OVATION AMPLIFIERS

OWNER'S MANUAL
I.C. 100
PUBLIC ADDRESS SYSTEM

You are the owner of the finest audio amplification equipment in the world today. The I.C. 100 Sound System and its components have been designed to provide the performer with a complementary blend of audio performance and ease of operation coupled with the latest in electronic technology.

CONSOLE

The I.C. 100 Console consists of two basic sections, the pre-amplifier and the power amplifier.

The pre-amplifier consists of a six channel equalization section containing TWO INPUT JACKS, a GAIN CONTROL, a REVERB CONTROL, a BASS CONTROL, a TREBLE CONTROL, and a V.U. METER for each channel allowing the performer to adequately equalize any one of the six pairs of inputs. These six channels are then mixed and entered into the master channel consisting of a MASTER GAIN CONTROL, a MASTER REVERB CONTROL, a MASTER BASS CONTROL, a MASTER TREBLE CONTROL and a MASTER V.U. METER to allow equalization of the system to the room. In addition, two variable frequency, ANTI-FEEDBACK notch filters are provided to eliminate undesirable feedback by adjusting the efficiency of the amplifier to match the room acoustics. Along with the reverb unit in the I.C. 100, three jacks are provided on the front panel to remotely operate the reverb and to connect to an external echo unit. The "echo to" jack provides an external echo unit with the same mix that is sent to the reverb. Thus, if a certain level of echo is desired on a specific channel, the reverb control is increased and echo appears on only this channel.

The power amplifier is capable of providing 100 WATTS RMS into a 4 ohm load. The pre-amplifier is connected internally to the power amplifier and jacks are provided on the rear of the unit for connection of additional power packs and speakers. The power amplifier is protected from short and open circuits by an internal load line limiting circuit provided inside the module. If a load of less than 4 ohms is connected to the module, it automatically limits the amount of power to the load, protecting itself from dead shorts in the same manner.

OPERATING INSTRUCTIONS

Procedures for operating your Ovation amplifier system are provided in this section with supplementary information included in the Controls and Indicators section of this manual. Refer to figure 1 for location of controls and components.

SETUP & ADJUSTMENT

1. Place the Console in a position so that there is SUFFICIENT AIR SPACE AROUND THE HEAT SINK TO ALLOW GOOD VENTILATION.
2. Set the following pre-amp/power amp controls to the position indicated:

CONTROL	POSITION
Power	OFF
Master Bass	5
Master Volume	0
Master Treble	5
Reverb	0
Anti-feedback A & B*	OFF
Bass**	5
Volume**	0
Treble**	5
Reverb**	0

* Two controls

** One control in each channel

3. Connect red output jacks on speaker columns to either RED SPEAKER jack on rear of Console according to information in Controls and Indicators section of this mannual.
4. Connect power cord to 117-volt, 60-cycle electric outlet.
5. Set the POWER switch to either ON position. Use the ON position that gives the least amount of power hum in the speakers. Indicator light on front of amplifier will come on.

6. Connect your microphone or electric instrument(s) into the desired channel input jack(s).
7. If external powered enclosures are to be used, connect into green POWER PACK jack using shielded cables according to information in Controls and Indicators section. OBSERVE CAUTION.
8. If additional external unpowered enclosures are to be used, connect into RED JACKS on rear of speaker columns according to information in Controls and Indicators section. OBSERVE CAUTION.
9. Slowly adjust the BASS, VOLUME, TREBLE, and REVERB controls (MASTER and channel) to achieve the desired audio effects. Adjust according to information in Controls and Indicators section. (Make certain that the MASTER VOLUME setting is higher than that of any channel VOLUME setting).
10. Connect footswitch plug into FOOTSWITCH jack, if the footswitch is to be used.

STOPPING

1. Set the POWER switch to OFF. Indicator light will go off at this time.
2. Disconnect your instrument(s) from input jack(s).
3. Disconnect footswitch from FOOTSWITCH jack.
4. Disconnect power cord from 117-volt, 60-cycle electric outlet.
5. Disconnect all external components from INPUT and OUTPUT jacks at rear of control panel.

RESETTING

A FAILSAFE circuit is designed into your Ovation system to protect the circuitry from serious damage should an overload or other malfunction occur in the amplifier. When an overload occurs, a circuit breaker will open causing the power to the amplifier to turn off (indicator light on front of the pre-amp/power amp will go off).

To reapply power to the system, just press and release the red reset pushbutton on the front panel. Since an overload is frequently the result of operating the amplifier at too high a volume level (too loud), it may also be necessary to decrease the VOLUME control settings. Should the overload condition persist, turn the amplifier off and contact your local dealer for service.

CAUTION

TO PREVENT ELECTRIC SHOCK, DO NOT REMOVE BACK COVER.
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

CONTROLS and INDICATORS

FRONT PANEL OF CONSOLE AMP (See Figure 1)

A. INPUT JACKS – Each channel is equipped with two INPUT jacks to permit one or two instruments to be played simultaneously through each channel. Each input jack has the same sensitivity at all levels. Use standard 1/4-inch phone plug with shielded cord to connect electric instruments.

B. BASS CONTROL – The BASS control in each channel varies the low frequency response of the channel. When the BASS control is turned left from 5 (counterclockwise), the bass notes are de-emphasized. Turning the BASS control to the right from 5 (clockwise) will accentuate the bass tones.

C. TREBLE CONTROL – The TREBLE control in each channel varies the high frequency response of the channel. When the TREBLE knob is turned left from 5 (counterclockwise), the treble tones are de-emphasized. Turning the TREBLE control right from 5 (clockwise) will accentuate the treble tones.

D. GAIN CONTROL – The GAIN control in each channel regulates the volume (the amount of gain) of the channel. Volume will increase when the VOLUME control is turned right from 0, (clockwise).

E. REVERB CONTROL – The REVERB control adjusts the level of reverb on each channel. When the REVERB control is turned right from 0 (clockwise), reverb intensity will increase.

F. ANTI-FEEDBACK FREQUENCY CONTROLS – The ANTI-FEEDBACK FREQUENCY controls select the frequency or frequencies, at which feedback is occurring in the system. The frequency is isolated by rotating the FREQUENCY control until the feedback is eliminated.

G. MASTER REVERB CONTROL – The MASTER REVERB control varies the intensity of the reverb effect in the selected channel or channels. When the REVERB control is turned right from 0 (clock wise), reverb intensity will increase.

H. FOOTSWITCH JACK – The FOOTSWITCH jack accepts the plug on the Ovation model K9604 foot-switch for turning reverb on and off. The footswitch is not required for operation of the pre-amp; however, it provides remote control of the pre-set reverb effect.

To use the footswitch to your best advantage: first select the setting desired for reverb; then plug the footswitch into the FOOTSWITCH jack.

The single switch on the footswitch labeled REVERB is a sequential type; that is, each time the switch is pushed in, it will alternately turn the desired effect on or off.

I. ECHO JACKS – The ECHO jacks permit an echo unit to be connected to the Console if the additional effect is desired. To make these connections, first connect the TO ECHO jack with the input jack, on the echo unit. Next connect the FROM ECHO jack with the output jack on the echo unit. Use standard 1/4-inch phone plugs with shielded cords for the connections.

J. MASTER BASS CONTROL – The MASTER BASS control varies the low frequency response of the mixed outputs of all six channels. When the MASTER BASS control is turned left from 5 (counterclockwise), the bass notes are de-emphasized. Turning the MASTER BASS control right from 5 (clockwise), will accentuate the bass tones.

K. MASTER GAIN CONTROL – The MASTER GAIN control regulates the loudness (the amount of gain) of the mixed outputs of all six channels. Volume will increase when the MASTER VOLUME control is turned right from 0 (clockwise). The MASTER VOLUME control setting should be higher than the setting of any channel VOLUME control.

L. MASTER TREBLE CONTROL – The MASTER TREBLE control varies the high frequency response of the mixed outputs of all six channels. When the MASTER TREBLE knob is turned left from 5 (counterclockwise), the treble tones are de-emphasized. Turning the MASTER TREBLE control right from 5 (clockwise) will accentuate the treble tones.

M. INDICATOR LIGHT – The red light will come on when power is applied to the Console and the circuit breaker is closed. If an overload opens the circuit breaker, this light will go off.

N. POWER SWITCH – The POWER switch is a three-position toggle switch. One position of this switch is OFF. The two ON positions of this switch reverse the line connections. Select the ON position that gives the least power hum in the speakers.

O. CIRCUIT BREAKER – The CIRCUIT BREAKER is used to open the circuit should an overload or other malfunction occur in the system. This type of circuit breaker requires no cooling off period and may be reset immediately. To reapply power to the system, just press and release the red reset pushbutton. No fuses are required with any Ovation equipment.

P. GRAPHIC BALANCER – This array of six edgewise vertical mounted V.U. meters provides the performer with a quick status of the mix balance. Exceeding +3 on the meter scale will cause that channel to distort.

Q. MASTER V.U. METER – This meter indicates the level of output signal and thus the level of power consumed. 0 db on this meter is 100 Watts RMS into 4 ohms. Consistently exceeding 0 db may result in opening of the circuit breaker. If this occurs, press and reset red button (0) on front panel.

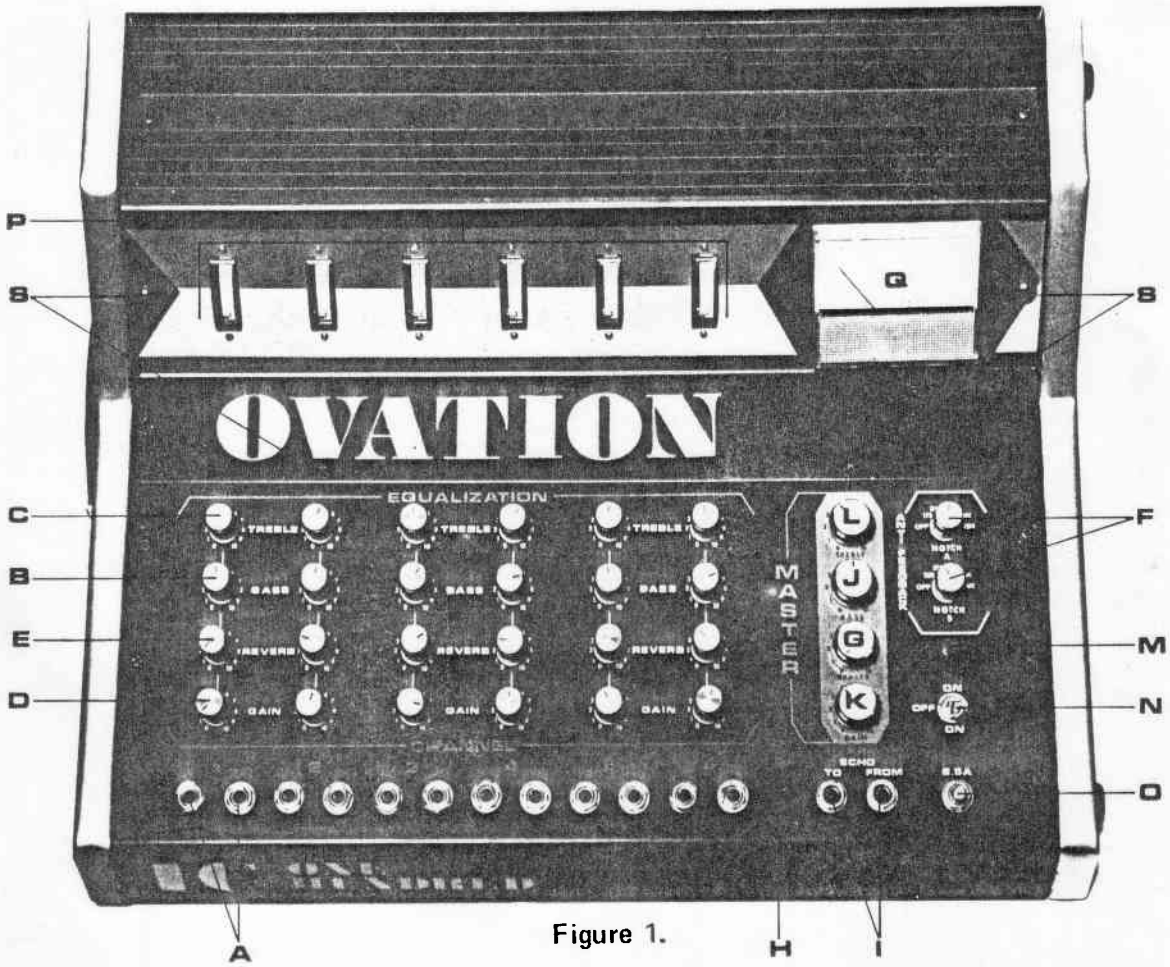


Figure 1.

SPECIFICATIONS

PRE-AMPLIFIER

Output Level (0 db)	0.9 V RMS
Output Impedance	1K ohm
Input Impedance	40K ohms
Sensitivity (EQ Flat)	10mV (For 0.9V RMS Output)
Frequency Response	20 - 20KHZ $\pm$ 0.5 db
Total Harmonic Distortion	Less than 4/10 of 1%
Intermodulation Distortion	Less than 7/10 of 1%
Hum and Noise	Better than 62 db below full output
Semiconductor Content	Three Integrated Circuits and One transistor
	IC 1 - RCA CA3052 – Channels 1-4
	IC 2 - RCA CA3052 – Channels 5, 6 and Reverb
	IC 3 RCA CA3052 – Master
	QI - RCA 40408 – Reverb Spring Driver

POWER AMPLIFIER

Output Level (0 db)	100 Watts RMS
Output Impedance	4 ohms
Input Impedance	18K ohms
Sensitivity	0.9 V RMS (For 100 Watts RMS Output)
Frequency Response	20 - 20KHZ $\pm$ 0.5 db
Power Bandwidth	20 - 20KHZ $\pm$ 1.5 db @ 100 Watts RMS
Total Harmonic Distortion	Less than 4/10 of 1%
Intermodulation Distortion	Less than 5/10 of 1%
Hum and Noise	Better than 78 db below 100 Watts RMS
Semiconductor Content	One Linear Hybrid Module – RCA HC1000

SERVICING

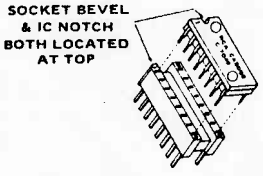
For emergency on the job servicing, remove the meter panel by removing screws marked "S" on Fig. 1 and repair per label on reverse side of panel.

INTEGRATED CIRCUIT REPLACEMENT GUIDE

EMERGENCY REPLACEMENT. IF CHANNELS 1, 2, 3, OR 4 OR THE MASTER CHANNEL FAIL, REPLACE EITHER IC 1 (CHANNELS 1-4) OR IC 3 (MASTER) WITH IC 2. THIS WILL PROVIDE 4 CHANNELS (1-4) WITH NO REVERB FOR EMERGENCY USE. REPLACE IC 2 AT EARLIEST CONVENIENCE FOR FULL 6 CHANNEL OPERATION.

NORMAL SERVICE REPLACEMENT

1) IF CHANNELS 1, 2, 3, OR 4 FAIL REPLACE IC 1.
2) IF CHANNELS 5, 6 OR REVERB FAIL REPLACE IC 2.
3) IF MASTER FAILS (NO PRE-AMP SIGNAL) REPLACE IC 3.



POWER PACK

By the use of a hybrid linear power amplifier module, the I.C. 100 POWER PACK electronically utilizes the latest in the state of the art to bring the performer reliability and performance.

The Power Pack is capable of providing 100 WATTS RMS into a 4 ohm load. Jacks are provided on the rear of the unit for connection of additional power packs and speakers. The power amplifier is protected from short and open circuits by an internal load line limiting circuit provided inside the module. If a load of less than 4 ohms is connected to the module, it automatically limits the amount of power to the load, protecting itself from dead shorts in the same manner.

OPERATING INSTRUCTIONS

SETUP & ADJUSTMENT

1. Place the Power Pack in a position so that there is SUFFICIENT AIR SPACE AROUND THE HEAT SINK TO ALLOW GOOD VENTILATION.
2. Connect red output jacks on speaker columns to red speaker jacks on rear of Power Pack. Use unshielded cords to make these connections.
3. Connect power cord to 117-volt, 60-cycle electric outlet.
4. Set the POWER switch to either ON position. Use the ON position that gives the least amount of power hum in the speakers. Indicator light on front of amplifier will come on.
5. Connect input to Power Pack (marked Console) to Console or other Power Pack as required. Use shielded cables.

STOPPING

1. Set the POWER switch to OFF. Indicator light will go off at this time.
2. Disconnect power cord from 117-volt, 60-cycle electric outlet.
3. Disconnect all external components from INPUT and OUTPUT jacks at rear of control panel.

RESETTING

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CAUTION

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SPECIFICATIONS

Input Impedance	18K ohms
Output Impedance	4 ohms
Sensitivity	0.9 VRMS (For 100 Watts RMS into 4 ohms)
Voltage Gain	26 db
Power Gain	73 db
Total Harmonic Distortion	Less than 4/10 of 1%
Intermodulation Distortion	Less than 5/10 of 1%
Frequency Response	20 - 20 KHZ $\pm$ 0.5 db
Power Bandwidth	20 - 20 KHZ $\pm$ 1.5 db @ 100 Watts RMS
Hum and Noise	Better than 78 db below 100 Watts