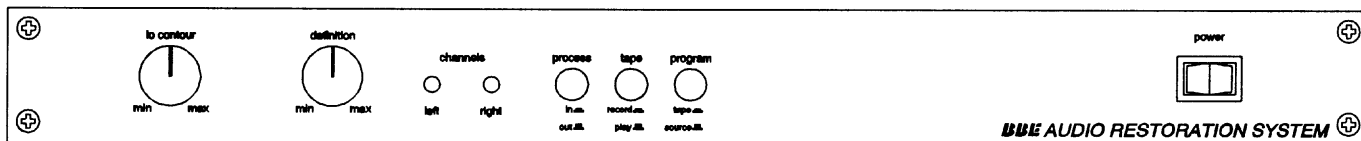




BBE ARS AUDIO RESTORATION SYSTEM USER MANUAL



Important Safeguards



WARNING

To prevent fire or shock hazard, do not expose the unit to rain or moisture.

ATTENTION: RISQUE DE CHOC ELECTRIC- NE PAS OUVRIR.



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 a equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

For your protection, please read these safety instructions completely before operating the appliance, and keep this manual for future reference.

Carefully observe all warnings, precautions and instructions on the appliance and described in the operating instructions supplied with the appliance.

INSTALLATION

Water and Moisture - Do not install the appliance near water: for example, near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool.

Heat - Do not install the appliance near sources of heat such as radiators, heat registers, stoves, or other appliances that produce heat.

Ventilation - Situate the product so its location or position does not interfere with its proper ventilation. For example, you should not place the product on a bed, sofa, rug, or similar surface that might block the vent openings, or placed in a built-in installation, such as a bookcase or cabinet that might impede the flow of air through the ventilation openings.

Wall or Ceiling Mounting - If your appliance can be mounted to a wall or ceiling, mount it only as recommended.

USE

Power Source - Connect the appliance to a power supply only of the type described in the operating instructions or as marked on the appliance.

Grounding or Polarization - Do not defeat the grounding or polarization feature of the AC power cord. If your AC receptacle will not accept the power cord plug, contact your electrician to install a proper AC receptacle.

AC Receptacle - Check to make sure that the AC receptacle holds the power cord plug firmly and securely. If the power cord plug is loose, contact your electrician to replace the defective and unsafe AC

Power-Cord Protection - Route the power cord so that it is not likely to be walked on or pinched by having objects placed on it, paying particular attention to the plugs, receptacles, and the point where the cord exits from the appliance.

When not in use - Unplug the power cord of the appliance from the outlet when left unused for a long period of time. To disconnect the cord, pull it out by grasping the plug. Never pull the plug out by the cord.

Foreign Objects - Be careful that foreign objects and liquids do not enter the enclosure through openings.

SERVICE

Unplug the appliance from the wall outlet and consult qualified service personnel when:

- the power cord or the plug has been damaged.
- a solid object or liquid has fallen into the cabinet.

- the appliance has been exposed to rain or moisture.
- the appliance does not appear to operate normally or exhibits a marked change in performance.
- the appliance has been dropped, or the enclosure damaged.

Do not attempt to service the appliance beyond that described in the operating instructions. For all other servicing, refer to qualified service personnel **only**.



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Congratulations on your purchase of the **BBE AUDIO RESTORATION SYSTEM**. The **BBE AUDIO RESTORATION SYSTEM** is a versatile, two channel signal processor that will benefit any audio system. The **BBE AUDIO RESTORATION SYSTEM** will restore much of the original live performance sound quality to old LPs and tapes where the musical performance was outstanding but the recording technology was primitive. Today, the quality of CDs has made the reproduction of sound much more accurate and fulfilling. Unfortunately, the original recorded tapes from which the CDs are mastered may not have been recorded with the latest of recording techniques, causing the program material to be distorted or muddy. Additionally, because the mastering process for CDS is digital, some of the natural audio characteristics are lost. The **BBE AUDIO RESTORATION SYSTEM** will help restore the sparkle and clarity of those original master recordings and will add warmth and natural musicality to the digitally recorded material. With BBE, the low frequencies of bass instruments will be more evident in the mix. Voices will be clearer. Notes of a guitar and keyboard will have greater integrity and be more distinct from each other.

The **BBE AUDIO RESTORATION SYSTEM**'s flexible design will allow it to be configured into most any system.

The following features make the **BBE AUDIO RESTORATION SYSTEM** attractive to music enthusiasts:

1. **DEFINITION** and **LO CONTOUR** controls will accommodate mono or stereo configurations simultaneously.
2. **Built-in Tape Loop** will allow for easy installation into most audio systems.
3. **A Function Switch** for the comparison of the **BBE Processed** sound to the unprocessed sound.
4. **A Tape Switch** for processing recordings or the playback of cassette tapes.
5. **A Program Switch** to select between audio sound sources.
6. **RCA** connectors to allow for easy connection into any sound system.

IMPORTANT

Please check the contents within this box to insure that included are:

1. The **BBE AUDIO RESTORATION SYSTEM**.
2. The **BBE AUDIO RESTORATION SYSTEM User's Manual**.
3. Two sets of audio cables.

If any of these items are found to be damaged or missing, immediately contact the **BBE** dealer from whom the unit was purchased.

Before you begin, please read this manual. It will help you use the **BBE AUDIO RESTORATION SYSTEM** more effectively and answer most of the questions our service department receives. But if you still have questions, please call our service department at (714) 897-6766.



WHAT DOES BBE DO?

BBE is a patented (42 patent claims awarded) audio circuit which compensates for deficiencies inherent in amplified sound systems. It is a program-driven process which restores the time-alignment of the whole frequency spectrum while dynamically compensating for amplitude loss in the upper frequencies.



HOW DOES BBE "SOUND"?

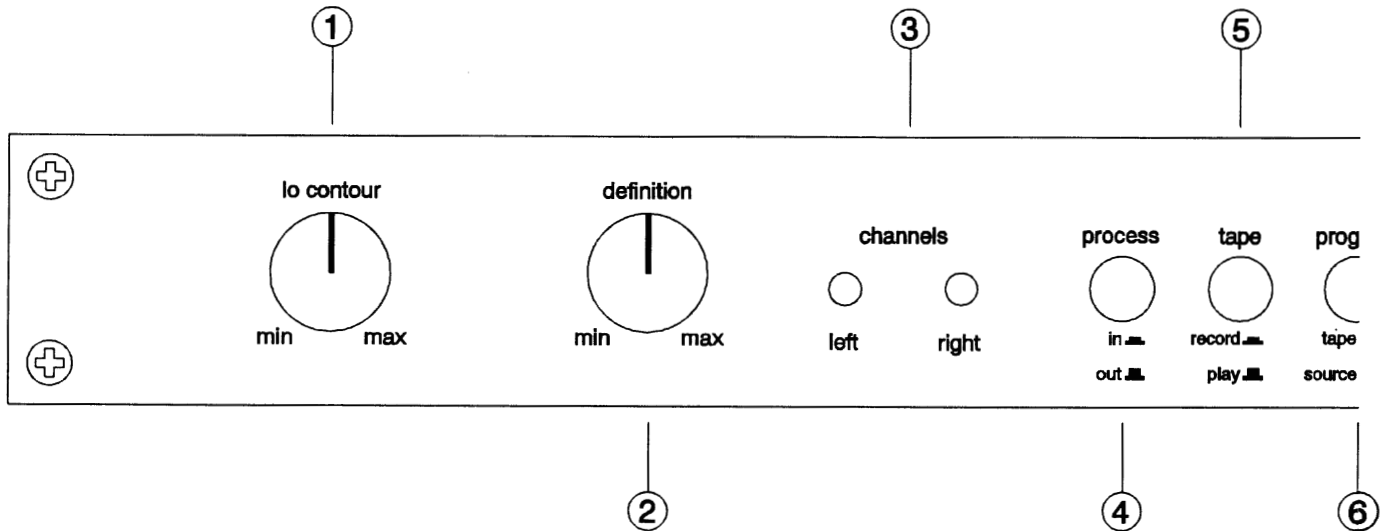
Highs are clearer, cleaner, and more finely detailed. The original program is faithfully reproduced with more of the nuance, subtlety, and presence of live performance. Plucked and percussive sounds such as guitar, piano, and harpsichord are sharper and cleaner. The full harmonic texture of instrumental and vocal solos are heard. In ensemble music, each instrument and voice retains its integrity. Speech intelligibility is markedly improved.



HOW THE BBE PROCESS WORKS

The **BBE Process** works to overcome the distortion and lack of clarity during the mastering of CD's by dynamically revitalizing the harmonic content of the music program, as determined by the signal input, and imparting linear phase compensation across the audio spectrum. The phase compensation allows for a separation of the high, mid and low frequencies so that they do not arrive at the speaker network at precisely the same time. This prevents the higher frequencies from being smothered. (As the phase shift is minimal, 2 milliseconds, it is not perceived as a delay or echo.) The amount of harmonic amplification is variable as selected by the **DEFINITION** knob, to achieve crisp, tight music program. The **LO CONTOUR** knob is a bass frequency adjustment. When turned clockwise, the **LO CONTOUR** will add power and warmth to the music program. If your musical tastes require the bass frequencies be reduced, turn the knob counter-clockwise.

Although the majority of the process is achieved with the higher frequencies of the music program, the **BBE Process** will make a significant difference with the entire program. For example: An "A" at 440Hz on a guitar is fundamentally the same note as an "A" at 440Hz on a piano. What allows a listener to identify the respective instruments is the harmonic content. By realigning the phase relationship and amplitude of the harmonic frequencies, the distinctive sound of a guitar, a piano, or any musical instrument, is much more evident.



FRONT PANEL

1. LO CONTOUR

This control adjusts the low frequency content in the **BBE AUDIO RESTORATION SYSTEM** for both channels. It provides a boost of 10dBu when turned to its maximum position (clockwise) at 50Hz. When turned to its minimum position (counter-clockwise) it reduces the 50Hz signal by 10dBu. The middle position would be flat or no change.

2. DEFINITION

This control adjusts the **BBE Process** for both channels. When the knob is in its minimum position, completely counter-clockwise, there is no process. Turning the knob clockwise will introduce the **BBE Process**. Adjust the knob to mix the desired amount of **BBE Process** to suit your taste. You will find that different material-e.g. old Lps, Cds re-mastered from old recordings, recently produced CD recordings and home made tapes all may require different settings. The **BBE Process** also has its own in/out switch for comparison of the processed to unprocessed signal. Experiment with the process. Use the **BBE Process** as an extension of the tone controls. The **BBE Process** is not an effect, but a sonic improvement. To start, set the **DEFINITION** knob to its 12 o'clock position, then adjust accordingly.

3. LED DISPLAY

Each channel is supplied with a Bi-colored LED which is used to indicate the output of the **BBE AUDIO RESTORATION SYSTEM**. When the harmonic content of the music program is being expanded, the LED will illuminate "**GREEN.**" When harmonic expansion is not taking place, the LED will illuminate "**RED.**" **NOTE: THE LED IS TAKING AN AVERAGE LEVEL READING. TRANSIENT OR SUBTLE CHANGES MAY NOT BE INDICATED.**

CONNECTIONS



4. PROCESS

This switch engages the **BBE Process**. When depressed, the "in" position, the **BBE Process** has been engaged. When in the "out" position, the **BBE Process** has been disengaged.

5. TAPE

This switch is used to select the mode of processing in the BBE AUDIO RESTORATION SYSTEM' tape loop. When engaged, the "record" position, the BBE Process can be recorded to tape. When disengaged, the "play" position, the process will be heard upon playback of the cassette tape only.

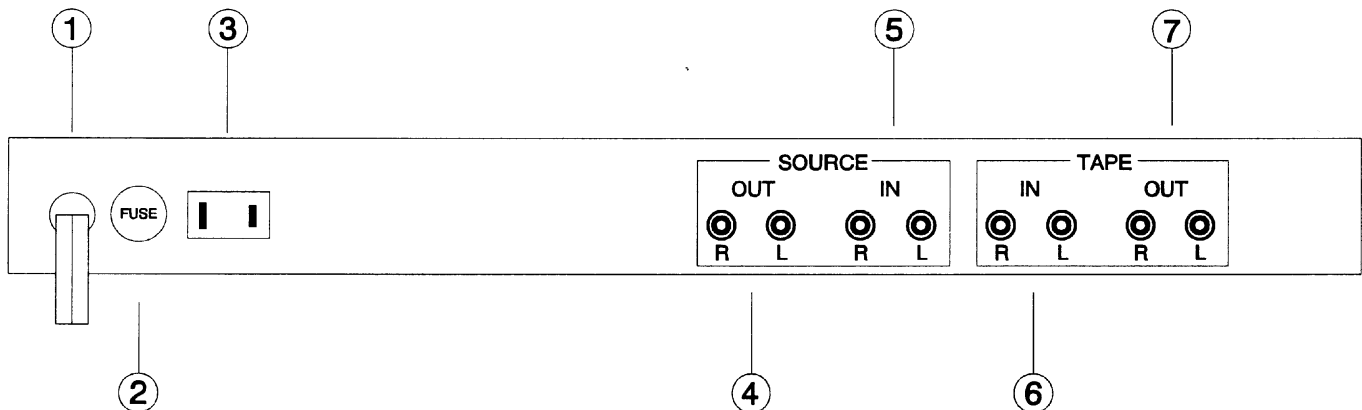
6. PROGRAM

This switch is used to select signal sources that the BBE will process. When engaged, the "tape" position, the BBE AUDIO RESTORATION SYSTEM will process the signal from the BBE's tape loop. When disengaged, the "source" position, the BBE will process the sound source as determined by the pre-amp/integrated amp. **NOTE: ONCE THE BBE IS IN THE TAPE LOOP, THE TAPE MONITOR OR LISTEN SWITCH OF THE PRE-AMP/INTEGRATED AMP MUST REMAIN IN THE MONITOR POSITION AT ALL TIMES, REGARDLESS OF THE SIGNAL SOURCE. THE BBE AUDIO RESTORATION SYSTEM'S CONTROLS CAN NOW BE USED TO SELECT SOUND SOURCES.**

7. POWER

This switch applies AC power to the **BBE AUDIO RESTORATION SYSTEM**. When the **Power Switch** is in the "ON" position, the "RED" Power LED will illuminate, indicating that power has been applied. When the **Power Switch** is not in the "ON" position, the "RED" Power LED will not illuminate.

REAR PANEL



1. **POWER CORD:** U.S. configuration: This is a standard two-pronged, polarized AC power cable for connection to any standard polarized 110Vac outlet.
2. **FUSE:** Replace **ONLY** with same type Fastblow fuse.
U.S., Canada and Japan models:
250Vac, 1/2A Fastblow
Standard model:
250Vac, .125A Fastblow
3. **AC RECEPTACLE:** This ac power receptacle is unswitched and can be used by any audio component so long as it complies with the rated power specifications: 2 amperes, 110/120Vac at 50/60Hz.

SOURCE IN/OUT

4. **OUTPUT:** The signal output of the **BBE AUDIO RESTORATION SYSTEM** is to be taken from the **RCA** jacks labelled "OUT." Refer to the "CONNECTIONS" pages for proper hook-up.
5. **INPUT:** The signal input to the **BBE AUDIO RESTORATION SYSTEM** is to be applied to the **RCA** jacks labelled "IN." Refer to the "CONNECTIONS" pages for proper hook-up.

TAPE IN/OUT

6. **INPUT:** The signal input to the **BBE AUDIO RESTORATION SYSTEM** is to be applied to the **RCA** jacks via the cassette "OUT" or "PLAY" jacks. Refer to the illustrations in the "GENERAL OPERATION" pages for proper connection.
7. **OUTPUT:** The signal output of the **BBE AUDIO RESTORATION SYSTEM** is to be connected to the "RECORD" or "INPUT" of the cassette deck. Refer to the illustrations in the "GENERAL OPERATION" pages for proper connection.



SPECIFICATIONS

**** 0dBu = 0.775mVrms ****

Frequency Response

process mode: Program controlled
bypass mode: 20Hz to 20kHz, +/-0.5dBu, -10dBu input

Noise: -85dBu

THD

process mode: less than 0.027% at -10dBu input, 20-20kHz

bypass mode: less than 0.05% at -10dBu input, 20-20kHz

Maximum Output: +14dBu (may vary due to control settings)

Input Impedance: 47k Ohms, unbalanced RCA jack

Output Impedance: 1k Ohms, unbalanced RCA jack

Sensitivity: -35dBu for maximum process

Maximum Process: +10dBu boost at 5kHz, -10dBu input

Lo Contour: +10/-10dBu adjustment at 50Hz, -10dBu input

Power Requirements: U.S., Canada and Japan models:
120VAC, 50/60Hz, 8 WATTS

Standard models:
220VAC, 50/60Hz, 8 WATTS

Fuse: Replace with the same type

FASTBLOW fuse.

U.S., Canada and Japan models:

250Vac, ½ A Fastblow type fuse

Standard models:

250Vac, .125A Fastblow type fuse

Dimensions: 16.5"(W) x 8.5"(D) x 1.7"(H)

419mm(W) x 216mm(D) x 43mm(H)

Shipping Weight: 6.5 lbs.

Note: Due to continuing product improvement, specifications and design are subject to change without notice.



GENERAL OPERATION

THE BBE AUDIO RESTORATION SYSTEM IS A LINE LEVEL SIGNAL PROCESSOR AND IS TO BE CONNECTED PRIOR TO THE POWER AMP OUTPUT IN ANY AUDIO SYSTEM. SIGNIFICANT DAMAGE MAY BE INFLICTED TO THE BBE AUDIO RESTORATION SYSTEM OR ANY SUBSEQUENT COMPONENT IN THE SYSTEM IN THE EVENT THE OUTPUT OF A POWER AMP IS CONNECTED DIRECTLY TO THE BBE AUDIO RESTORATION SYSTEM.

In order to reduce the risk of damage to any equipment, properly connect all cables and power cables before turning on any components in the system. Most important of all, **ALWAYS TURN ON THE POWER AMPLIFIER LAST TO AVOID DAMAGING THE SPEAKERS OR THE AMP.**

The **BBE AUDIO RESTORATION SYSTEM** may be utilized in a number of different environments and its results may vary accordingly. Generally, the tape loop or a processor loop of an audio system is the ideal placement. This will provide a regulated signal level, independent of the volume control, and allow the user to apply the BBE process in as many ways as possible. **ONCE THE BBE IS IN THE TAPE LOOP, THE TAPE MONITOR OR LISTEN SWITCH OF THE PRE-AMP/INTEGRATED AMP MUST REMAIN IN THE MONITOR POSITION AT ALL TIMES, REGARDLESS OF THE SIGNAL SOURCE. THE BBE AUDIO RESTORATION SYSTEM'S CONTROLS CAN NOW BE USED TO SELECT SOUND SOURCES.**

In the event a tape or processor loop is unavailable, the **BBE AUDIO RESTORATION SYSTEM** may be connected between the pre-amp and the power amp. The disadvantage of this configuration is the inability to record the BBE process to cassette and the probable need to readjust the BBE process when listening levels are changed.

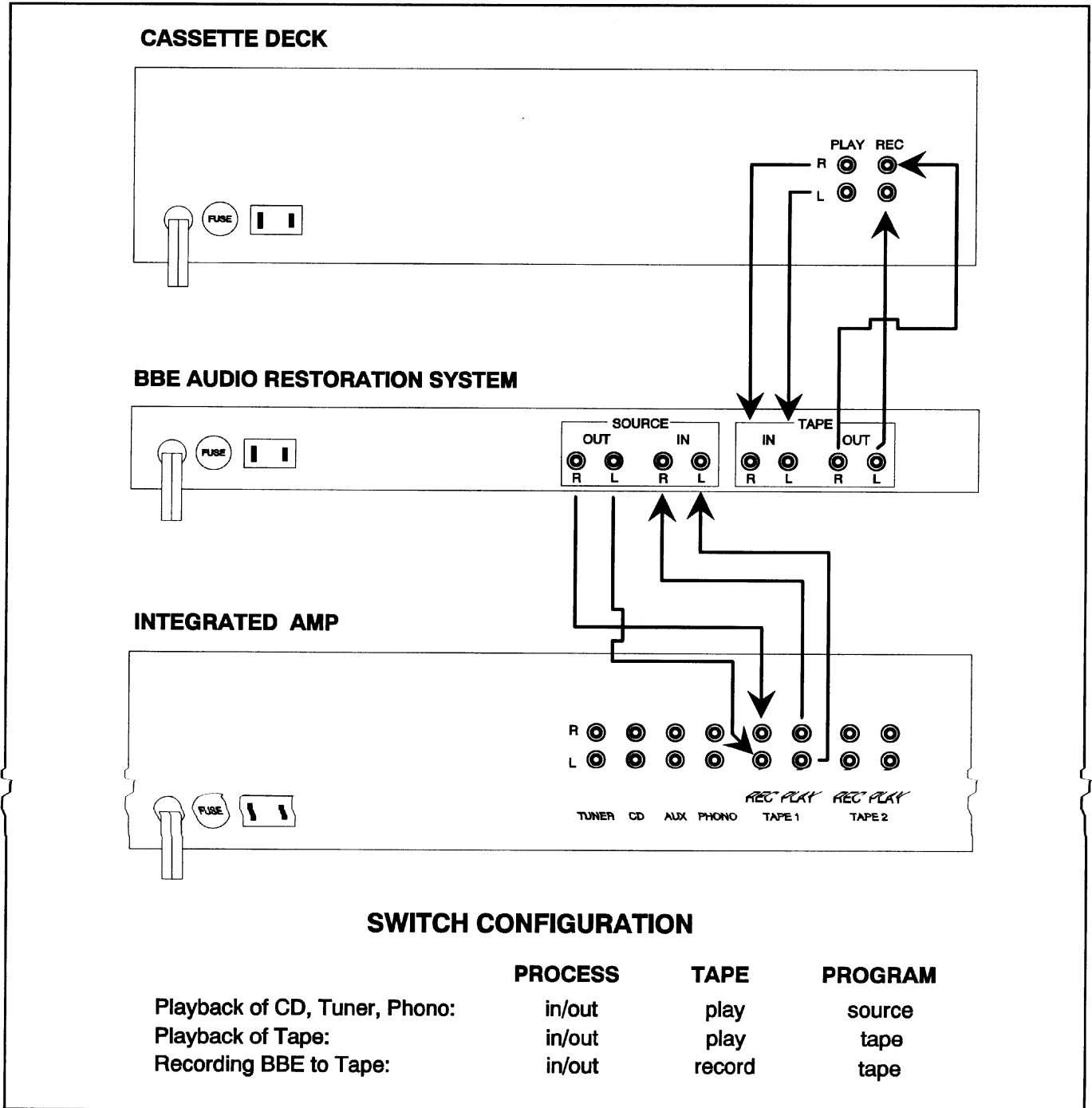
Use the following illustrations as a starting point for proper placement of the **BBE AUDIO RESTORATION SYSTEM**.



BBE AND EQUALIZATION

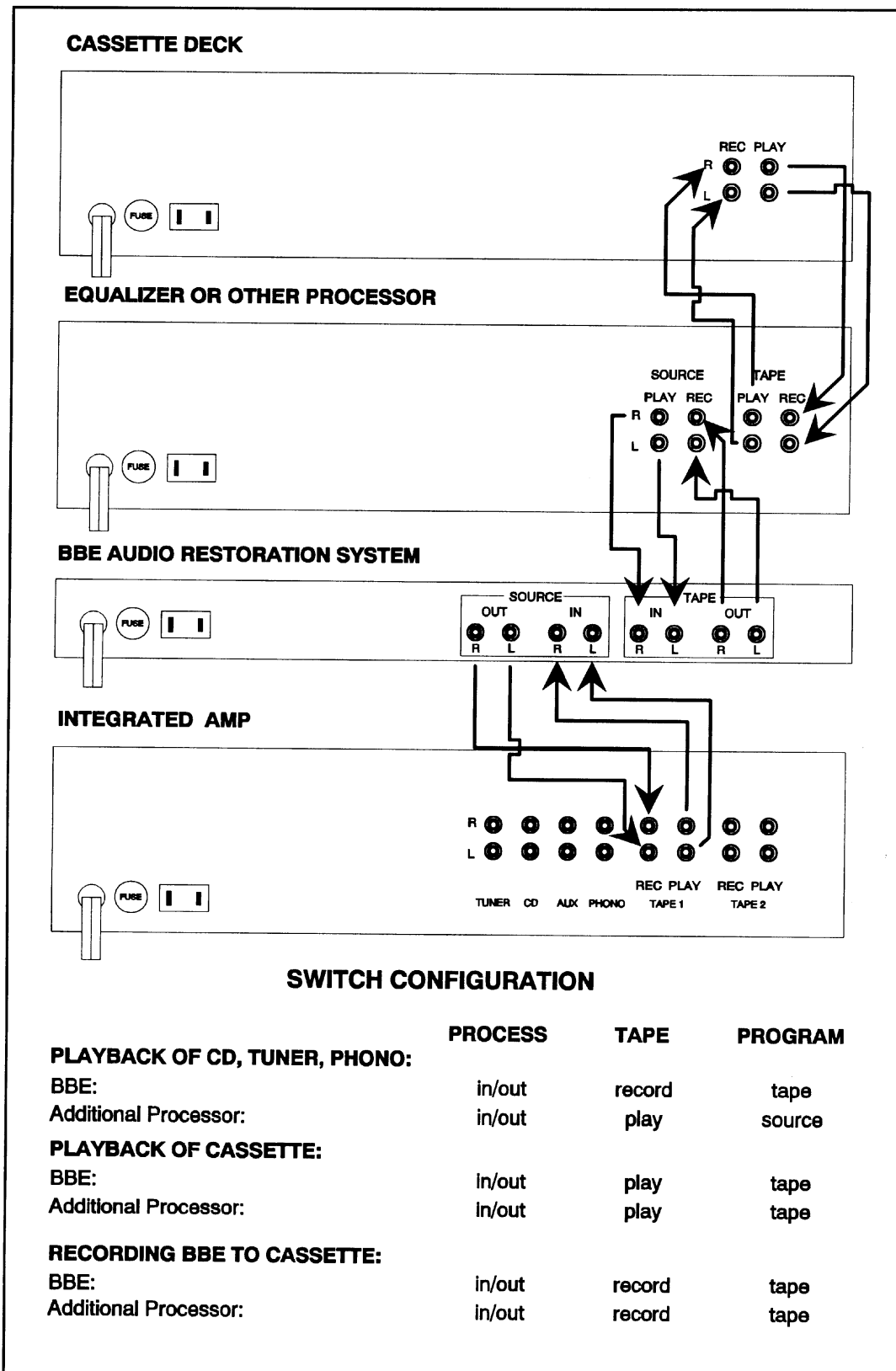
The most common question asked of the BBE Sound, Inc. service department is: "Where does the BBE Processor connect in the signal chain, before or after the equalizer?" Many people find that the same amount of equalization is no longer needed, if at all, when a BBE processor is used. Additionally, the amount of equalization used will help determine the **BBE AUDIO RESTORATION SYSTEM's** proper location in relation to the equalizer: If the EQ is being set to give the vehicle a flat response as determined by a spectrum analyzer, the **BBE AUDIO RESTORATION SYSTEM** will work properly before or after the EQ. (Placing the **BBE AUDIO RESTORATION SYSTEM** after the EQ is recommended.) If the EQ is being used for drastic tone alteration, the recommended placement would be before the EQ. Neither of these configurations will harm the **BBE AUDIO RESTORATION SYSTEM**.

INSTALLING THE BBE AUDIO RESTORATION SYSTEM INTO A TAPE OR PROCESSOR LOOP



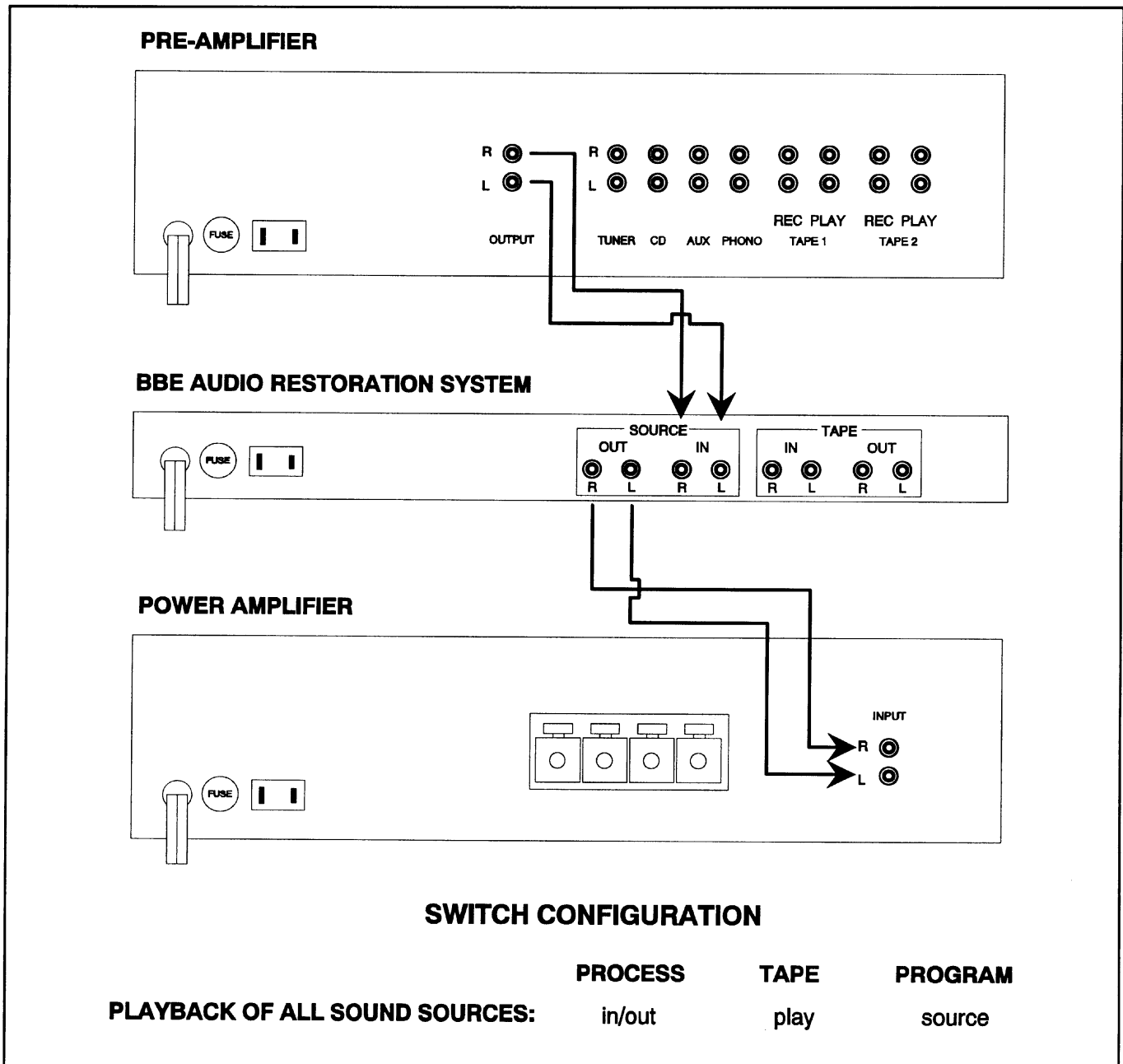
Connect the **BBE AUDIO RESTORATION SYSTEM** to the tape loop of the pre-amp/integrated amp as shown by the above illustration. Connect the cassette deck to the tape loop of the **BBE AUDIO RESTORATION SYSTEM**. Use the table above for proper switch combinations to process the proper signal source.

INSTALLING AN ADDITIONAL PROCESSOR WITH THE BBE AUDIO RESTORATION SYSTEM



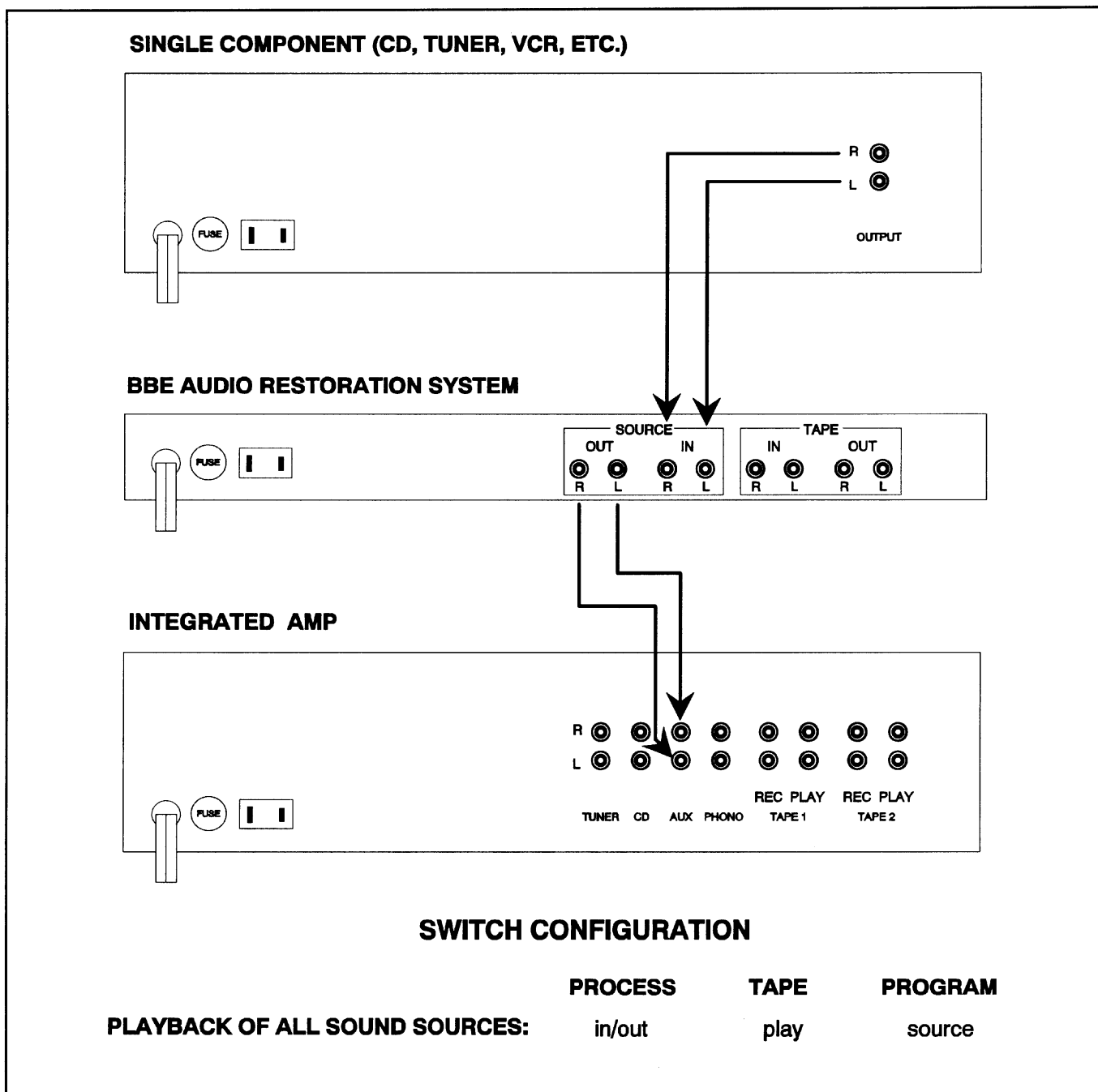
There are several ways to configure the **BBE AUDIO RESTORATION SYSTEM** with a second or even third processor. The tape loop will be the preferred location. In most cases, the order that the processors are connected is up to the listener. We at BBE recommend that the **BBE AUDIO RESTORATION SYSTEM** be the last processor in the signal chain. However, there may be instances where this is not possible--when a surround sound type processor is used for example. (See **USING THE BBE AUDIO RESTORATION SYSTEM WITH SURROUND SOUND TYPE PROCESSORS.**) Use the table above for proper switch combinations to process the proper signal source.

INSTALLING THE BBE AUDIO RESTORATION SYSTEM INTO A PRE-AMP/POWER CONFIGURATION



The **BBE AUDIO RESTORATION SYSTEM** can be placed between the pre-amp and power amp of an audio system. Connect the pre-amp output to the source input of the **BBE AUDIO RESTORATION SYSTEM**. The source output of the **BBE AUDIO RESTORATION SYSTEM** will connect to the input of the power amp. Use the table above for proper switch combinations to process the proper signal source.

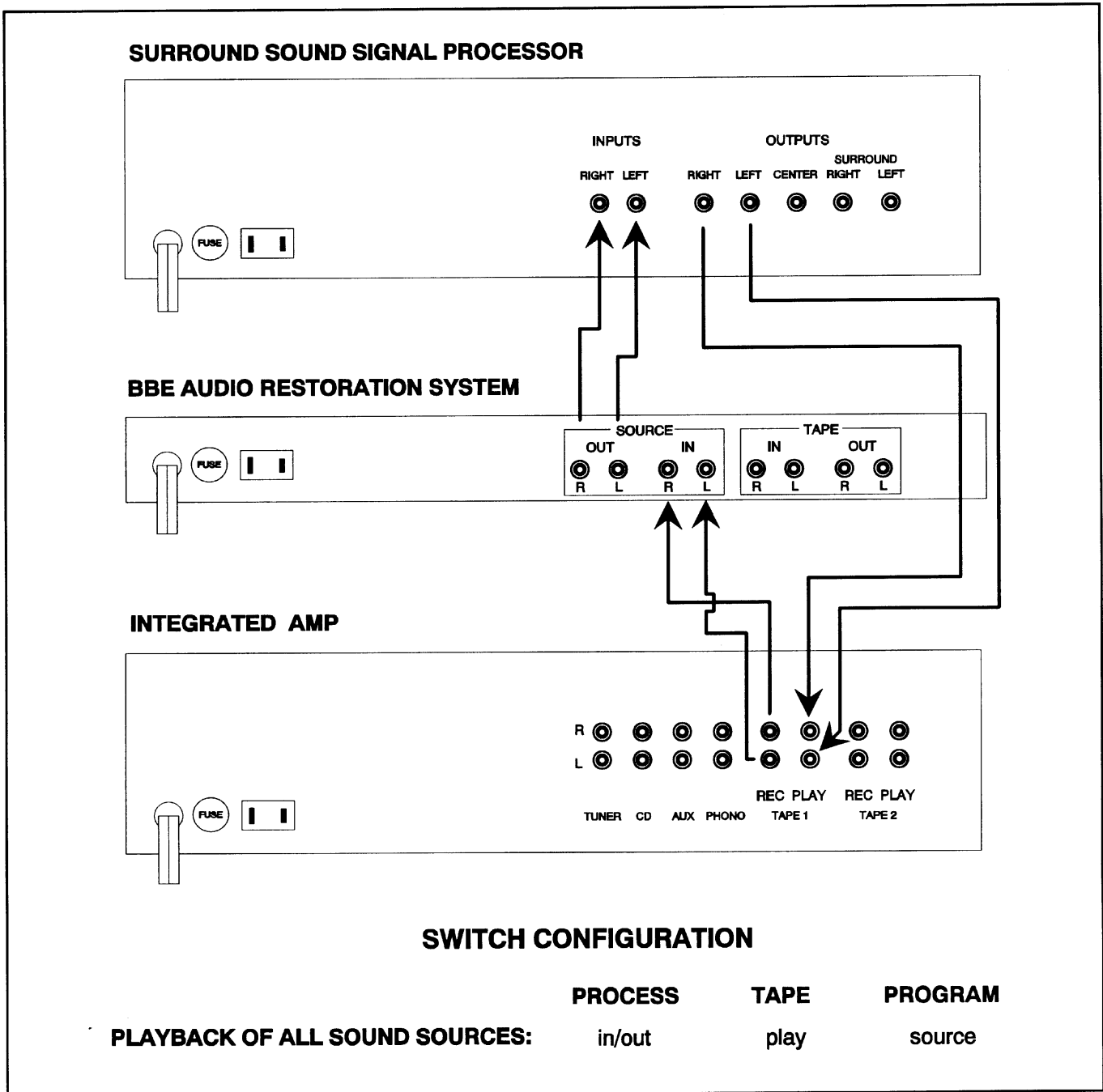
USING THE BBE AUDIO RESTORATION SYSTEM WITH A SINGLE SOURCE



In the event the **BBE AUDIO RESTORATION SYSTEM** is desired on one component only, connecting it in series with the signal source will be best. Use the table above for proper switch combinations to process the proper signal source.

▲

USING THE BBE AUDIO RESTORATION SYSTEM WITH SURROUND SOUND TYPE PROCESSORS



When possible, connect the **BBE AUDIO RESTORATION SYSTEM** processor to the tape loop of the surround sound device. If this is not possible, connect the **BBE AUDIO RESTORATION SYSTEM** immediately before the surround sound device. Use the table above for proper switch combinations to process the proper signal source.



SERVICE

We recommend that if at all possible a **BBE AUDIO RESTORATION SYSTEM** which requires service be sent to our facility in Huntington Beach, CA. We request that a "RETURN AUTHORIZATION" be issued by the dealer from whom you purchased the unit. If this is not possible, call BBE Sound, Inc. directly at (714) 897-6766, to obtain a "RETURN AUTHORIZATION." Include a copy of the bill of sale with the unit when it is shipped to BBE Sound Inc., so that the service process can be expedited.

As the repair turnaround time is minimal, we request that the unit be sent directly to BBE Sound, Inc. This helps us add reliability data to our files for use in designing future products.



MAINTENANCE

Maintenance of the **BBE AUDIO RESTORATION SYSTEM** is limited to proper cleaning of the unit with a mild household cleaner such as Formula 409™ or Windex™. The chassis and cover are steel finished with a durable polyurethane paint, while the front panel is an anodized aluminum extrusion.

There are no user replaceable parts and the unit should not be opened for any reason unless you are a qualified technician.

Calibration should be performed if parts are replaced or if a performance check-out indicates a problem with calibration. Long term use has shown that over the life of the unit there is little or no drift of the components in the **BBE AUDIO RESTORATION SYSTEM** which would cause a change in calibration. A conservative design philosophy has resulted in a piece of equipment which should give years of trouble-free service.



WARRANTY

Warranty registration of the unit to BBE Sound Inc. is not necessary. However, it is strongly recommended that a copy of the bill of sale is retained for future reference.

IT IS THE SOLE RESPONSIBILITY OF THE END USER TO PROVIDE THE BILL OF SALE OR OTHER MEANS OF PROOF OF PURCHASE TO VALIDATE THE WARRANTY IF WARRANTY SERVICE IS REQUIRED.

The **BBE AUDIO RESTORATION SYSTEM** is warranted against defects in material and workmanship for a period of five (5) years from date of purchase from BBE Sound, Inc. or from an authorized dealer.

During this period, BBE Sound, Inc. will repair units free of charge providing that they are shipped prepaid to BBE Sound, Inc., 5381 Production Drive, Huntington Beach, CA 92649. BBE Sound, Inc. will pay return UPS shipping charges within the USA. All charges related to non-US shipping, including customs clearance, will be billed. The warranty will be honored for the longer of either 90 days from the date of any service or the remainder of the original **5 year** factory warranty.

This warranty will be considered null and void by BBE Sound, Inc. if any of the following is found:

1. The equipment has been physically damaged.
2. The equipment shows signs of abuse.
3. The equipment has been electrically damaged by improper connection or attempted repair by the customer or a third party.
4. The equipment has been modified without authorization.
5. The bill of sale indicates that the purchase date of the equipment is not within the warranty period.

All non-warranty repairs are warranted for a period of 90 days from the date of service.

BBE Sound, Inc. is **NOT LIABLE FOR CONSEQUENTIAL DAMAGES**. Should the **BBE AUDIO RESTORATION SYSTEM** fail to operate for any reason, our sole obligation is to repair the unit as described above.



TEST PROCEDURES FOR BBE® AUDIO RESTORATION SYSTEM

NOTE: THIS UNIT WAS CALIBRATED AT THE FACTORY. THIS PROCEDURE IS FOR QUALIFIED SERVICE PERSONNEL ONLY.

EQUIPMENT REQUIRED:

1. Two digital Voltmeters (DVM #1 and DVM #2).
2. Audio signal source (sine wave).

INITIAL SETTINGS OF THE BBE ARS:

1. Lo contour and all internal potentiometers to their middle positions. (VR1, VR3-VR6).
2. Definition control, VR2, to minimum (completely counter-clockwise).
3. Process Switch to in.
4. Tape switch to play.
5. Program switch to source.
6. Power on.

PROCEDURE:

IN THE FOLLOWING PROCEDURE ONLY THE LEFT CHANNEL WILL BE OUTLINED. THE PROCEDURE FOR THE RIGHT CHANNEL IS IDENTICAL AND WILL BE DESIGNATED IN BRACKETS [].

POWER SUPPLY TEST:

1. With DVM set to DC volts, measure the positive end of C48. It should be less than +30Vdc.
2. With DVM set to DC volts, measure the negative end of C49. It should be less than -30Vdc.
3. With DVM set to DC volts, measure pin-4 of U1. You should read +15Vdc (+/- 0.5Vdc).
4. With DVM set to DC volts, measure pin-11 of U1. You should read -15Vdc (+/-0.5Vdc).

OFFSET ADJUSTMENT:

1. The unit should be on and the regulators should be warm to touch.
2. With no signal present at the input (open) measure TP2 [TP1] with the DVM ste to DC volts.
3. Adjust VR4 [VR6] until DVM reads 0.00Vdc.

UNITY ADJUSTMENT:

1. Input 500Hz, -10dBu signal and check the reading on DVM #1. It should be -10.50 dBu (+/- 0.75dB). (Note this reading for the next step).
2. Input 5000Hz, at -10dBu and adjust VR3 [VR5] for the same reading in step 1 (approx. -10.50 dBu).
3. Repeat steps 2 through 3 since some interaction exist.

TEST PROCEDURES continued

LO CONTOUR TEST:

1. Input 50Hz, at -10dBu and check reading on DVM #1. It should be -10dBu +/- 2dB. (Note: middle position "0").
2. Turn the lo contour control to minimum. The DVM #1 should read -22dB. (+/- 1dBu).
3. Turn the lo contour to maximum. The DVM #1 should read 0dBu. (+/-0.5dBu).

DETECTOR CHECK:

1. Input 500Hz, at -10dBu and measure TP2 [TP1]. It should read +0.500Vdc +/-0.04Vdc.
2. Input 5000Hz, at -10dBu and measure TP2 [TP1]. It should read +0.500Vdc +/-0.04Vdc.

LED CHECK:

1. With the definition control at minimum, input 500Hz, at -10B. The CHANNEL indicators should illuminate RED.
2. Turn the definition control to maximum. The LED indicator should illuminate GREEN.
3. Observe the power LED. It should illuminate RED at all times.

SWITCHING CHECK:

IN THE FOLLOWING PROCEDURE, THE BBE ARS WILL BE BYPASS MODE (PROCESS OUT). THE OUTPUT WILL BE READ IN dB BY DVM #1 AND SHOULD BE -10dBu +/- 1.0dB FOR ALL TESTS. CHECK BOTH CHANNELS.

SOURCE IN/SOURCE OUT TEST:

1. Set the BBE ARS TAPE switch to PLAY and the PROGRAM switch to SOURCE.
2. DVM #1 should read -10dBu +/-1.0dBu.

TAPE PLAY TEST:

1. Set the BBE ARS TAPE switch to PLAY and the PROGRAM switch to TAPE.
2. DVM #1 should read -10dBu +/- 1.0dBu.

TAPE RECORD TEST:

1. Set the BBE ARS PROGRAM switch to TAPE and the TAPE switch to RECORD.
2. DVM #1 should read -10dBu +/- 1.0dBu.
3. Set the BBE ARS PROGRAM switch to TAPE and the TAPE switch to RECORD.
4. DVM #1 should read -10dBu +/- 1.0dBu.

DC VOLTAGE AT OUTPUT TEST:

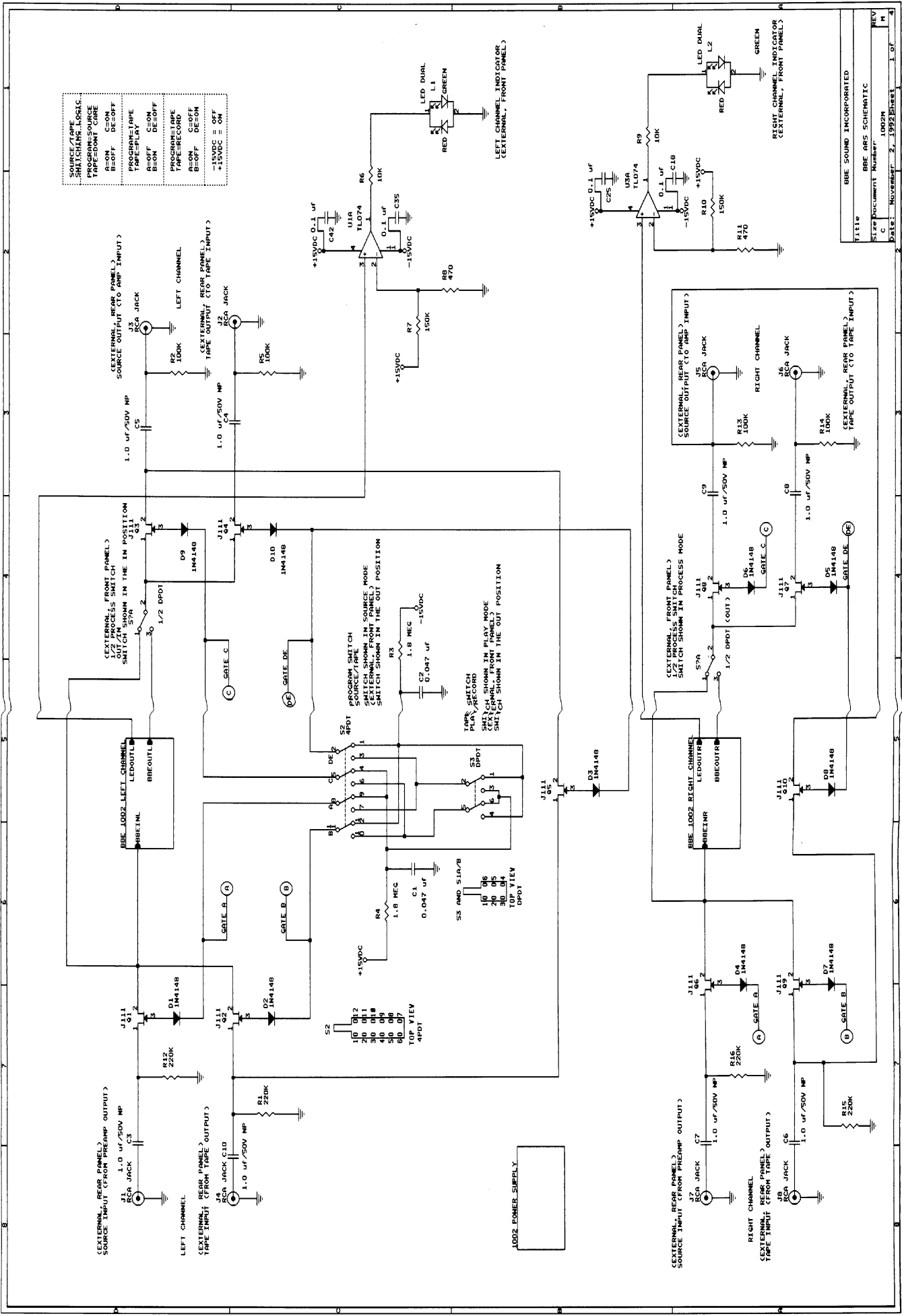
1. Measure the output jacks to ground with the DVM set to DC volts. The voltage must be less than 10mVdc.

OFFSET DRIFT TEST:

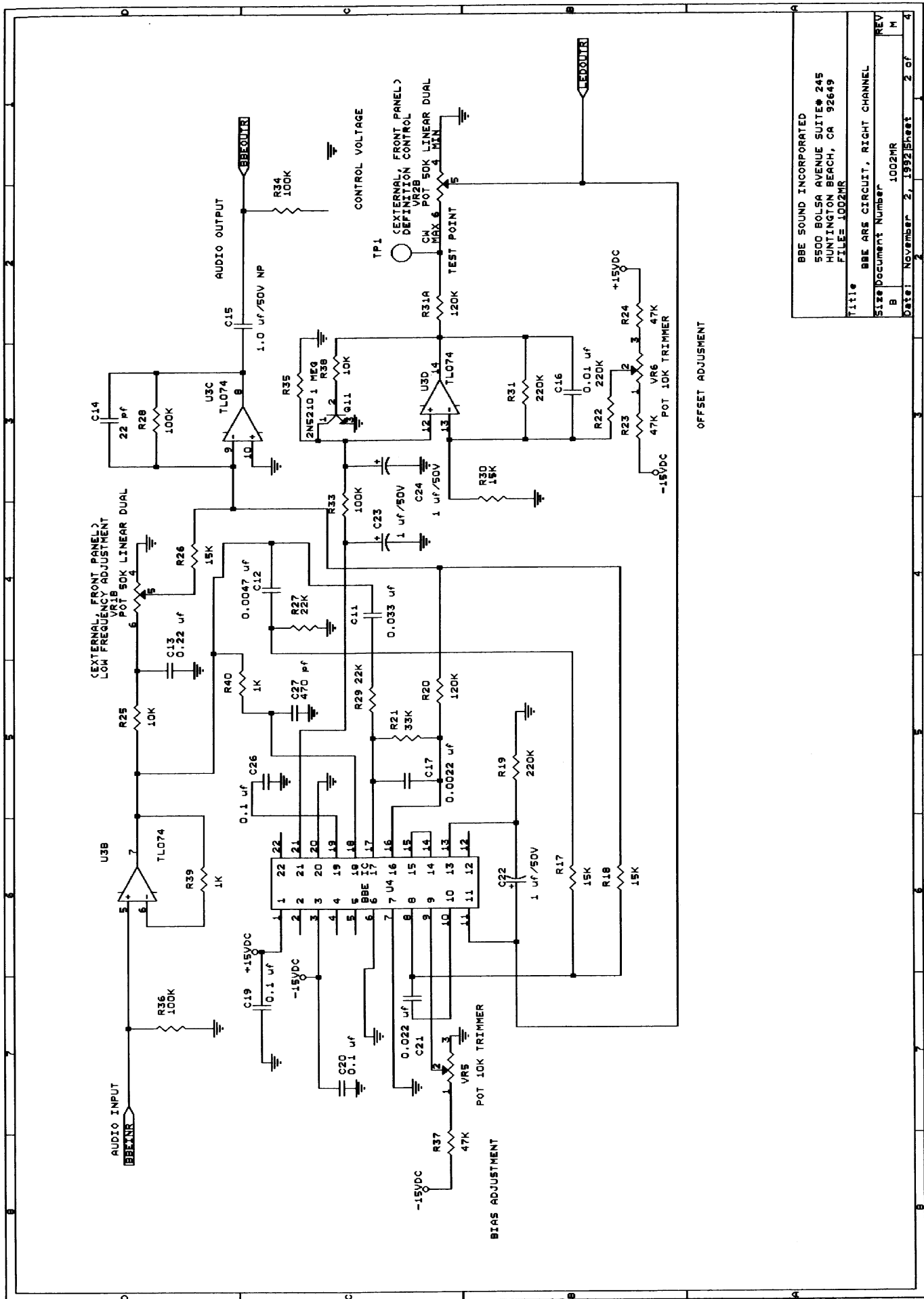
1. With no signal present at the input (open) measure TP1L [TP1R] with the DVM set to DC volts.
2. Insure this voltage is 0.00Vdc (+/- 25mVdc).

END TEST

Revision M, November 2, 1992

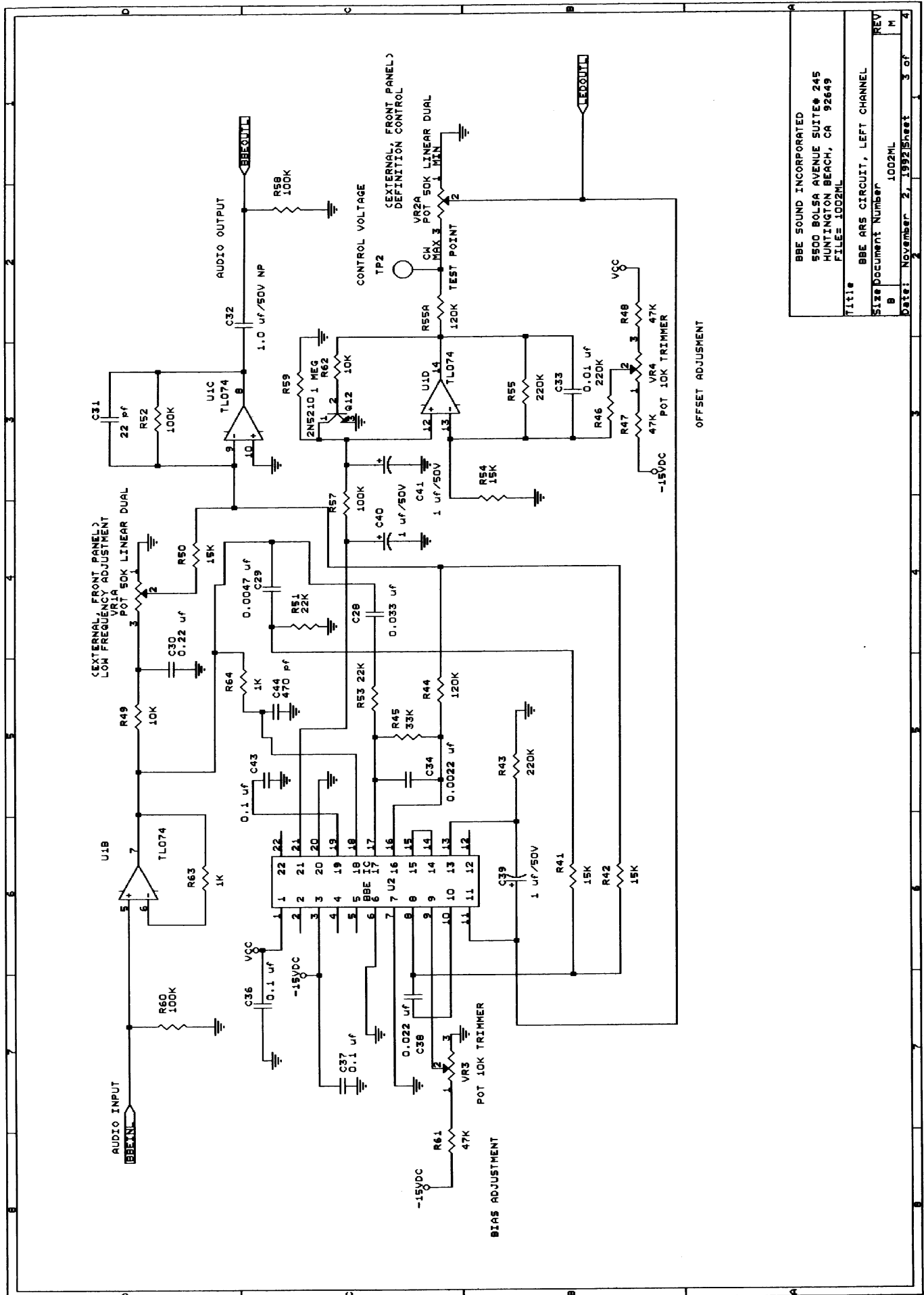


BBE SOUND INCORPORATED
 Title BBE ARS SCHEMATIC
 Size Document Number 1002M
 Date November 7, 1992
 REV 4



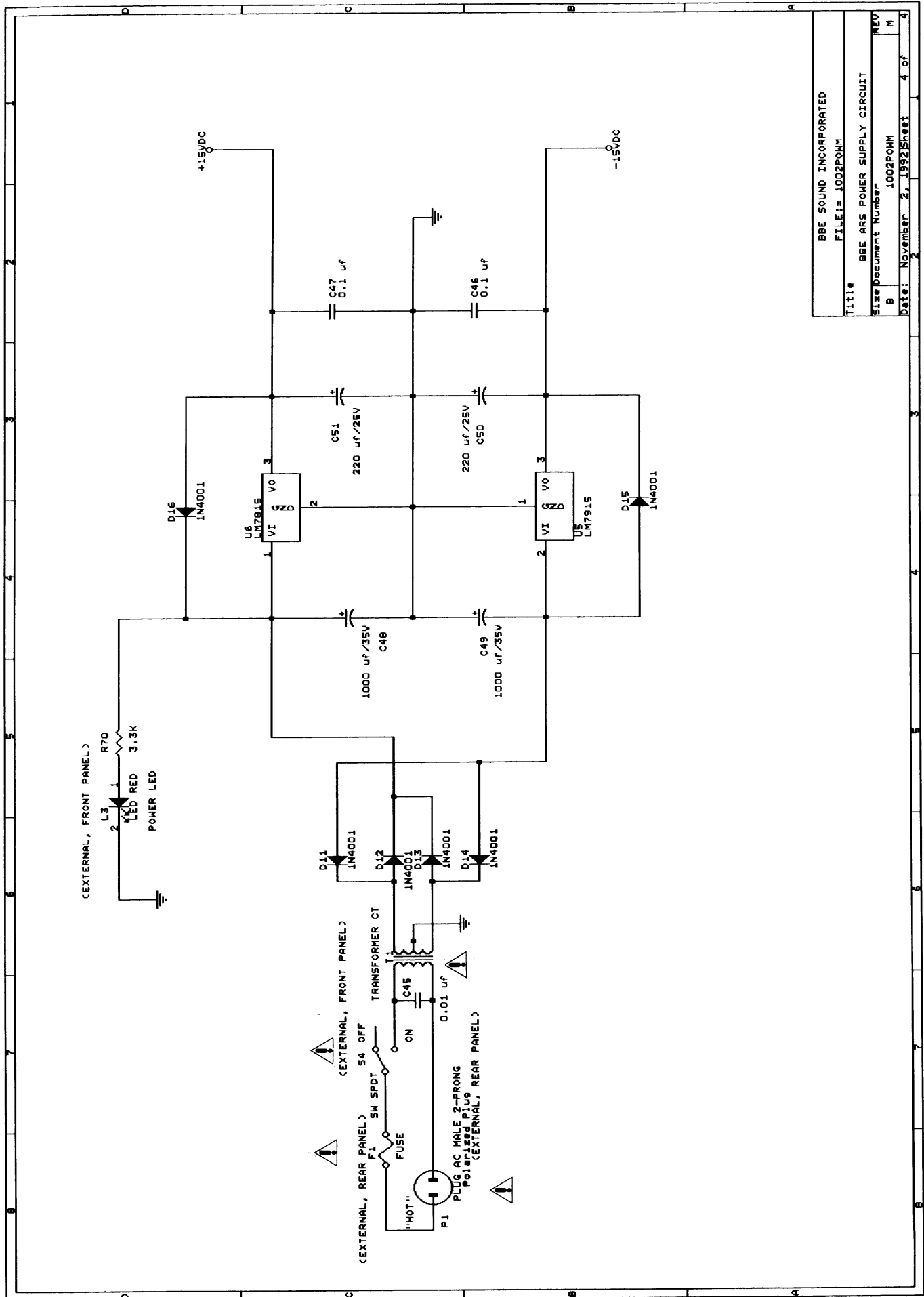
BBE SOUND INCORPORATED
 5500 BOLSA AVENUE SUITE# 245
 HUNTINGTON BEACH, CA 92649
 FILE# 1002MR

Title: BBE ARS CIRCUIT, RIGHT CHANNEL
 Size: Document Number 1002MR
 REV H
 Date: November 2, 1992 Sheet 2 of 4



OFFSET ADJUSTMENT

BBE SOUND INCORPORATED 5500 BOLSA AVENUE SUITE# 245 HUNTINGTON BEACH, CA 92649 FILE# 1002ML	
Title	BBE ARS CIRCUIT, LEFT CHANNEL
Size/Document Number	1002ML
Date	November 2, 1992 Sheet 3 of 4
REV	M



BBE SOUND INCORPORATED	
Title	FILE: 1002P0HM
BBE ARS POWER SUPPLY CIRCUIT	
Size Document Number	REV
B	M
Date: November 2, 1992	Sheet 4 of 4

BBE[®] **Sound, Inc.**

***5381 Production Drive
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*Covered by U.S. Patent 4,482,866 and other U.S. and foreign patents pending.
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