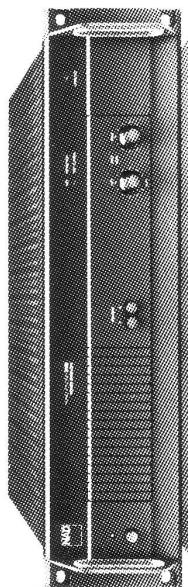


NAD

2400



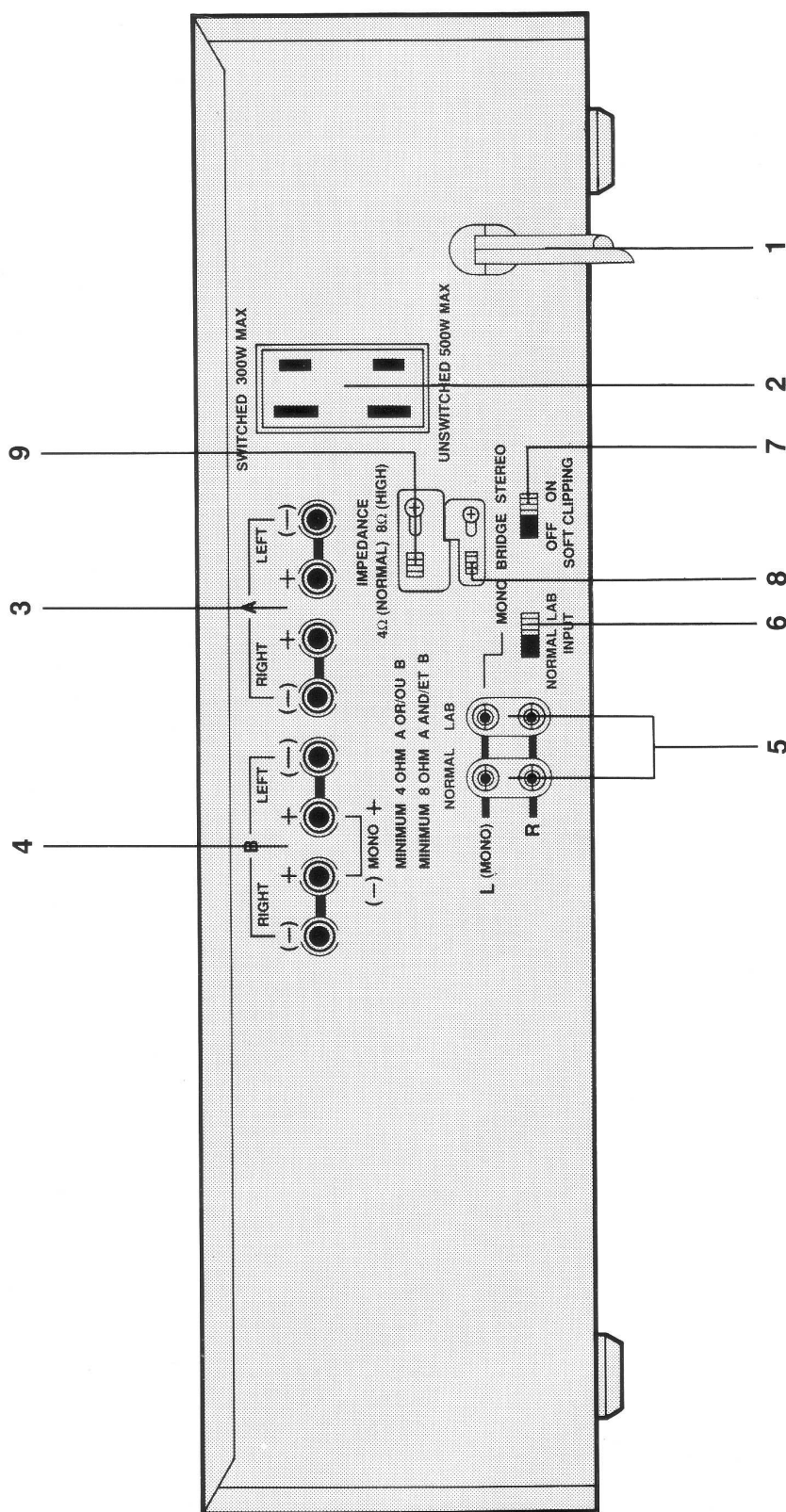
**OWNER'S MANUAL
MANUEL D'UTILISATION
BEDIENUNGSANLEITUNG**



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



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



The lightning flash with arrowhead, within an equilateral triangle, is intended to alert the user of 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 mark within an equilateral triangle is intended to alert the user of the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

FRONT PANEL CONTROLS

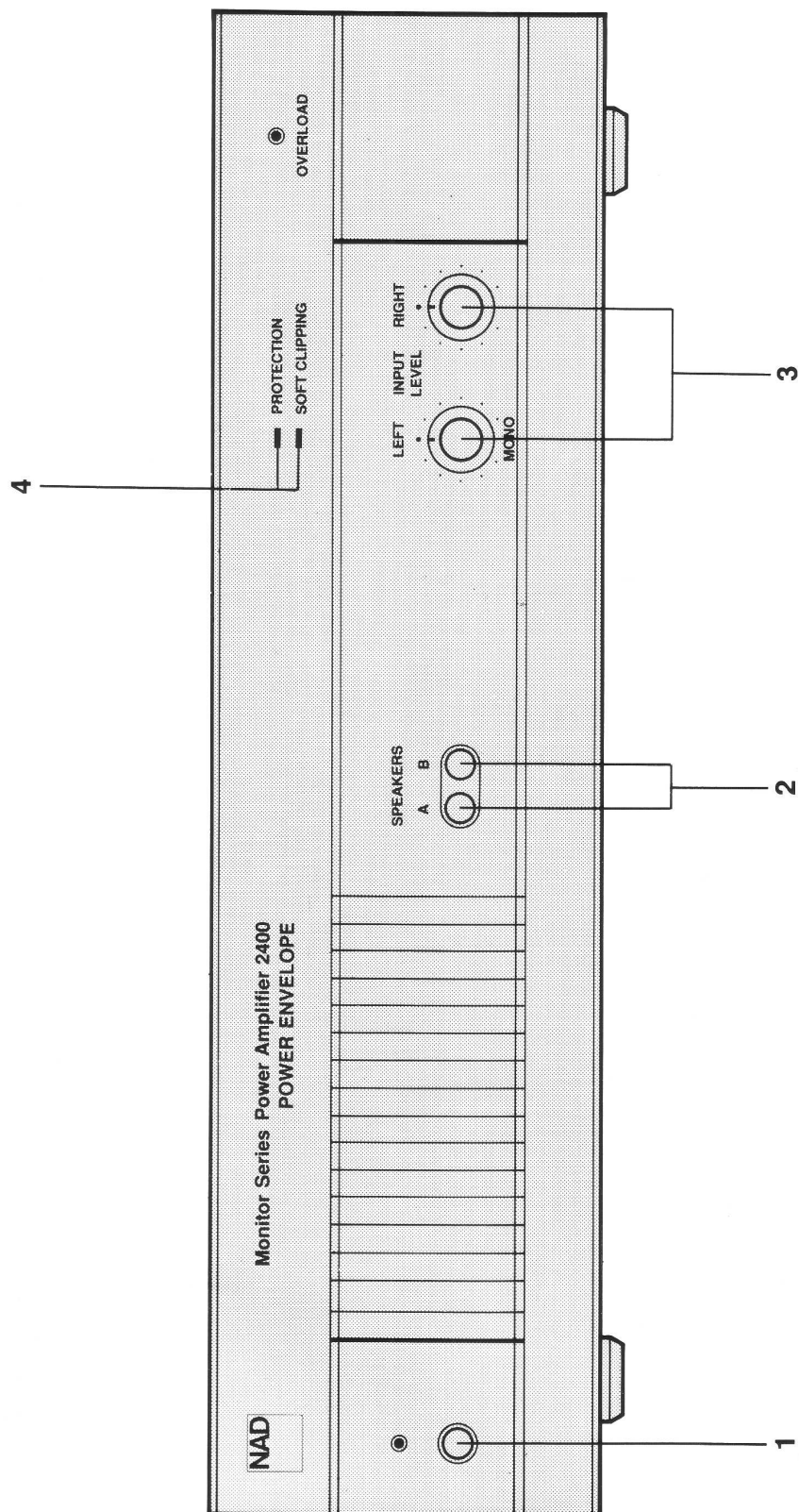


FIGURE 2

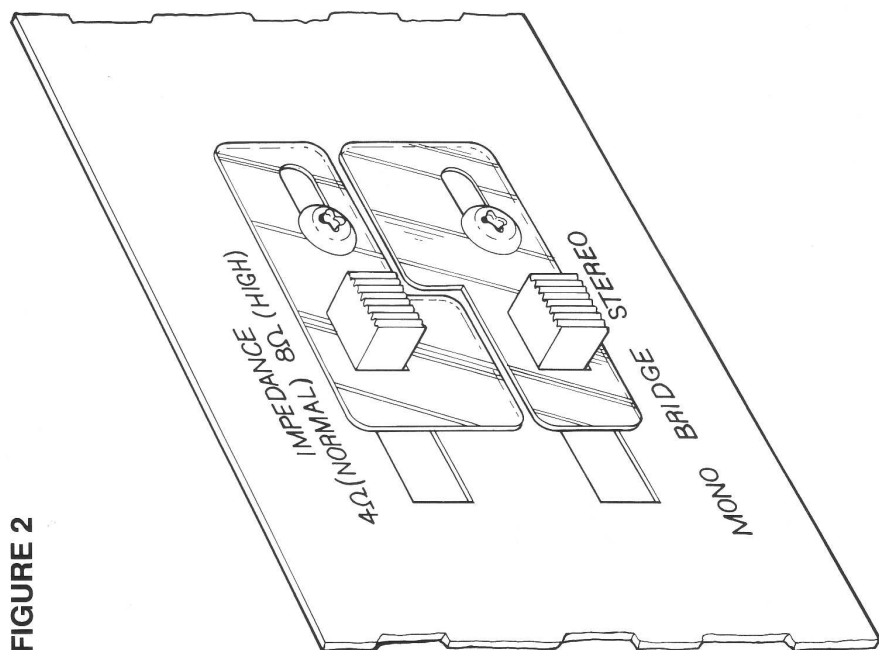
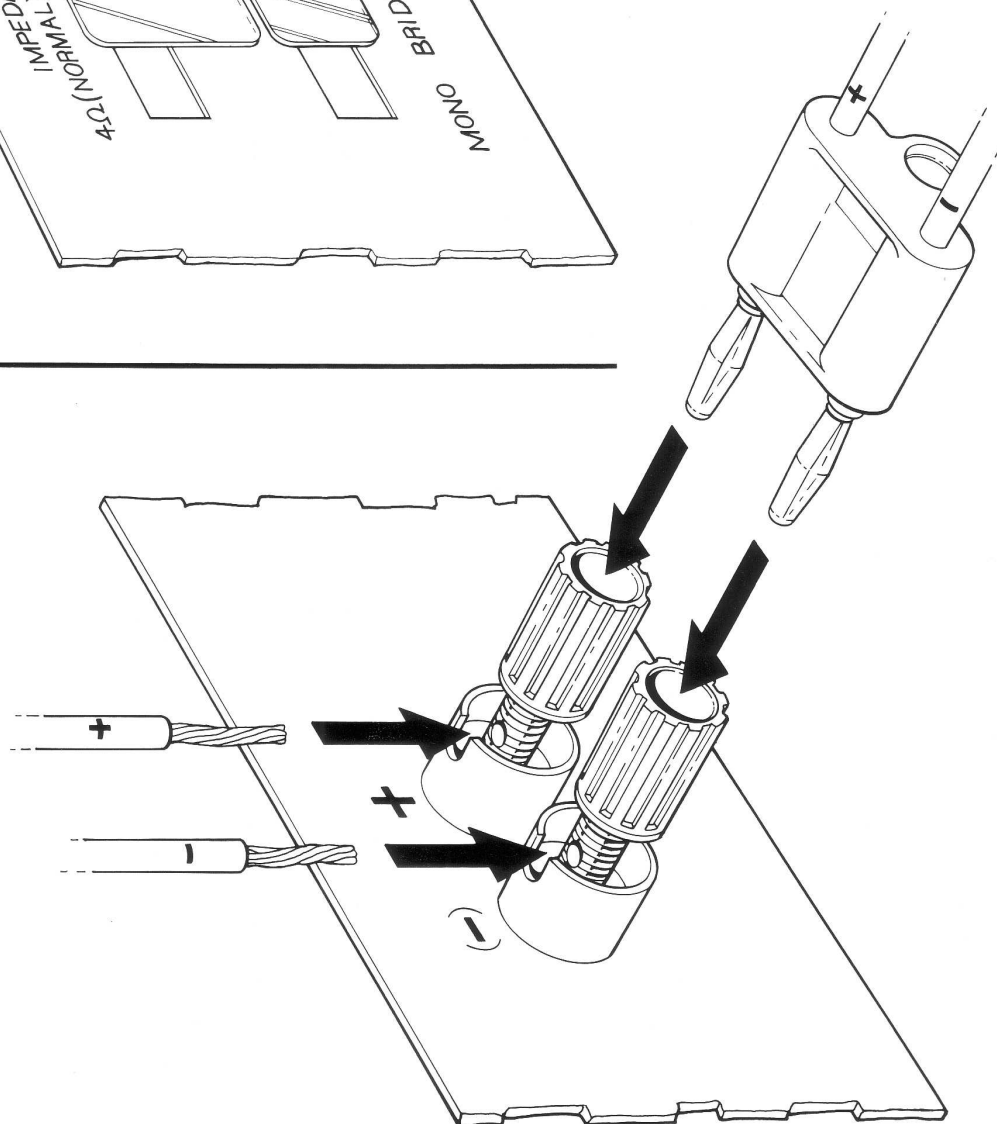


FIGURE 1



CAUTION: TO PREVENT ELECTRIC SHOCK DO NOT USE THIS (POLARIZED) PLUG WITH AN EXTENSION CORD, RECEPTACLE OR OTHER OUTLET UNLESS THE BLADES CAN BE FULLY INSERTED TO PREVENT BLADE EXPOSURE.

ATTENTION: POUR PRÉVENIR LES CHOC ÉLECTRIQUES NE PAS UTILISER CETTE FICHE POLARISÉE AVEC UN PROLONGATEUR, UNE PRISE DE COURANT OU UNE AUTRE SORTIE DE COURANT, SAUF SI LES LAMES PEUVENT ÊTRE INSÉRÉES À FOND SANS EN LAISSER AUCUNE PARTIE À DÉCOUVERT.

WARNING: TO PREVENT FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

NOTE to CATV system installer: This reminder is provided to call the CATV system installer's attention to Article 820-22 of the NEC that provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of cable entry as practical.

NOTE: Some NAD components are equipped with dual or multi-voltage transformers (which is indicated on the back panel). If you wish to change the voltage, please bring your unit to an authorized NAD service technician for internal conversion.

ATTENTION: Quelques pièces NAD sont munies de transformateurs à double ou à multi-voltage (indiqué au panneau arrière). Si vous voulez changer le voltage, veuillez apporter votre appareil au fournisseur de NAD pour le transformer.

ZUR BEACHTUNG: Einige NAD Geräte sind mit Umschaltern für unterschiedliche Eingangsspannungen ausgerüstet (Ein Vermerk auf der Rückseite weist darauf hin).
Aptierung, wenn notwendig, muß von einem qualifizierten Techniker in einer NAD Servicestation vorgenommen werden.

CAUTION: SET THE SPEAKER IMPEDANCE SWITCH IN ACCORDANCE WITH THE FOLLOWING CHART.

ATTENTION: VEUILLEZ AJUSTER L'INTERRUPTEUR POUR L'IMPÉDANCE DES HAUTS PARLEURS D'APRÈS LA CHARTE SUIVANTE.

OPERATION	NOMINAL IMPEDANCE	SWITCH POSITION
OPÉRATION	L'IMPÉDANCE NOMINAL	POSITION COMMUTATEUR
ONE PAIR OF SPEAKERS UNE PAIRE DE HAUTE PARLEURS	4Ω-8Ω	4Ω (NORMAL)
ONE PAIR OF SPEAKERS UNE PAIRE DE HAUTE PARLEURS	8Ω-16Ω	8Ω (HI)
TWO PAIR OF SPEAKERS DEUX PAIRES DE HAUTE PARLEURS	8Ω-16Ω	4Ω (NORMAL)
TWO PAIR OF SPEAKERS DEUX PAIRES DE HAUTE PARLEURS	>16Ω	8Ω (HI)

NAD 2400 POWER AMPLIFIER

A NOTE ON INSTALLATION

This unit may be installed on any sturdy, level surface. Since its power transformer generates a magnetic hum field of moderate strength, a turntable (especially one with a moving-coil pickup cartridge) should not be located directly to the left of the amplifier nor directly above it.

The amplifier requires ventilation. Do not obstruct the air outlet grill on the top cover, and do not place the amplifier on a rug or other soft surface that it could sink into, obstructing the air inlets on its bottom.

REAR PANEL CONNECTIONS

1. AC LINE CORD

Plug the AC line cord into a nearby wall outlet that provides the correct AC power line voltage, or into a switched convenience outlet on your preamp.

2. AC OUTLETS (not in all models)

The AC power line cords of other stereo components may be plugged into these accessory outlets. The SWITCHED outlet is intended for all-electronic products (e.g. an equalizer or other signal processor), and will be switched on and off by the amplifier's main Power button. The UNSWITCHED outlet should be used to power products involving mechanical operations (e.g. a turntable, CD player, tape deck, or VCR); such products should be switched on and off with their own power switches. The UNSWITCHED outlet can also be used to power a device containing a clock timer.

3. SPEAKERS A

This amplifier is equipped with special high-current binding-post speaker terminals to handle the highest peak power levels that may occur in the "bridged" mode or with low-impedance loudspeakers. Connect the loudspeakers with heavy-duty (16-gauge or thicker) stranded wire.

Connections may be made in either of two ways. [See Figure 1.]

(1) Strip off a half-inch (1 cm) of insulation from each speaker wire. In each conductor, twist the thin strands of wire together. Unscrew the knob, insert the bare wire into the opening at the base of the binding post, and tighten the knob until it grasps the wire securely. Check to be sure that no loose strand of wire is touching the chassis or an adjacent terminal.

(2) Install banana plugs on your speaker wires, and plug them into the end of each binding post. The terminals are separated by 3/4 inch (19mm), so they will accept dual-banana plugs.

Connect the wires from the left-channel speaker to the (L+) and (L-) terminals and the wires from the right-channel speaker to the (R+) and (R-) terminals in the "A" group.

Stereo speakers must operate in phase with each other in order to produce a focused stereo image and to reinforce rather than cancel each other's output at low frequencies. When connecting speakers, take care that the red (positive) terminal on each loudspeaker is connected to the corresponding red (positive) terminal on the amplifier. **NOTE:** Some models do not accept dual-banana plugs.

4. SPEAKERS B

A second pair of loudspeakers may be connected to the amplifier, using the "B" group of terminals, in the same manner as the connections made to the SPEAKERS A terminals. [See Figure 1]

The SPEAKERS B terminals may also be used to connect an adapter unit for electrostatic headphones. The black "-" terminals in each channel share a common ground.

5. INPUTS (Normal and Lab)

Before making or changing input connections to the power amplifier, make certain that its Power is switched OFF.

Connect the signal cable from your preamplifier either to the NORMAL input jacks or the LAB input jacks.

The NORMAL inputs contain level controls and minimum-phase infrasonic and ultrasonic filters, whose purpose is to remove non-musical signals at frequencies below 10 Hz and above 40 kHz (due to turntable rumble, disc warps, radio-frequency interference, tracing distortion, etc.). These inputs should be used if your preamplifier lacks such filtering.

The LAB inputs bypass these filters and the level controls, providing extended response at infrasonic and ultrasonic frequencies. These inputs should be used with an NAD preamplifier which has such filtering; and especially when using the 2400 in combination with a 7400 Receiver or 3400 Integrated Amplifier.

6. NORMAL/LAB SELECTOR

If you connect to the NORMAL inputs, set this switch to the NORMAL position. If you connect to the LAB inputs, set the switch at LAB. Signals fed into the LAB inputs go directly to the amplifier circuit, without passing through the switch contacts.

The input signal at the NORMAL inputs is filtered to remove unwanted interference below 10 Hz and above 80 kHz. At the NORMAL setting of the switch, the bandpass-filtered signal is fed both to the LAB IN jacks and to the amplifier circuit. Therefore, when using the NORMAL inputs you can "daisy-chain" amplifiers together by connecting a cable to the LAB IN jacks to take out the filtered signal and feed it to another power amp.

NOTE: The Normal/Lab switch is not conventional "input selector." You cannot connect different signal sources to the NORMAL and LAB inputs and use this switch to choose between the two signals.

7. SOFT CLIPPING

When an amplifier is overdriven beyond its specified power output it normally produces "hard clipping" of the signal with harsh distortion and power-supply buzz as the output transistors saturate. The NAD SOFT CLIPPING circuit gently limits the output waveform and minimizes audible distortion when the amplifier is overdriven. We recommend that it be switched ON when playing music at very high levels that might exceed the amplifier's power capacity.

8. BRIDGING

This switch "bridges" the two power amplifier channels to form a monophonic amplifier with more than double the output power. To convert to bridged operation, the following procedure should be followed:

(1) Switch OFF the Power.

(2) Be sure that the IMPEDANCE switch is set to 4 Ω (NORMAL). If it is at 8 Ω (HIGH), it should be re-set to 4 Ω (NORMAL).

(3) In the bridged mode this amplifier is driven only through the upper (L) input jack, regardless of which speaker it is connected to. If this amplifier is driving your Right speaker, connect a cable from the Right output of your preamp to an upper (L) input jack on this amplifier.

(4) Disconnect any speaker wires from both the SPEAKERS A and SPEAKERS B terminals. Select the cable from the speaker that is to be driven by the bridged 2400. Connect its "positive" conductor to the R+ terminal and its "negative" conductor to the R- terminal (i.e. to the two red terminals) in the "B" group only. DO NOT connect any wires to the black terminals (R- and L-). The "A" group terminals are not operational in the bridged mode.

CAUTION: In the bridged mode, wires must be connected directly from the amplifier to the speakers, not to a speaker switch, a headphone adapter, or any other device that shares a common ground between channels.

(5) After the preceding conditions have been satisfied, re-set the bridging switch. It is held in place by a plastic bracket and screw in a slot. Use a small screwdriver to loosen the bracket screw, turning it about a half-turn counter-clockwise; then slide the switch to ON (MONO). (See Figure 2.) The bracket will move with the switch. Re-tighten the screw to secure the switch in its new position. Finally, turn the power on.

NOTE: The brackets around the impedance and Bridging switches are interlocking. If you have set the Impedance switch to 8 Ω , the bridging switch cannot be moved to ON (MONO). By loosening screws on both brackets, you can re-set both switches at the same time.

(6) To return the amplifier to normal stereo operation at a later date, first turn off the power. Loosen the bracket screw, re-set the BRIDGING switch to OFF (STEREO).

9. SPEAKER IMPEDANCE

If you are not sure of the true impedance of your speakers and are using only one pair, leave the Impedance switch at 4 Ω (normal). If you are using a single pair of speakers whose true impedance is above 6 Ω , you can maximize the power delivery by resetting the Impedance switch to 8 Ω (high).

If you are using two pairs of speakers at the same time, or if you are in the bridged mode, we recommend that the speakers have a nominal impedance of 8 Ω and that the Impedance switch is set to 4 Ω (normal). The Impedance switch is automatically set to this position when the Bridged Mode is selected.

The Impedance switch is held by a slotted bracket which is fastened by a screw next to the switch. To change the impedance setting, use a small screwdriver to loosen the screw about a half-turn counter-clockwise, and then slide the switch. (See Figure 2) The bracket will move with the switch. Tighten the screw to secure the switch in its new position.

FRONT PANEL CONTROLS

1. POWER

Press this button to switch on the amplifier and any equipment plugged into the SWITCHED convenience outlet on the rear panel. To switch the power off, press the button again.

2. SPEAKERS A/B.

Use these buttons to select which pair of speakers you want to hear. If A and B are both pressed, the amplifier's output power is fed to both sets of speakers in parallel. If A and B are both disengaged (with the buttons OUT), both sets of speakers are silenced.

Thus you can choose to hear only your main speakers (by pressing button A), only extension speakers (by disengaging button A and pressing button B), or you can activate both by depressing both buttons.

If you have connected an adapter unit for electrostatic headphones to the SPEAKERS B terminals, use the SPEAKERS buttons to select your main stereo speakers (A) or the headphones (B).

3. INPUT LEVEL

The amplifier is equipped with separate input level controls for the two channels. Normally both controls should be at detent center position. But there are several circumstances in which other settings may be useful:

(1). Level-matching. In a multi-amplifier system, use these controls to match the output of this amplifier to others in the system.

(2). Extended volume-control range. Many stereo systems have so much voltage gain that the speakers (or your ears) are over-driven at any preamplifier Volume-control setting higher than 11 or 12 o'clock. As a result you are confined to using only the lower half of the Volume control's range, where adjustments are imprecise and where most Volume controls produce channel-balance errors.

The solution is to turn the power amplifier's input-level controls down part-way (to about 9 o'clock, for example). Now you can turn up your preamplifier's Volume control further, making effective use of most of its range. (Suggestion: adjust the power amplifier's input level controls so that your preferred maximum sound levels usually occur at about 2 or 3 o'clock on your Volume control.)

As an added benefit, this procedure suppresses any noise produced by the preamp's high-level circuitry (e.g. any residual hum or hiss that does not go away when the Volume is turned down).

(3) Balance correction. Small errors in channel balance can dramatically degrade the apparent "depth" and "air" of the stereo image. Such balance errors may be due to normal production-line differences in speaker sensitivity, differences in the acoustic environment around the two speakers, and slightly different distances from your chair to each speaker. You can use the input-level controls to correct these fixed balance errors, freeing your preamplifier's balance control to correct balance errors in recordings.

Switch the preamp to mono and sit in your normal listening location. Ideally the "phantom" central image should seem to be floating in mid-air midway between the left and right speakers. If it is located off-center, closer to one speaker, turn down the input-level control for that channel slightly in order to re-center the phantom mono image. Then restore the preamp to normal stereo operation.

If you have turned the input-level controls off-detent to adjust the overall volume level, do this balance correction as the final step.

4. STATUS INDICATORS

These three LEDs provide information on the status of the amplifier.

The SOFT CLIPPING indicator illuminates when the Soft Clipping switch (on the rear panel) is engaged.

The OVERLOAD indicator warns of audible clipping, flashing when the amplifier is over-driven into audible distortion. An input/output comparator continually compares the amplifier's output signal in each channel with the corresponding input waveform. Any difference that lasts long enough to be audible (longer than a few thousandths of a second) triggers the LED on. If this indicator illuminates frequently, you should reduce your volume levels slightly (or purchase a second Model 2400 and use both amplifiers in the bridged mode for greater power).

The PROTECTION indicator illuminates when the output transistors overheat as a result of prolonged operation at excessively high continuous-output levels or into very low impedances. If this occurs the sound will automatically be silenced. Switch off the power; when the output stage cools, the protection relay will reset and normal operation can be resumed.

In most cases a very slight reduction in volume level will prevent further interruptions in the sound. If the protection relays interrupt the sound frequently, several possible causes should be considered: a loose strand of wire causing a partial short-circuit between speaker terminals, or continuous high-power operation into a very low impedance in the Bridged mode, or any obstruction of the free flow of air needed to ventilate the amplifier and dissipate its heat.

If the protection relay interrupts the sound even when the amplifier is cool, return the amplifier to your NAD dealer for service. The protection circuit may be responding to protect the speakers from an internal fault, such as an improper DC voltage at the speaker terminals.

NAD ELECTRONICS
BOSTON/LONDON