

JVC

INSTRUCTION BOOK

SOUND EFFECT AMPLIFIER

MODEL SEA-10



CAUTIONS

- * Be sure to switch off the power when you are connecting the SEA-10 into your stereo system.
- * Connect the input and output terminals correctly.
- * The DIN socket and TAPE jacks cannot both be used.
- * When the SEA-10 is incorporated into your stereo system make sure that the tone controls of the amplifier are set to their flat positions.
- * Take care with the AC plug. Do not bend the cord perpendicu- larly to the plug, grasp the plug when pulling it from the AC outlet and don't apply any force to the cord.

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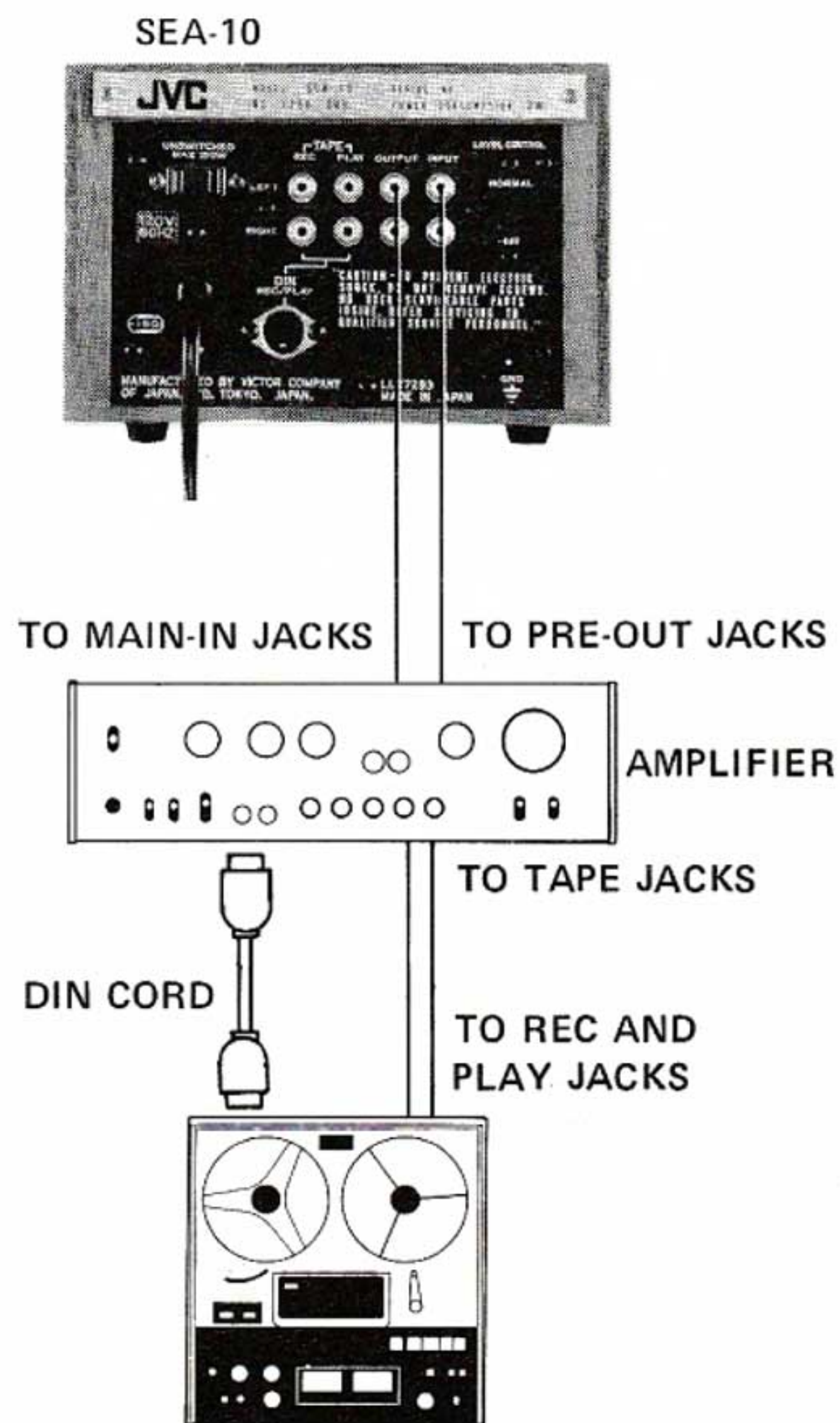
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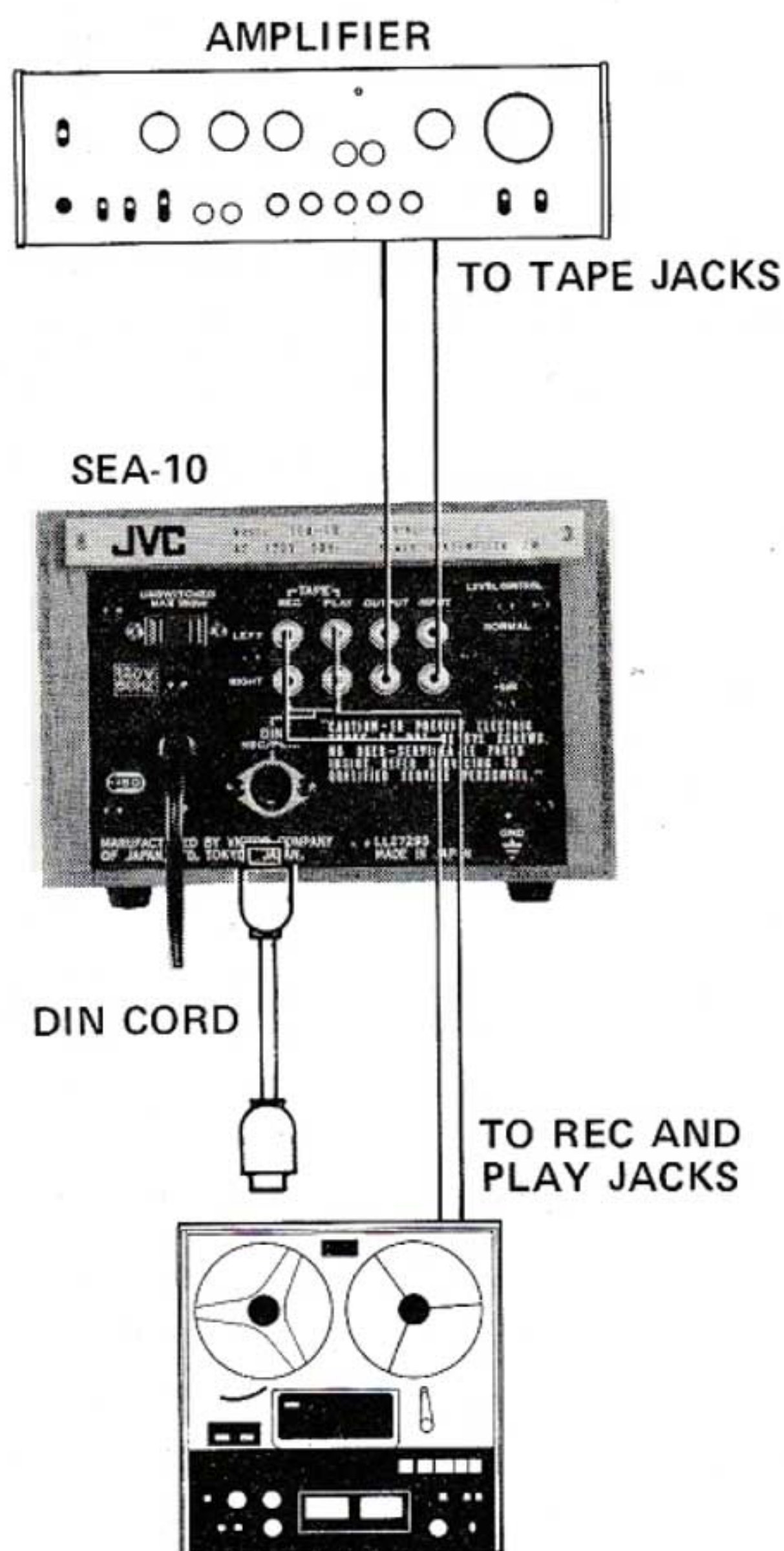
Schematic Diagram10

CONNECTION DIAGRAM 1



If your amplifier has PRE OUT and MAIN IN jacks connect these to the INPUT and OUTPUT jacks of the SEA-10 respectively. With a tape deck connected to the amplifier's DIN or TAPE jacks you can add the effect of S.E.A. to the played back sound. However, if you want to add the effect of S.E.A. to recordings you must use the connection shown in Diagram 2.

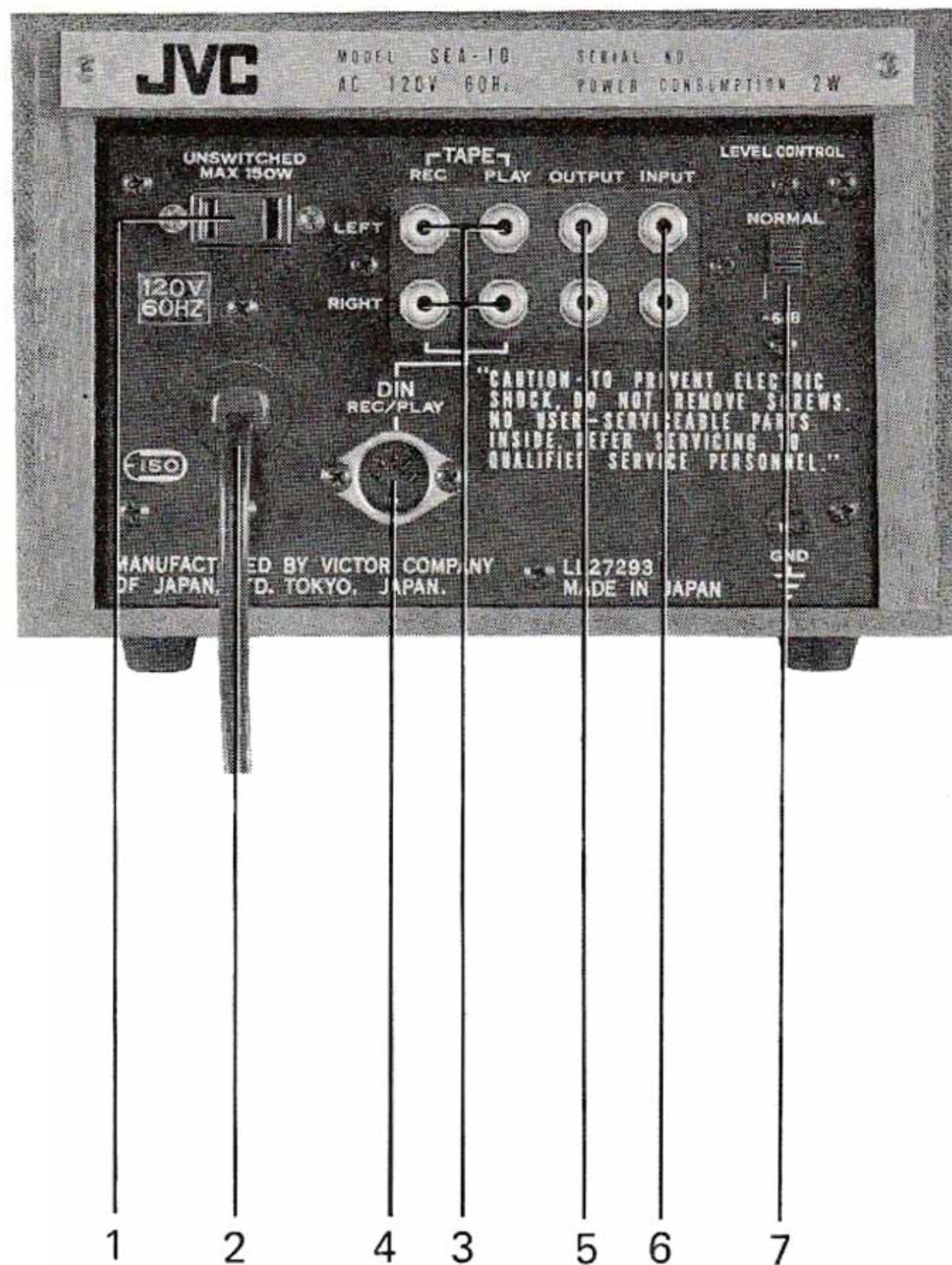
CONNECTION DIAGRAM 2



If your amplifier does not have PRE OUT/MAIN IN jacks or if you want to add the effect of S.E.A. to your recordings, you will have to use this connection. The TAPE REC OUT and TAPE PLAY jacks of the amplifier are connected to the INPUT and OUTPUT jacks of the SEA-10 respectively and the tape deck's REC and PLAY jacks are connected to the SEA-10's TAPE jacks. The tape deck can also be connected to the SEA-10 by a DIN cord.

NOTE: This connection can only be made if your amplifier has the tape monitoring facility.

REAR PANEL CONNECTIONS



1. Power outlet

This outlet is not switched off when the SEA-10 is switched off and can be used to provide power for other components of your stereo system which require less than a total of 150W.

2. Power cord

Plug this into a convenient AC wall outlet.

3. TAPE REC/PLAY jacks

Connect to the REC and PLAY jacks of your tape deck.

4. DIN REC/PLAY socket

Connect with a DIN cord to the DIN socket of your tape deck for recording and playing back.

CAUTION : The DIN socket and TAPE jacks cannot both be used.

5. OUTPUT terminals

Connect to the MAIN IN or TAPE PLAY jacks of your amplifier.

6. INPUT terminals

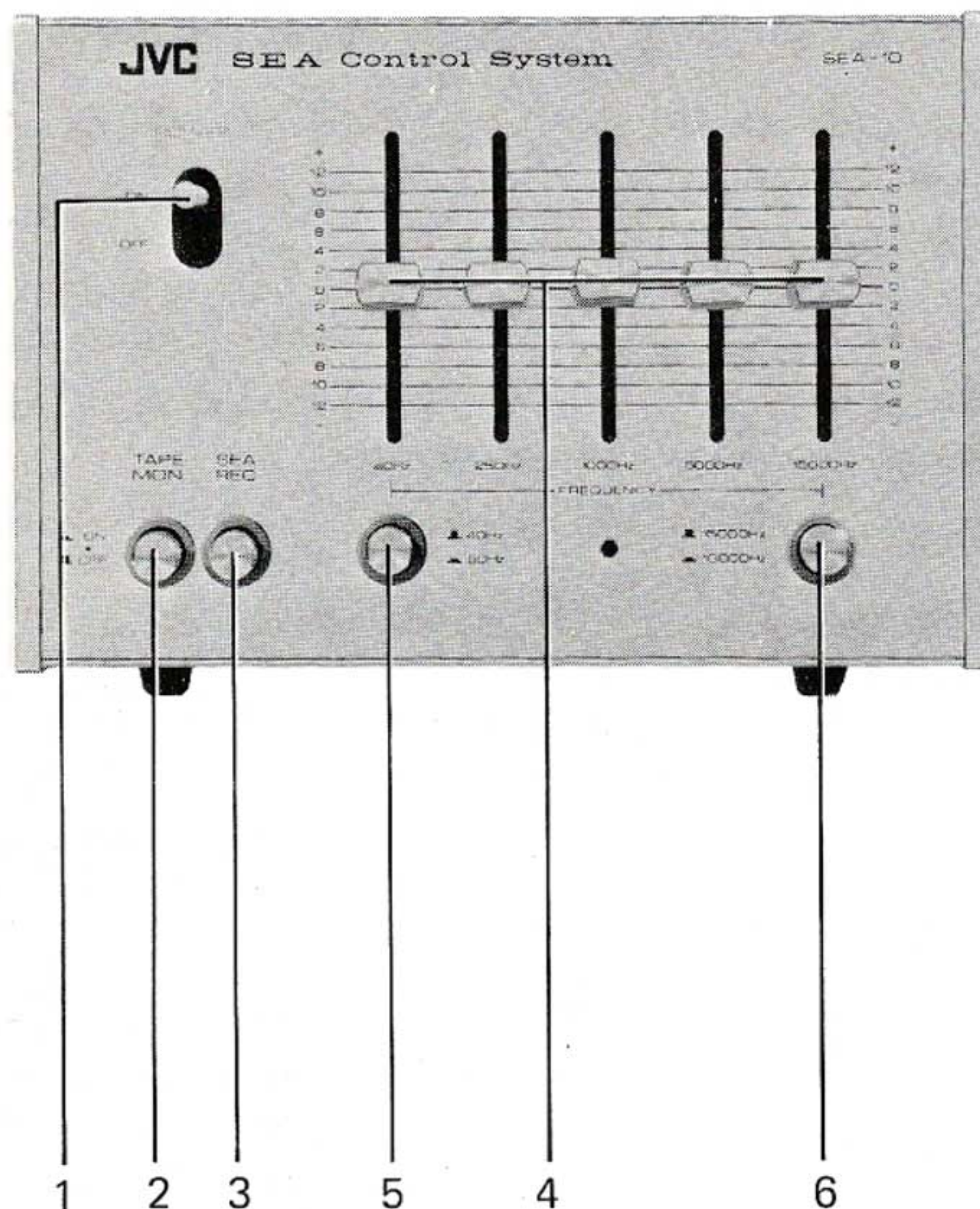
Connect to the PRE OUT or TAPE REC jacks of your amplifier.

7. Level Control Switch

When you use connection 1, this controls the level of the signal from the amplifier to the SEA-10. When you use connection 2 and you are recording, it controls the level of the signal from the amplifier. When you use connection 2 and are playing back tapes with the SEA REC "OFF" and TAPE MON "ON", it controls the level of the signal from the tape deck.

NOTE: When SEA REC and TAPE MON buttons are both "ON", it has no effect.

FRONT PANEL CONTROLS



1. **Power switch**
Flip up for ON.
2. **TAPE MON button**
Press this in when playing a tape deck or record monitoring with a 3-head deck.
3. **SEA REC button**
Press this in when you want to give your recordings the added effect of SEA.
4. **S.E.A. controls**
Slide up and down to emphasize or de-emphasize sounds in five different frequency ranges.
5. **40Hz/60Hz button**
Press in to change the center frequency of the lowest control from 40Hz to 60Hz.
6. **15,000Hz/10,000Hz button**
Press in to change the center frequency of the highest control from 15,000Hz to 10,000Hz.

PERATION

Tape Playing With Connection 1

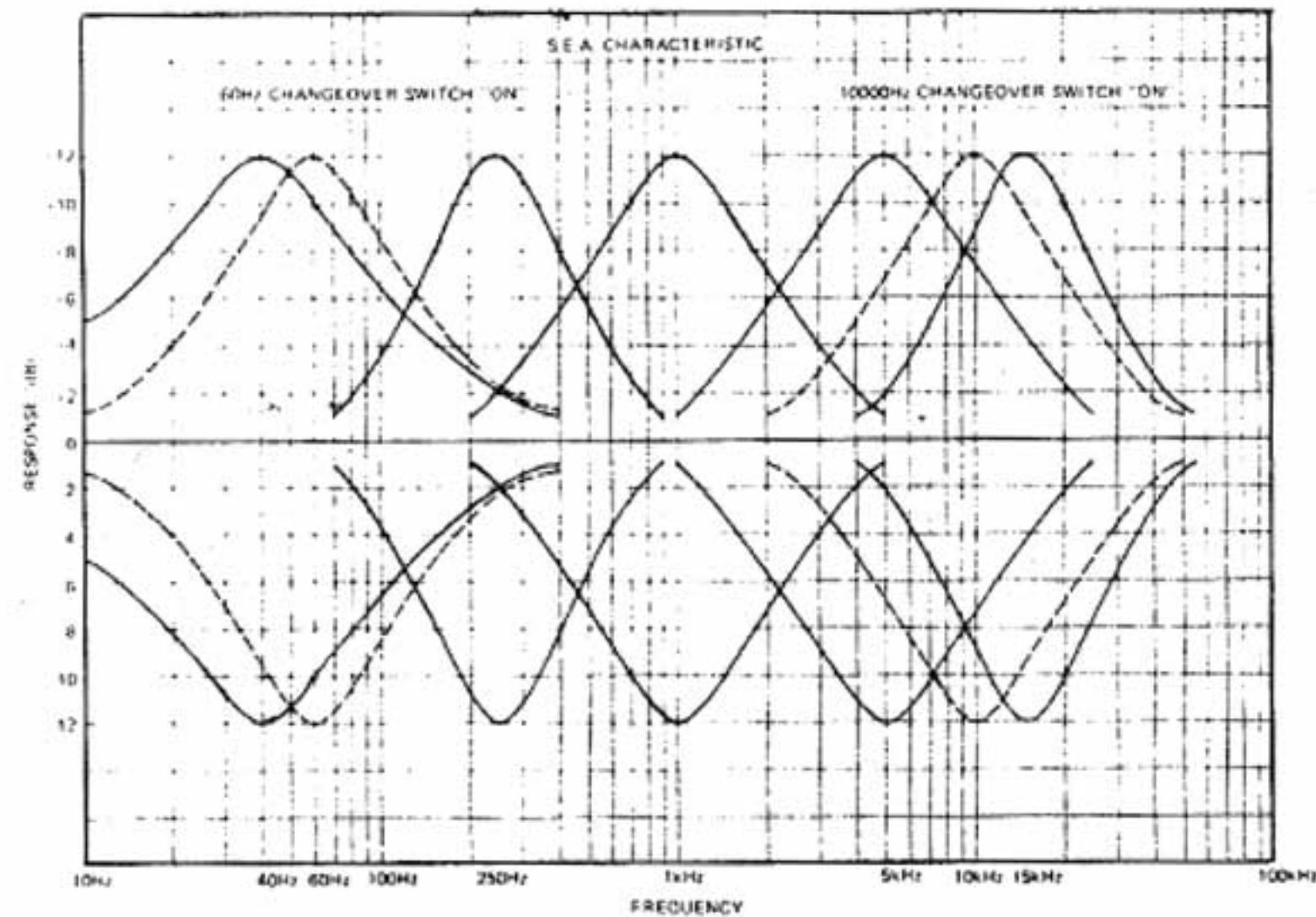
1. Switch on the power.
2. Press the TAPE MON button.
3. Operate the tape deck for playback.
4. Slide the S.E.A. controls to obtain the effect you require.

Tape Playing/Recording With Connection 2

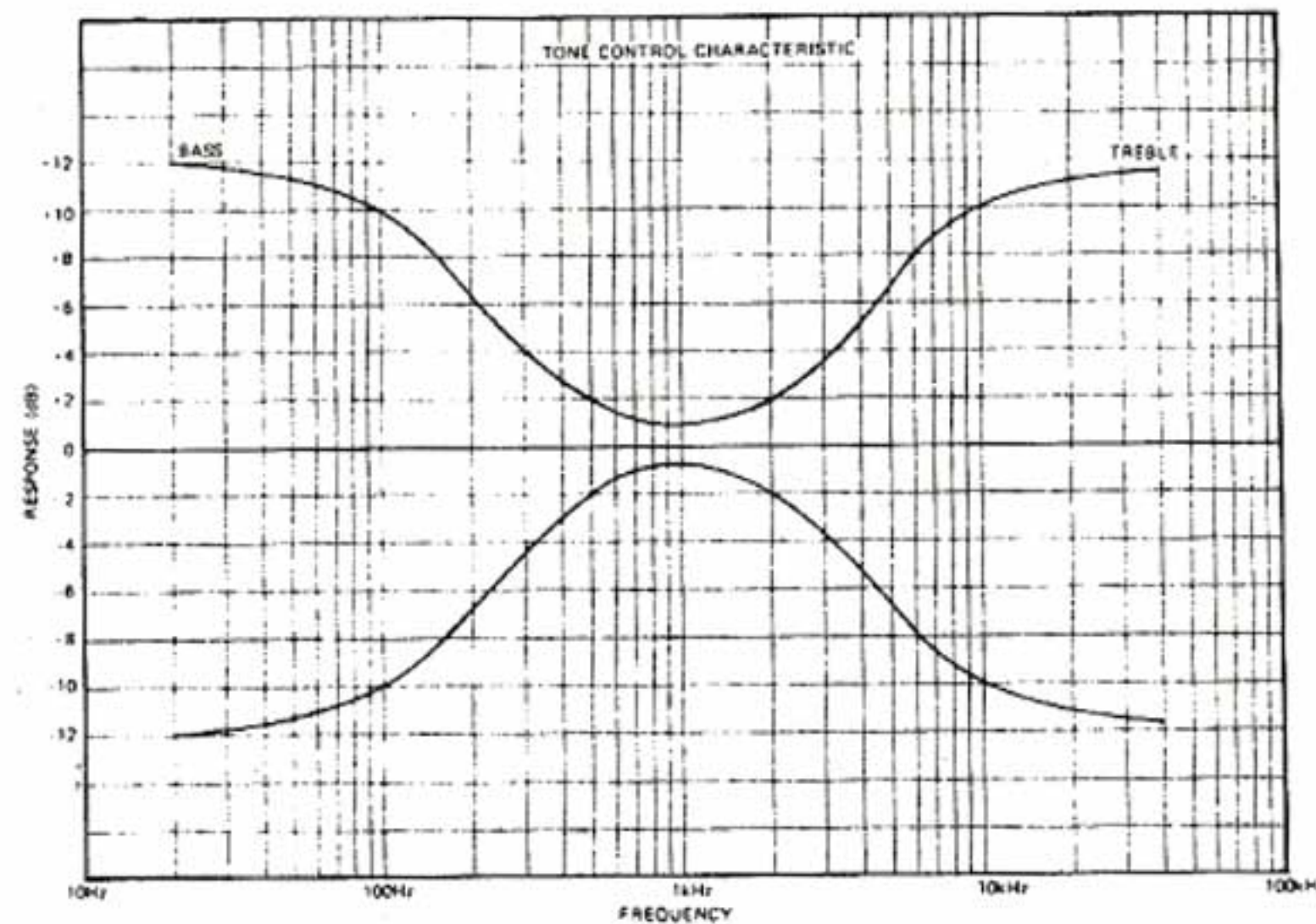
1. Switch on the power.
2. Press the TAPE MON button.
3. If you are recording press the SEA REC button.
4. Operate the tape deck for playback or recording.
5. Slide the S.E.A. controls to obtain the effect you require.

NOTE:

With this connection you can play back and record both with and without the effect of S.E.A. If the SEA-10's power switch is OFF and the SEA REC button is in the OFF position the signal from the amplifier goes directly to the TAPE REC jacks. To play back with the power switch OFF, the TAPE MON and SEA REC buttons should both be ON.



A



B

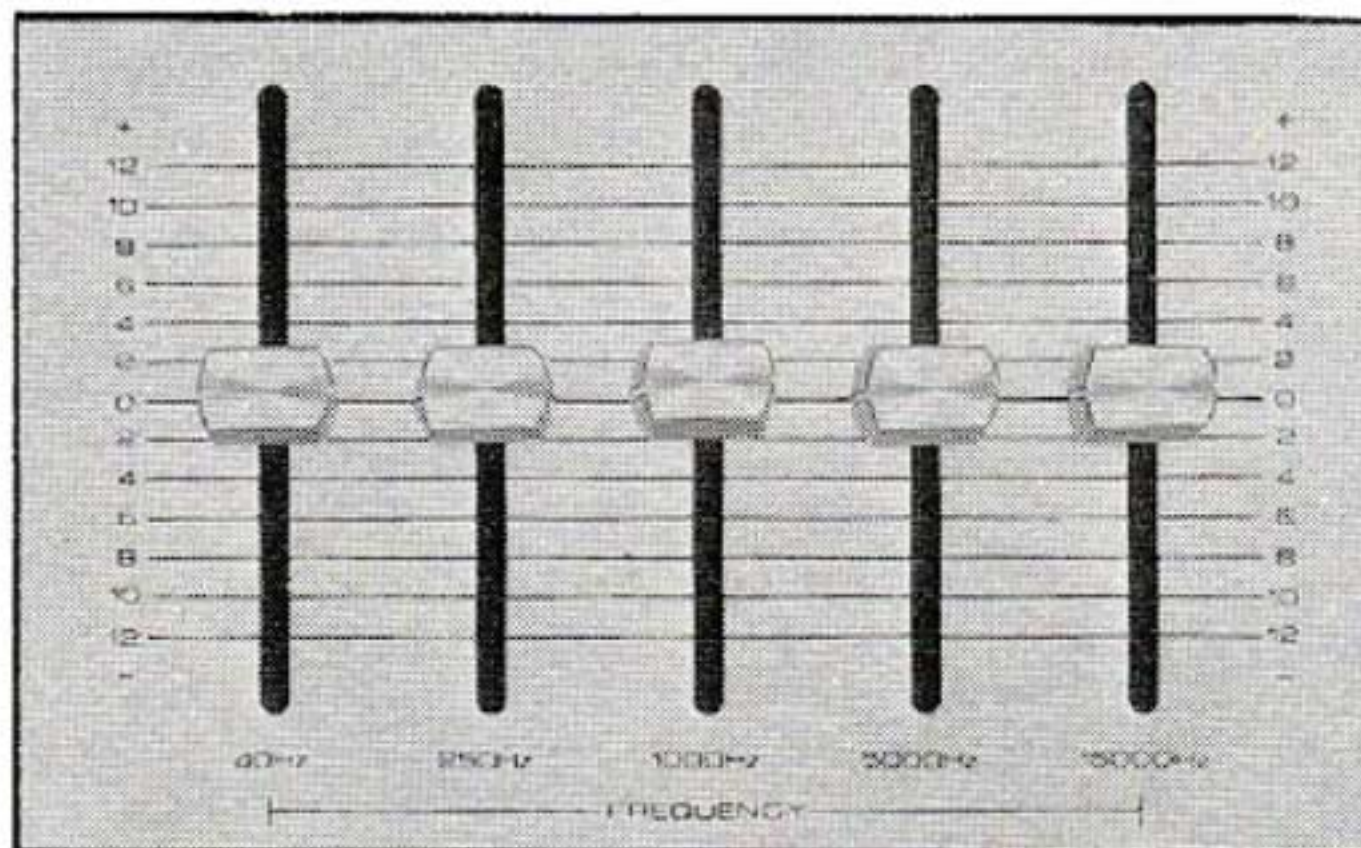
The Sound Effect Amplifier is a feature unique to JVC which gives you more control over tone than has ever before been possible. It was never found outside professional recording studios before JVC incorporated it in their amplifiers and receivers. The advantages of the SEA system are:

- It gives the listener complete control of the tone throughout the entire frequency range.
- By adjusting the controls entirely new sounds can be created.
- Tone can be adjusted to compensate for variations in the transmission system; recording method, type of music, characteristics of your stereo system and the acoustic properties of your room.

Unlike other tone control systems which have only a bass and treble control, the SEA has five controls. Each of these controls makes it possible to vary the response in a different frequency range. As you can see from graphs A and B SEA gives a steeper gradient at both the high and low frequency end of the response curve than the conventional system which is limited to 6dB/oct. The outstanding feature is SEA's handling of the midrange frequencies. The conventional tone control system controls only the high and low ranges whereas SEA extends this control to cover the whole frequency range.

Using S.E.A.

Listening to different programs you will want to emphasize or lessen the response of a particular range. If you want to emphasize the low frequencies you move up the 40Hz or 250Hz slide switch; if you want to emphasize the human voice the 1,000Hz or 5,000Hz slide switch should be moved up. If you want to lessen the effect of any of these frequency ranges you move the slide switch down.

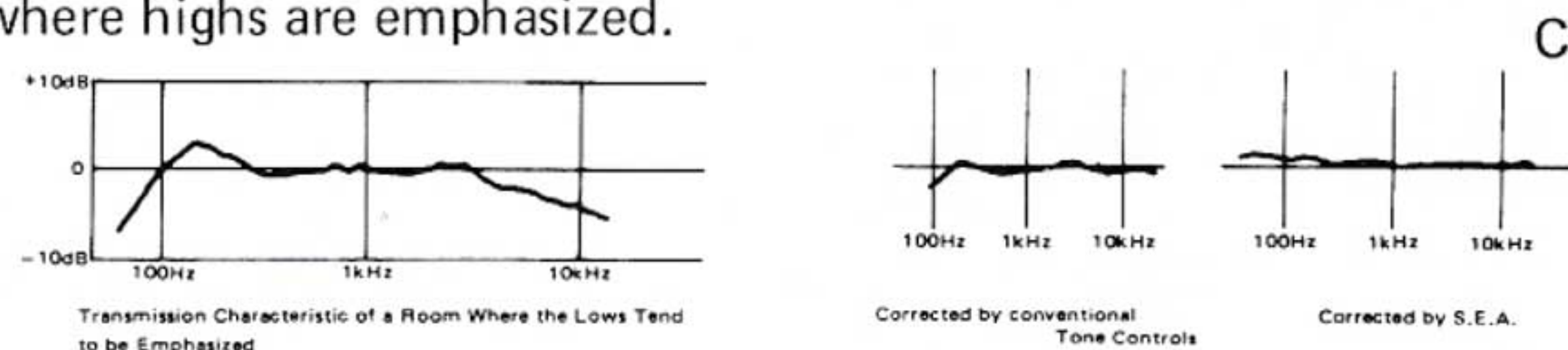


- | | |
|----------------------|---|
| 40Hz or 60Hz | Cut to eliminate hum and rumble. Boost to emphasize the very low bass response of organ and drums. |
| 250Hz | Cut to reduce speaker boom. Boost to add clarity to upper bass response. |
| 1,000Hz | Most effective in emphasizing or deemphasizing the human voice. |
| 5,000Hz | Controls upper mid-range frequencies. Raising this switch gives greater clarity to brass and strings. |
| 15,000Hz or 10,000Hz | Cut to eliminate tape hiss and surface noise. Boost to retain highs in low volume playback and give the sounds the feeling of presence. |

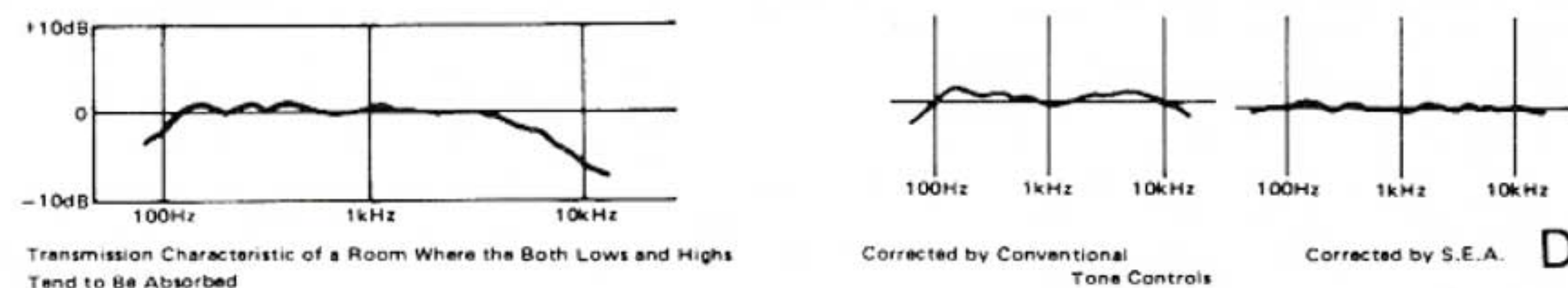
This S.E.A. gives flexibility to your stereo system. A further feature which makes it even more flexible is the provision of two switches, one to alter the center frequency of the 40Hz control to 60Hz and one to lower the center frequency of the 15,000Hz control to 10,000Hz.

Every room has different acoustic properties. The sound from any stereo system can change between the source and the listener because of absorption and reflection. In some rooms there is a standing wave between 100Hz and 500Hz. The delicate tone control of SEA can compensate for this and turn every room into a perfect listening environment.

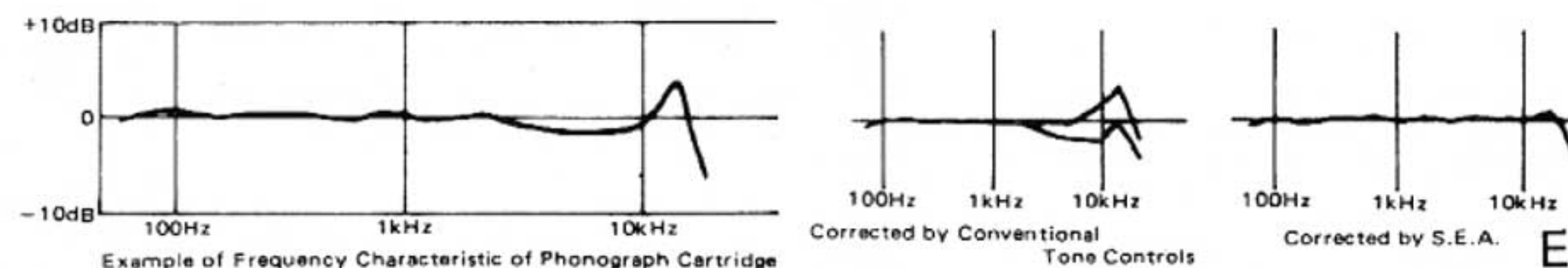
In a small room the high frequencies tend to be emphasized and in a large room the lows. The illustration shows the transmission characteristics of a room where the lows tend to be emphasized and how SEA is much better in compensating for these conditions than conventional tone control systems; the same is true in rooms where highs are emphasized.



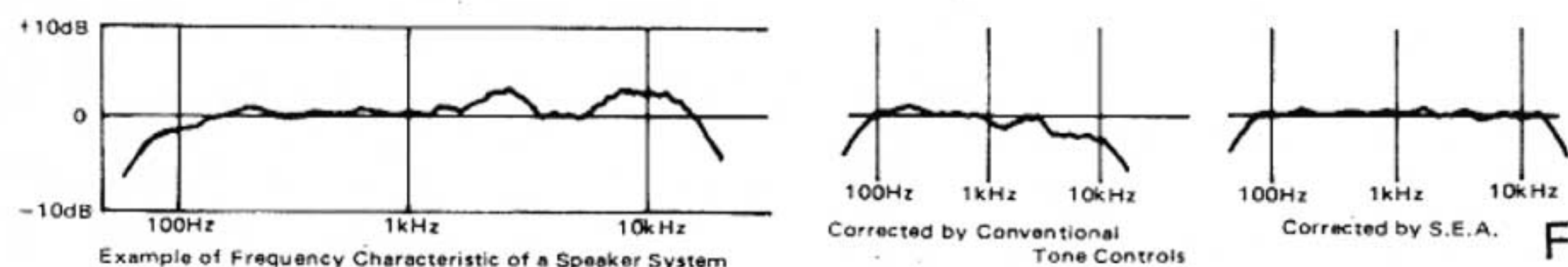
In rooms which contain heavy sound absorbing furniture both highs and lows are deemphasized. The graphs D shows the transmission characteristics of such a room and the way in which SEA and conventional tone controls compensate for these conditions.



Nearly every moving magnet phonograph cartridge on the market has a resonance peak between 10,000Hz and 15,000Hz which causes harsh noises to be heard in the high frequency ranges. SEA's high frequency controls can be used to eliminate this source of annoyance without lessening the overall frequency response. This is illustrated in the graphs E.



SEA works in the same way in compensating for the irregularities in frequency response of speakers. For example it can boost the low frequency sound to compensate for the lessening of bass under 100Hz which is peculiar to air-tight enclosures. The harsh metallic treble from horn tweeters and mid-range speakers can be mellowed by the mid-range controls. The graphs in illustration F show the way in which the frequency characteristic of a typical speaker system can be corrected.

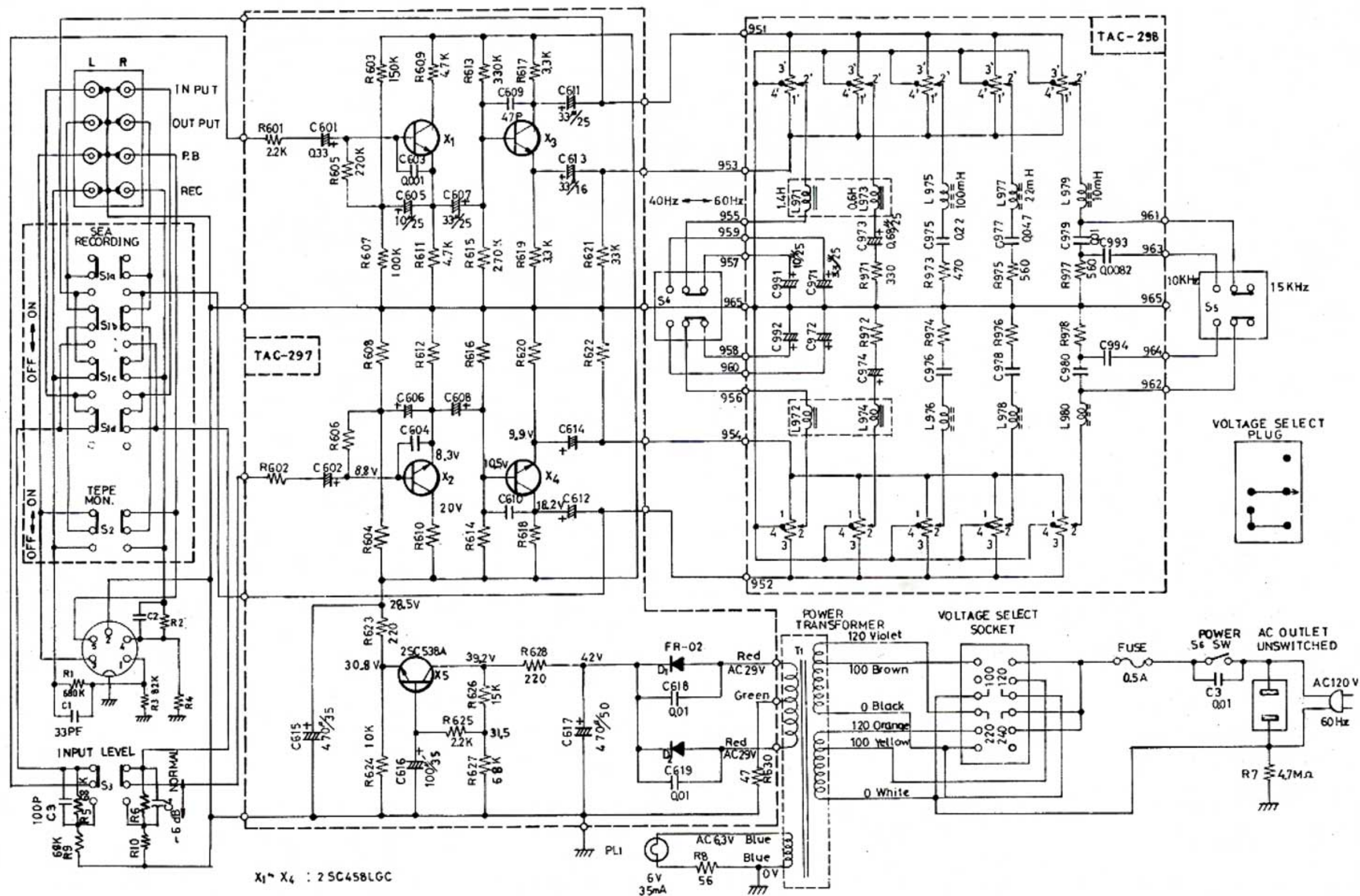


Sound which has a flat frequency characteristic when measured may sound unsatisfactory in certain circumstances and SEA allows much greater control over the adjustment of this type of sound to achieve the required results than is possible with 2 control systems.

SPECIFICATIONS

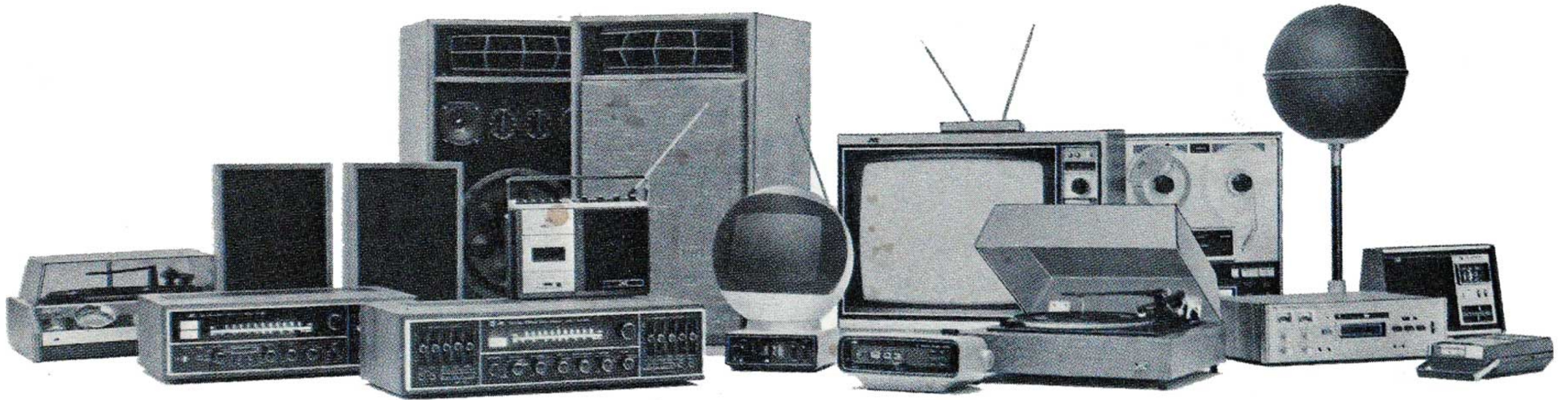
Transistors	: 5
Diodes	: 2
S.E.A. center frequencies	: 40/60Hz, 250Hz, 1kHz, 5kHz, 10/15kHz
Range	: $\pm 12\text{dB}$
Frequency response	: 20Hz – 30,000Hz $\pm 0/-0.5\text{dB}$
Gain	: 0dB
Output	: 1V
THD at 1V output	: Less than 0.1%
Recommended input level	: 0.5 – 0.8V
S/N ratio	: Better than 70dB
Output impedance	: 1k Ω
Power source	: AC 120V, 60Hz
Power consumption	: 2W
Dimensions	: 5-1/4"(H)x7-1/2"(W)x10"(D)
Weight	: 5.7 lbs.

SCHEMATIC DIAGRAM



JVC

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JVC Makes the World's Finest Home Entertainment Products.



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