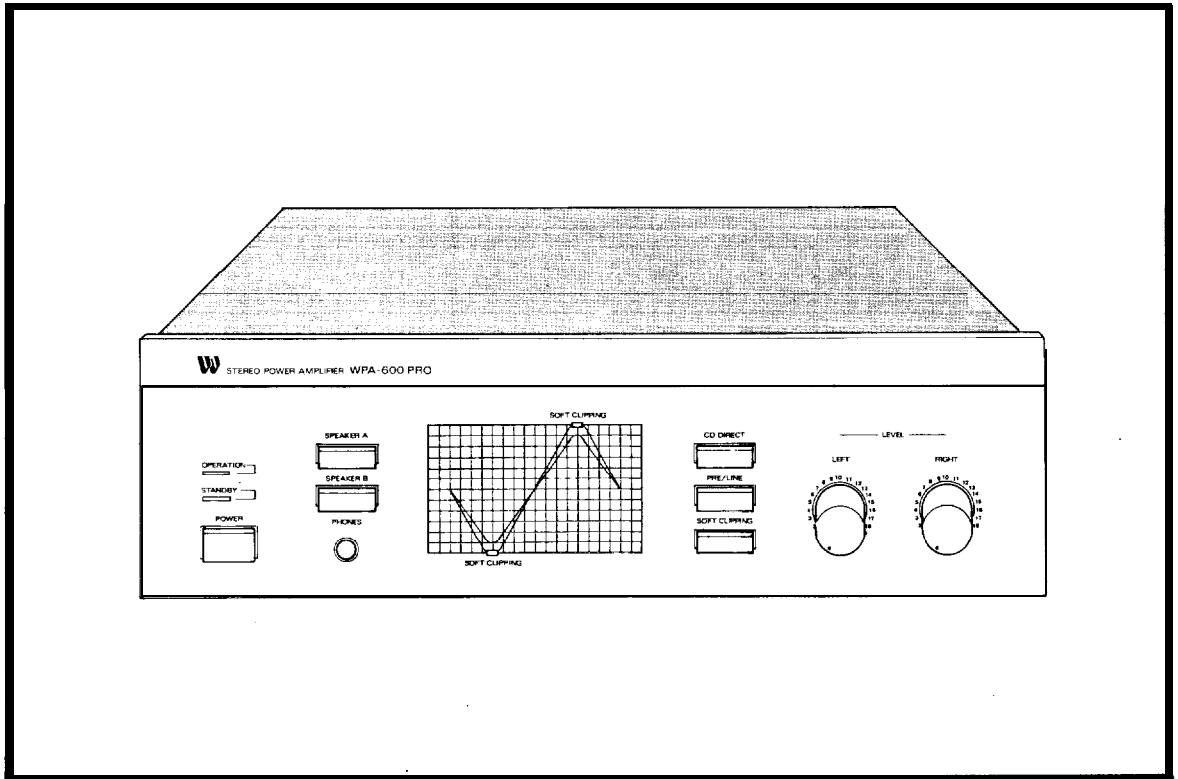




STEREO POWER AMPLIFIER

MODEL: WPA-600 PRO

OWNER'S MANUAL



CAUTION:

Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.



CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN



CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO- USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.



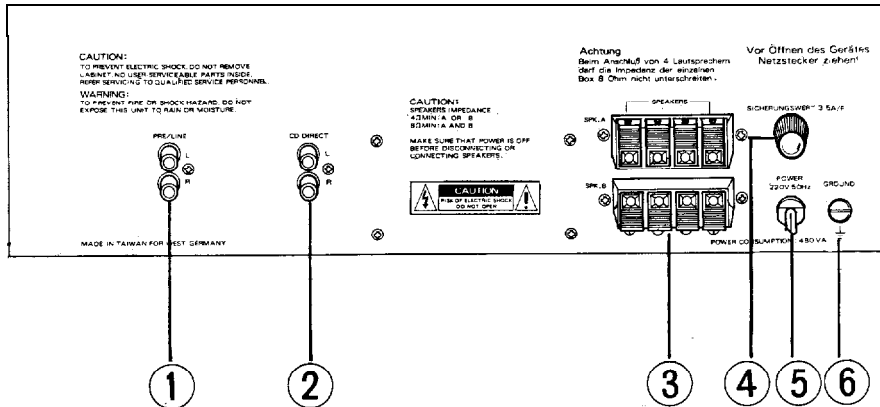
The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

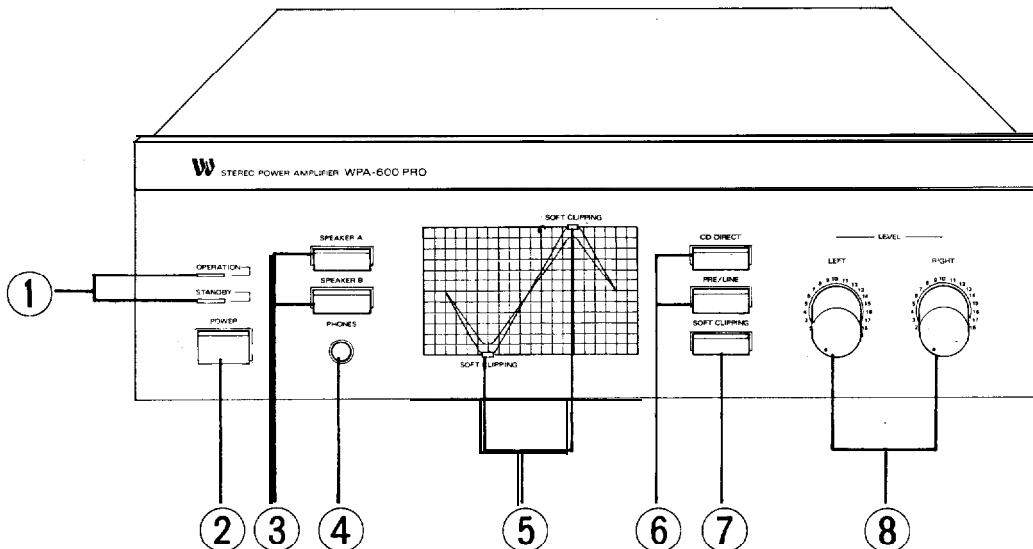
REAR PANEL

1. PRE/Line Jacks
2. CD/Jacks
3. Speaker Terminal
4. Main Fuse
5. AC Power Cord
6. Ground Terminal



FRONT PANEL

1. Standby, Operation LEDs
2. Power Switch
3. Speaker Switches
4. Phones Jack
5. Soft Clipping LEDs
6. CD, PRE/Line Button
7. Soft Clipping Switch
8. Level Controls



CONNECTING THE WPA-600 PRO

Before making any connections make sure the front panel level controls are turned all the way counter-clockwise to their minimum settings. Never make or break an input connection while the power is turned on or you may destroy your speakers with the resulting "blast" noise.

Plug the leads from your preamplifier into the L and R PRE/LINE JACKS and make sure there is no tension on the wires that could cause them to pull loose later on.

Connect the speakers directly to the amplifier, never use any type of headphone adaptor, switching box or other apparatus that combines L and R grounds. It is always better to check with the technician at your dealer about any sort of alternate connections.

The WPA-600 PRO uses professional high-capacity "3 way" connectors that may be used in several ways:

An opening at the base of each threaded metal shaft is exposed when you unscrew the red or black plastic bushings. If you strip about $\frac{1}{2}$ " of insulation from each conductor and twist the strands tightly you can insert the bared wire into the small hole and secure it by tightening the plastic bushing. This method will accept wire up to 14 gauge.

Alternately, you may use spring type banana plugs or a standard $\frac{3}{4}$ " spacing dual-banana plug by inserting directly into the terminals.

You can add a second pair of speakers to the B terminals. Since the WPA-600 PRO is designed to operate into speaker loads of 4-16 ohms, make certain the combined impedance of both speakers is no less than 4 ohms if you intend to play them simultaneously. Generally, this requires that each speaker system be no less than 8 ohms impedance. You can calculate the impedance for both speaker systems playing together with this formula:

$$\text{Total Impedance} = \frac{\text{Impedance of Speaker A} \times \text{Impedance of Speaker B}}{\text{Impedance of Speaker A} + \text{Impedance of Speaker B}}$$

Make sure your speakers are connected in phase so that + and - polarity is the same for each at both ends of the speaker wires. Some speaker wires have different colored conductors beneath their insulation, others have a small ridge or the wire maker's name on the insulation of one conductor to facilitate making uniform connections.

CHECKING PHASING

You can easily check phasing after the amplifier is in operation. Play music that has some significant bass response and switch between stereo and mono at your preamplifier. If the bass seems diminished when in mono, change the connections at the rear of one (only) speaker and try again.

1. PRE/LINE INPUT JACKS

These jacks are used to connect the output of pre-amplifier or line out of amplifier,

2. CD INPUT JACKS

These are used for the connection of a CD player.

3. SPEAKER OUTPUT TERMINALS

Connecting the speaker system. Output terminals for two pairs of speaker systems are provided on the rear panel of the amplifier. Making comparisons in sound quality between A and B speakers is possible by switching between the two speakers selector positions.

4. MAIN FUSE

This fuse prevents the machine kits from being destroyed by out coming violent electric current.

5. AC POWER CORD

Connect to an AC socket.

6. GROUND TERMINAL

Securely connect the ground wire from your turntable or its MC cartridge step-up device (if applicable). Under certain, rare, circumstances hum may be reduced by disconnecting this wire.

FRONT PANEL CONTROLS

1. STANDBY-OPERATION LEDS

When you first turn the WPA-600 PRO on, the red STANDBY LED will light as its internal circuitry stabilizes. After about 6 seconds a relay will click permitting signals to pass to the speakers and the green OPERATION LED will glow.

If you short circuit your speaker leads or the WPA-600 PRO is overdriven, the red STANDBY LED will again light. If this occurs, turn off the power, check your connections or allow the unit to cool down before turning power on again. If the STANDBY LED stays illuminated, it is possible that there is an internal malfunction and you should have the amplifier inspected by an authorized technician.

2. POWER SWITCH

Press this to turn the amplifier on and again to turn it off.

3. SPEAKER SWITCHES

Each switch A and B controls one pair of speakers. Do not push either switch while the WPA-600 PRO is operating at high power. Make certain you maintain impedance at or above 4 ohms.

4. PHONES JACK

The Headphone Jack provides a convenient way to listen with the WPA-600 PRO especially if it is being used for on-site monitoring of live recording. While there are dropping resistors to reduce noise and limit power, remember that the high power available from the WPA-600 PRO could damage a headset or cause damage to your hearing from extended listening at high volume.

5. SOFT CLIPPING LEDS-INDICATORS

When you depress the soft clipping switch the amber LEDs will light.

6. CD DIRECT, PRE/LINE INPUT BUTTON

Press this button to select the signal input from the equipment connected to the CD or PRE/LINE JACK. Press the button corresponding to the source you want to hear.

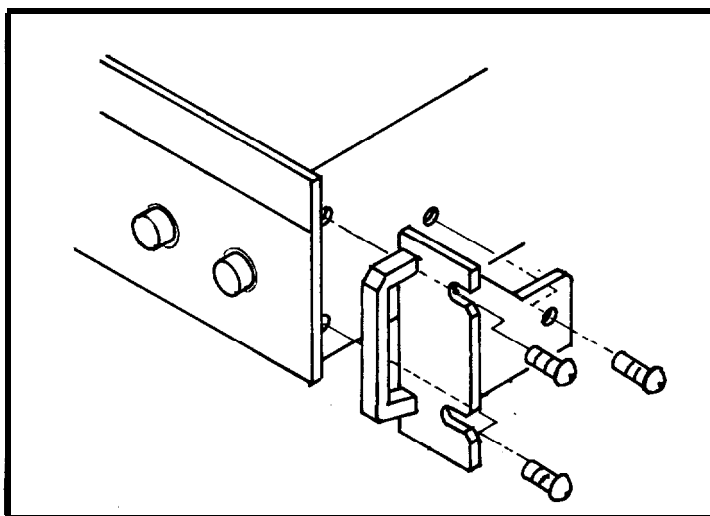
7. SOFT CLIPPING SWITCH

Depress the soft clipping switch to allow you to achieve effectively higher volume levels without distorting your music or endangering your loudspeakers. It accomplishes this by gently limiting any wave form which would otherwise drive the amplifier into clipping the sound signal into a harsh potentially speaker-damaging "square" wave,

8. LEVEL CONTROLS

You can adjust these independently for each channel and find settings that yield the lowest audible noise, depending on how quiet your preamplifier is. Each is **detented** for precise, repeatable settings.

OPTION THE RACK MOUNTING KIT OF WPA-600 PRO



You may mount the WPA-600 PRO in a standard 19" EIA rack with the accessory WPA-600 PRO Rack Mount Kit, available from your dealer.

To mount the WPA-600 PRO remove the three bolts at each side of the amplifier case that are closest to the front panel. Hold each WPA-600 PRO panel extension in place while inserting the three longer bolts supplied with the kit. Make certain that these are tightened completely, as the panel extensions will bear the full weight of the amplifier chassis.

You can then attach the extended panel into a rack by using suitably strong bolts and nuts. It is a good idea to have a friend assist you to hold the unit in place while inserting and tightening these bolts so you avoid dropping the unit.

SPECIFICATIONS

Momentary power output	.300 watts per channel at 8 ohms.
Max. (peak) power	.180 watts per channel at 8 ohms. 260 watts per channel at 4 ohms.
Continuous power output (Both channels driven)	.80 watts per channel at 8 ohms.
Input sensitivity	
CD	1.5V (RMS) for 80 watts at 8 ohms.
Pre/line	0.8V (RMS) for 80 watts at 8 ohms.
Frequency response	
CD	5 Hz to 50,000 Hz $\begin{matrix} +0 \\ -3 \end{matrix}$ dB.
Pre/line	5 Hz to 100,000 Hz $\begin{matrix} +0 \\ -3 \end{matrix}$ dB.
Input impedance	
CD	.33 K ohms.
Pre/line	.50 K ohms.
Total harmonic distortion	Less than 0.02% at rated power output into 8 ohms.
Inter modulation distortion	Less than 0.015% at rated power output into 8 ohms.
Damping factor	.Great than 100
Soft clipping point	at 90 watts/8 ohms.
Signal to noise ratio	110 dB (I HF, A-Weighted)
Output section	
Speakers	A, B, A+B, (4-16 ohms)
Headphones	Lowimpedance
Fuse	3.5A @ 1pc (outside) 1A @ 1pc (inside) 8A @ 2pcs (inside)

Miscellaneous

Power requirement	.220V 50Hz
Power consumption	.480 watts (MAX)
Dimension	.422(W) x 120(H) x 295(D) mm 16-5/8(W) x 4-3/4(H) x 11-5/8(D) inch
Weight	.10.5KGS (23.1 LBS)