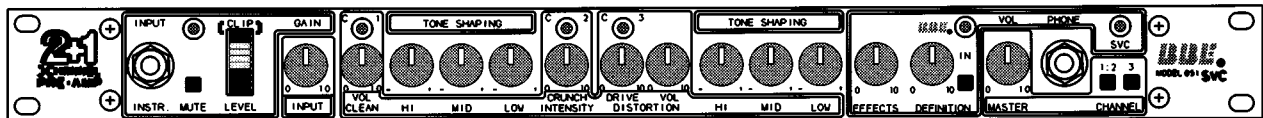


BBE[®]
Sound Inc.

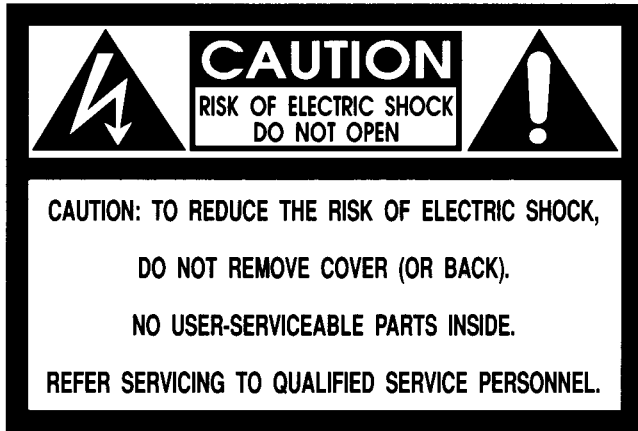
MODEL 651 GUITAR PREAMP

USER MANUAL



5500 Bolsa Ave., Suite 245
Huntington Beach, CA 92649
(714) 897-6766 FAX (714) 895-6728
BBE is the registered trademark of BBE Sound. Inc.

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.

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.

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.

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.

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

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 Model 651 Guitar Pre-amp! This **three channel** guitar pre-amp offers flexibility unequalled in today's market place. With the BBE 651's three channels, the player is able to achieve some of the most traditional American cleans, California classic warm overdrives, and the most dynamic "touch responsive" distortion of any pre-amp. The "touch response" is derived by using high impedance input **JFET** and **MOSFET transistors** in the distortion circuitry to closely resemble the warmth and richness of tube amplifiers. Because all the controls are front panel mounted, the status of each can be known at a glance. Fine tuning any parameter can be done quickly and accurately. (The LED indicator for the **Speaker Voicing Circuit** is on the front panel, the switch for the **SVCtm** is located on the rear panel.)

In addition, the BBE 651 Guitar Pre-amp is packed with features that will allow the player to get the most from his/her creative talents. Whether in the studio or on stage, these features will indulge players of any style or caliber:

1. Custom BBE® circuit for increased tonal quality and intelligibility with a built-in noise suppressor.
2. Active three band **Tone Shaping Controls** for both the **Clean/Crunch Channels** and the **Distortion Channel**.
3. A switchable "**Speaker Voicing Circuit**," **SVCtm**, allows the user to plug directly into a mixing console or to record direct to tape and still have that full, rich, cabinet sound that the player enjoys hearing. The importance of this feature is most evident in eliminating the need to transport a speaker cabinet or the use of microphones for sound reinforcement.
4. A **Stereo Effects Loop** with an adjustable return level, to interface the BBE 651 with the most popular of effects processors.
5. **Stereo Headphones** driver for those late night practice sessions or a final sound check before the show.
6. An output **Mute Switch** to attenuate the final output 60dBu between songs or while monitoring through the headphones.
7. A **Tuner Output Jack** that allows the insertion of a tuner without actually entering the audio signal chain.
8. A **Front Panel Input** along with a **Rear Input** allows for easy interfacing with any guitar sound system.
9. An **Input Gain** stage with an **LED Bar Display** for accurate level matching between the guitar's pickup level and the BBE 651 guitar pre-amp.
10. The **FS-500 Footswitch** is included to operate, at the user's option, the BBE 651 switching functions at a touch of the foot. The **FS-500 Footswitch** defeats the corresponding front panel controls while operating with a standard guitar or speaker cable!

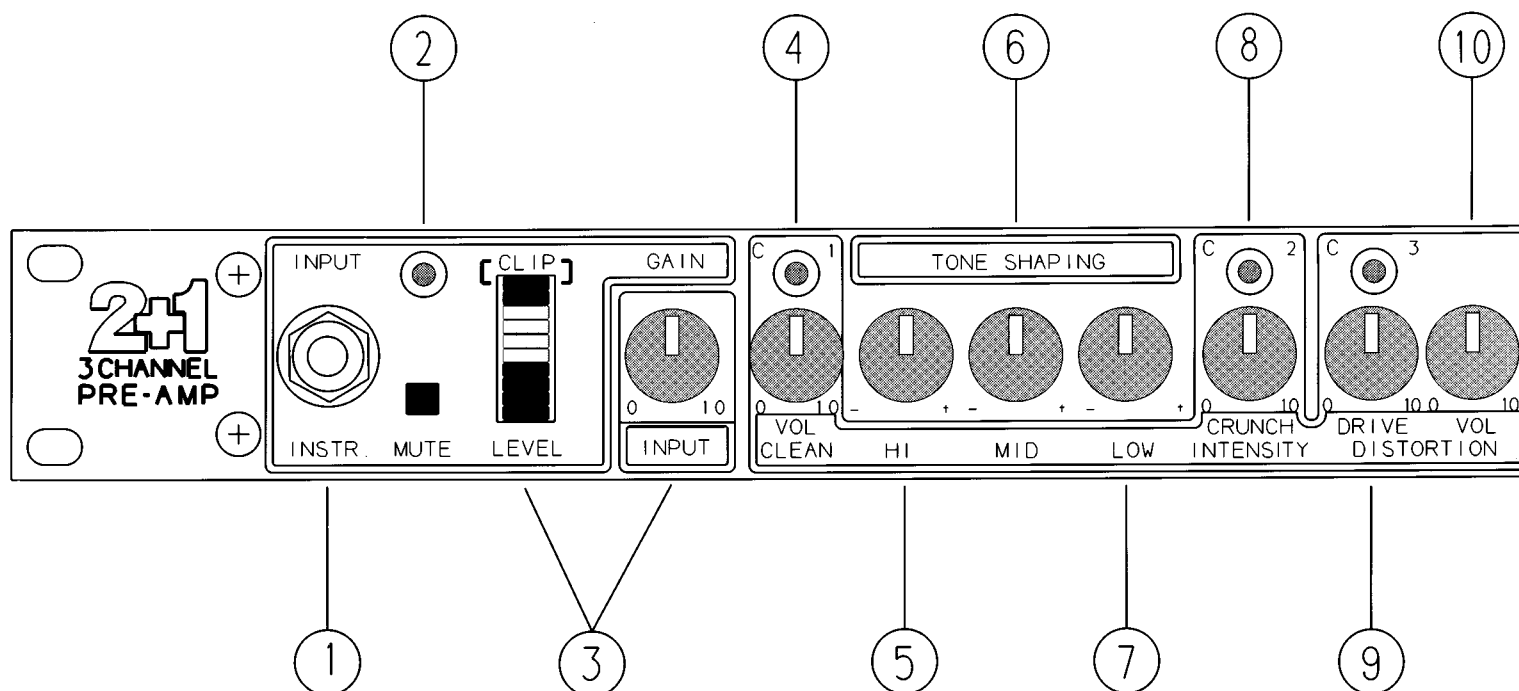
The following sections will provide detailed information on all of the BBE 651's functions.

IMPORTANT

Before you begin, please check the contents within this box to insure that included are:

1. The BBE 651 Guitar Pre-amp.
2. The FS-500 Function Select Footswitch.
3. A 25' two conductor cable.
4. BBE 651 User's manual.

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



CONTROLS AND CONNECTIONS

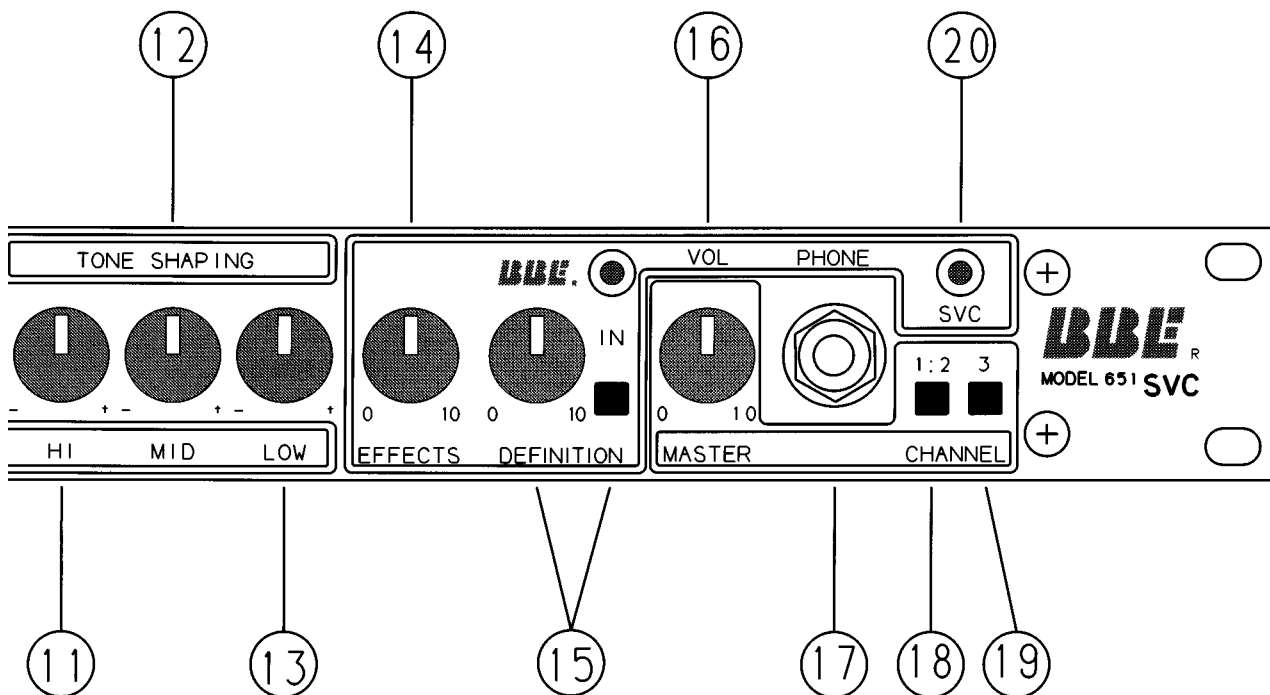
FRONT PANEL

Input

1. **INSTR' INPUT:** This jack allows for the connection of the guitar to the BBE 651 pre-amp. With the use of the **Input Gain Control**, it can accommodate almost any input level: a guitar or bass guitar, keyboard, etc. Additionally, the **Front Panel Input** has priority over the **Rear Panel Input**. This will allow for easy access to another sound source without the inconvenience of reaching behind the rack. (See the Rear Panel section for more details on the **Rear Input**.)
2. **MUTE:** This button attenuates the main **Stereo Outputs** of the BBE 651 pre-amp by 60dB. When depressed, the "Red" LED illuminates, indicating that the outputs have been attenuated. The sound, however, can be monitored through the headphones which are active regardless of the **mute** switch status. When pressed a second time, the "Red" LED will turn off, reactivating the main **Stereo Outputs**.
3. **INPUT GAIN:** When the **Clean/Crunch Channel** is selected, this knob will provide gain of up to 10X to precisely match the level of the guitar's pick-ups as indicated by the **LED Bar Display**. To avoid any unwanted distortion on the **Clean Channel**, adjust the **Input Gain Control** to illuminate only the first "RED" LED of the bar display on the loudest note or chord of the guitar. The top most "RED" LED indicates that the input signal is too large, or is "clipping." The **Input Gain Control** is effective for the **Clean/Crunch Channel** only. (The **Distortion Channel** is provided with a fixed input gain of over 1000X.) **Note: It is possible to increase the amount of overdrive to the Crunch Channel by increasing the Input Gain, but remember, this will also affect the Clean Channel.**

Clean Channel

4. **VOLUME:** Use this control to balance the **Clean/Crunch Channels** volume to that of the **Distortion Channel** as desired.
5. **HIGH:** This control adjusts the amount of high frequency content, cornered at 2.5kHz, within the channel. Turning the knob to its maximum position (clockwise) boosts the high frequencies +12dBu. Turning the knob to the minimum position (counter-clockwise) reduces the high frequency content -12dBu. The middle position would be considered as flat or no change.



- 6. **MID:** This control adjusts the amount of mid range frequency content, centered at 400Hz, within the channel. Turning the knob to its maximum position (clockwise) boosts the mid range frequencies +12dBu. Turning the knob to the minimum position (counter-clockwise) reduces the mid range frequency content -12dBu. The middle position would be considered as flat or no change.
- 7. **LOW:** This control adjusts the amount of low frequency content, cornered at 100Hz, within the channel. Turning the knob to its maximum position (clockwise) boosts the low frequencies +12dBu. Turning the knob to the minimum position (counter-clockwise) reduces the low frequency content -12dBu. The middle position would be considered as flat or no change.

Crunch Channel

The **Crunch Channel** shares common **Tone Shaping Controls** with those of the **Clean Channel**. Therefore, the desired settings for the **Clean Channel** will effect the **Crunch Channel** in the same way. (See the above section for specific details).

- 8. **CRUNCH:** This knob controls the amount of overdrive that is applied to the **Clean Channel**. (Thus creating the second channel.) Completely counter-clockwise would be considered minimum overdrive. Turning the knob clockwise increases the amount of overdrive to the **Clean Channel**. **Note: The Input Gain Control will also effect the amount of overdrive that may be achieved with this channel.**

Drive

- 9. **DRIVE:** This knob controls the amount of distortion that is applied to the third channel. Minimum distortion occurs with the knob turned completely counter-clockwise. Turning the knob clockwise increases the amount of "touch responsive" distortion and sustain. **Note: The degree of "touch response" diminishes as the Drive level increases.**
- 10. **VOLUME:** This knob controls the volume of the **Distortion Channel**. Use this knob to balance the volume between the **Distortion** and **Clean/Crunch Channels** as desired.
- 11. **HIGH:** This control adjusts the amount of high frequency content, cornered at 2.5kHz, within the channel. Turning the knob to its maximum position (clockwise) boosts the high frequencies +12dBu. Turning the knob to the minimum position (counter-clockwise) reduces the high frequency content -12dBu. The middle position would be considered as flat or no change.

12. **MID:** This control adjusts the amount of mid range frequency content, centered at 1kHz, within the channel. Turning the knob to its maximum position (clockwise) boosts the mid range frequencies +12dBu. Turning the knob to the minimum position (counter-clockwise) reduces the mid range frequency content -12dBu. The middle position would be considered as flat or no change.
13. **LOW:** This control adjusts the amount of low frequency content, cornered at 100Hz, within the channel. Turning the knob to its maximum position (clockwise) boosts the low frequencies +12dBu. Turning the knob to the minimum position (counter-clockwise) reduces the low frequency content -12dBu. The middle position would be considered as flat or no change.

Stereo Effects Return

14. **EFFECTS:** This control adjusts the volume of the stereo effect's signal that will be mixed with the guitar's signal. Completely counter-clockwise would be considered minimum effect. Turning the knob clockwise will increase the mix of effect signal to guitar signal. **Note: If the effector is monaural, either return may be used. Therefore both of the main outputs will receive the same mono signal.**

BBE® Process

15. **BBE:** This control introduces the **BBE® process** which has been specially modified for the BBE 651 pre-amp. The BBE® process gives the user a more detailed perception of tonality, added "bite" and an increase in clarity. The low end of the guitar will be tightened without losing its thunderous effects--all without adding or creating any additional noise or harmonic distortion. When the knob is in its minimum position, no process is taking effect and the circuit is in its noise suppression mode. Turning the knob clockwise will induce the BBE® process. Adjust the knob to mix the desired amount of process for your own needs. The BBE® process also has its own in/out switch for comparison of the processed to unprocessed signal on the front panel of the BBE 651 or on the **FS-500 Footswitch**. Experiment with the process. Use the BBE® as an extension to the Tone Shaping Controls. Please note that the BBE® process is not an effect, but an improvement. A good place to start with the BBE® process is to set the knob to its 12 o'clock position and adjust accordingly. In addition, the BBE® process is applied before the effects send.

Master Volume/Headphone Level

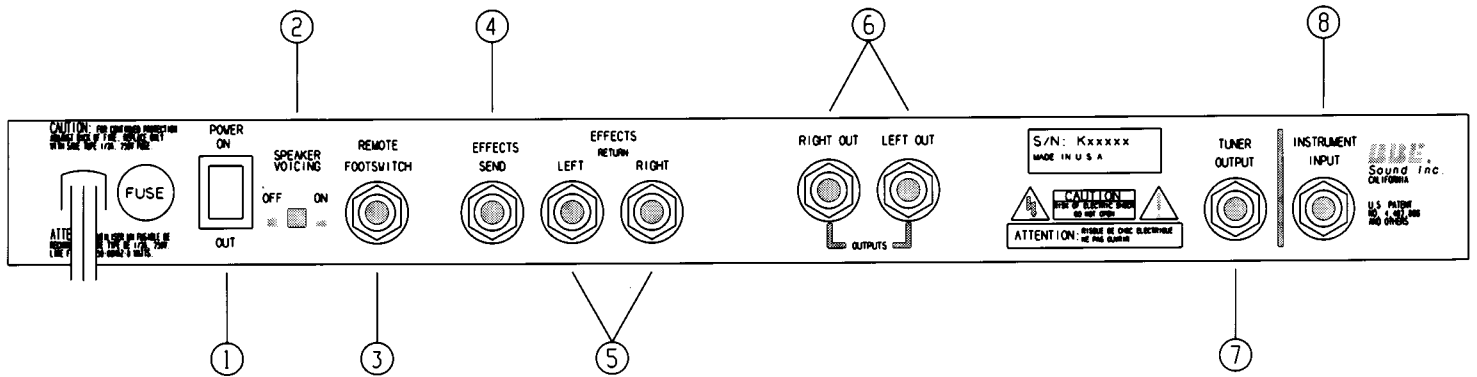
16. **MASTER/ PHONES:** This control serves a dual function on the BBE 651 pre-amp. First, as a **Master Output volume control:** the overall output volume may be changed without affecting the channel balance that had been established at sound-check. Secondly, as a level control for the **Headphone Output:** adjust to any desired listening level or to overcome any ambient noise condition.
17. **PHONES JACK:** This jack is for connecting a set of stereo headphones with an impedance ranging from 8 to 600 ohms.

Channel Select

18. **CHANNEL SELECT: 1 & 2:** This button allows for the selection between the **Clean and Crunch Channels** of the BBE 651 pre-amp. When in the out position, the "GREEN" LED will illuminate, indicating that the **Clean Channel** has been selected. When depressed, (the "IN" position), the "GREEN" and the "YELLOW" LED will illuminate indicating that the **Crunch Channel** has been activated. This function may also be controlled by the BBE **FS-500 Footswitch**.
19. **3:** This button is an on/off button for the **Distortion Channel**. When it is depressed, the "RED" LED will illuminate indicating that **Distortion Channel** has been selected. When pressed a second time, the "RED" LED will turn off and the pre-amp will go back to its original channel status. (Either **Clean** or **Crunch** depending on the position of the 1/2 Switch.) This function may also be controlled by the BBE **FS-500 Footswitch**.

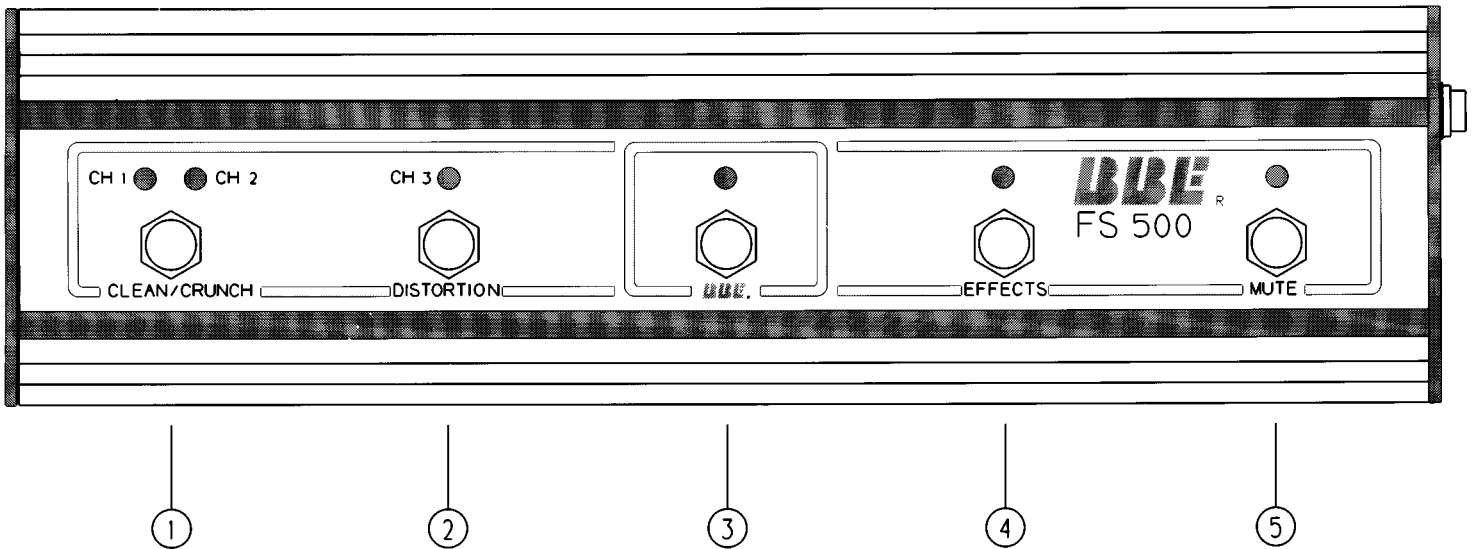
Speaker Voicing Circuit

20. **SVC LED:** This "GREEN" LED will illuminate when the **Speaker Voicing Circuit** has been activated via the rear panel switch. (See the Rear Panel section for the control switch and a complete description of the **SVCtm** operation.)



REAR PANEL

1. **POWER:** This switch supplies AC power to the BBE 651 pre-amp.
2. **SPEAKER VOICING CIRCUIT:** This button, when engaged, activates the *SVCtm* (**Speaker Voicing Circuit**) as indicated by the front panel LED. The *SVCtm* is a unique voicing circuit that has been specially tailored to simulate a guitar speaker cabinet. It enables the BBE 651 pre-amp to be connected directly to any mixing console or tape deck, thus eliminating any need to "mic" the speaker cabinet or transport any unnecessary equipment--all without inducing "the fuzz" that would normally accompany such action. The **Main Outputs** or the **Headphone Output** may be used to monitor the **Speaker Voicing Circuit**.
3. **REMOTE FOOTSWITCH:** Use this jack to connect the **FS-500 Footswitch** to the BBE 651 pre-amp, via the two conductor cable that is supplied. All of the BBE 651 pre-amps major switching functions can be controlled via the **FS-500 Footswitch**. **NOTE: All of the front panel switches will be defeated while the FS-500 is connected. Any guitar or speaker cable, up to 100 feet in length, may be used to connect the FS-500 Footswitch to the BBE 651 Pre-amp.**
4. **EFFECTS SEND:** Use this jack to connect the BBE 651 pre-amp to an effects processor's input. This level is approximately -10dBu depending upon the status of the channel's **Tone Shaping Controls** and **Volume** levels.
5. **EFFECTS RETURN:** Use these jacks, **Left** and **Right**, to connect to an effects processor's stereo output. If the effector is monaural, either return jack may be used. The processed signal will then be the same at both the **Main Output** and **Headphone** mix.
6. **STEREO OUTPUTS:** These **Right** and **Left** **balanced 1/4" outputs**, using tip-ring-sleeve configuration, connect the BBE 651 to the next subsequent component in the system. Whether it be a power amplifier, guitar amplifier, mixing console or tape deck, the BBE 651 will be able to accommodate the input level required. A monaural plug inserted into either output will electronically switch the outputs to unbalanced operation without any signal loss.
7. **TUNER OUTPUT:** This **Output** jack is used as a buffered signal feed, with a gain of three times, to feed any guitar tuner. Whether it is a pocket sized tuner or a sophisticated rack mounted tuner, the guitar signal will remain completely isolated from that of the tuner's signal.
8. **INPUT:** This **Input** is a handy way of configuring a rack system that utilizes multiple pre-amps or a wireless system. Because the input is on the back, no cables will need to return to the front of the rack, thus eliminating the need to leave an unused rack space for cable returns. Remember that the **Front Panel Input** has priority: The **Rear Panel Input** will be electronically defeated when the **Front Panel Input** is being utilized.



FS-500 Footswitch

IMPORTANT: All of the front panel switches will be defeated when the BBE FS-500 footswitch is connected.

This patent pending switching circuit will add flexibility to any performance whether live or in the studio.

The **FS-500 Five Function Footswitch** is supplied with the BBE 651 pre-amp to control all of the primary switching functions of the BBE 651 guitar pre-amp at the user's option.

1. The **Clean/Crunch Switch** allows for the selection of either the **Clean** or the **Crunch Channel** at the touch of a foot. The LED's on the footswitch will illuminate in the same manner in which the front panel LED's illuminate. (See the **Front Panel** controls section.)
2. The **Distortion Switch** turns off the **Clean/Crunch Channel** and turns on the **Distortion Channel**. Depressing the switch a second time changes the BBE 651 back to its previous state. The footswitch LED will work in conjunction with that of the front panel LED. (See the **Front Panel** controls section.)
3. The **BBE® Switch** activates the BBE® process. Use the front panel control to adjust the specific amount of process required. The LED for the BBE® process will work in conjunction with that of the front panel. (See the **Front Panel** controls section.)
4. The **Effects Switch** activates the effects return. Use the front panel control to determine how much of the effect's signal is mixed with the "dry" signal.
5. The **Mute Switch** activates the output mute function on the BBE 651 pre-amp. When engaged, the signal present at the stereo output jacks will be attenuated by 60dB but can still be monitored through the **Headphone Output**. The LED will work in conjunction with that of the front panel LED. (See the **Front Panel** controls section.)

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

Calibration of the guitar's output level to the **BBE 651 Guitar Pre-amp** is the first essential step in getting started. Select either the **Clean** or the **Crunch Channel** via the front panel switch or the **FS-500 Footswitch**. While playing the loudest individual note or chord on the guitar, adjust the **Input Gain Control** to illuminate the first "Red" LED on the **LED Bar Display**. The second "Red" LED will indicate that the input signal is too high and may lead to premature distortion. But to take this point one step further, inducing input distortion may be desired to increase the amount of overdrive on the **Crunch Channel**. (The **Input Gain Control** is bypassed when **Distortion Channel** has been selected.)

Setting the **Tone Shaping Controls** for the desired tone quality would be considered the next step. The **Tone Shaping Controls** are configured of active circuitry and frequency tailored for their designated channel. This allows for a wide range of adjustment, cutting or boosting their designated frequencies, without affecting the adjacent **Tone Shaping Control**. With the addition the wide variety of the tonal characteristics from guitar to guitar, the **BBE 651's Tone Shaping Controls** will enable the player to achieve virtually any tone desired.

The **BBE® process** is a unique feature that only the **BBE 651 Guitar Pre-amp** possesses. The **BBE® process**, most noted for its ability to increase the clarity and the tonal quality of the music program, is achievable without adding unwanted noise or harmonic distortion. Use this feature as an extension of the **Tone Shaping Controls** and as means of improving the overall tonality of the guitar's signal. Use the front panel switch or the **FS-500 Footswitch** to compare the processed to unprocessed sound. The advantage of having the **BBE® process** will be further emphasized when used in conjunction with effects processors.

The **SVCtm** is welcome feature for any player who is constantly mobile or where space and volume levels are prohibitive. The connection of the **BBE 651 Guitar Pre-amp** directly to a mixing console or tape recorder while maintaining a warm guitar cabinet sound is now possible. Additionally, inconvenience of "miking" or transporting a guitar speaker cabinet is eliminated. For greater flexibility, the **SVCtm** circuit may be defeated via the rear panel **Speaker Voicing Switch** to allow the **BBE 651** to be connected into an existing guitar amp or speaker cabinet. Use the **SVCtm** circuit while monitoring the guitar signal through the **Headphone Output** for "quiet" practice sessions.

The **Master Volume Knob** serves a dual function. It will adjust the final output volume and the headphones volume simultaneously. This convenience is most noticeable when an instant volume change is required without affecting the level balance of the three channels. Use the **Mute switch**, via the front panel or **FS-500 Footswitch**, for an instantaneous 60dB reduction on the main output level. (The final output signal may be monitored through the **Headphone Output** regardless of the **Mute Switch** position.)

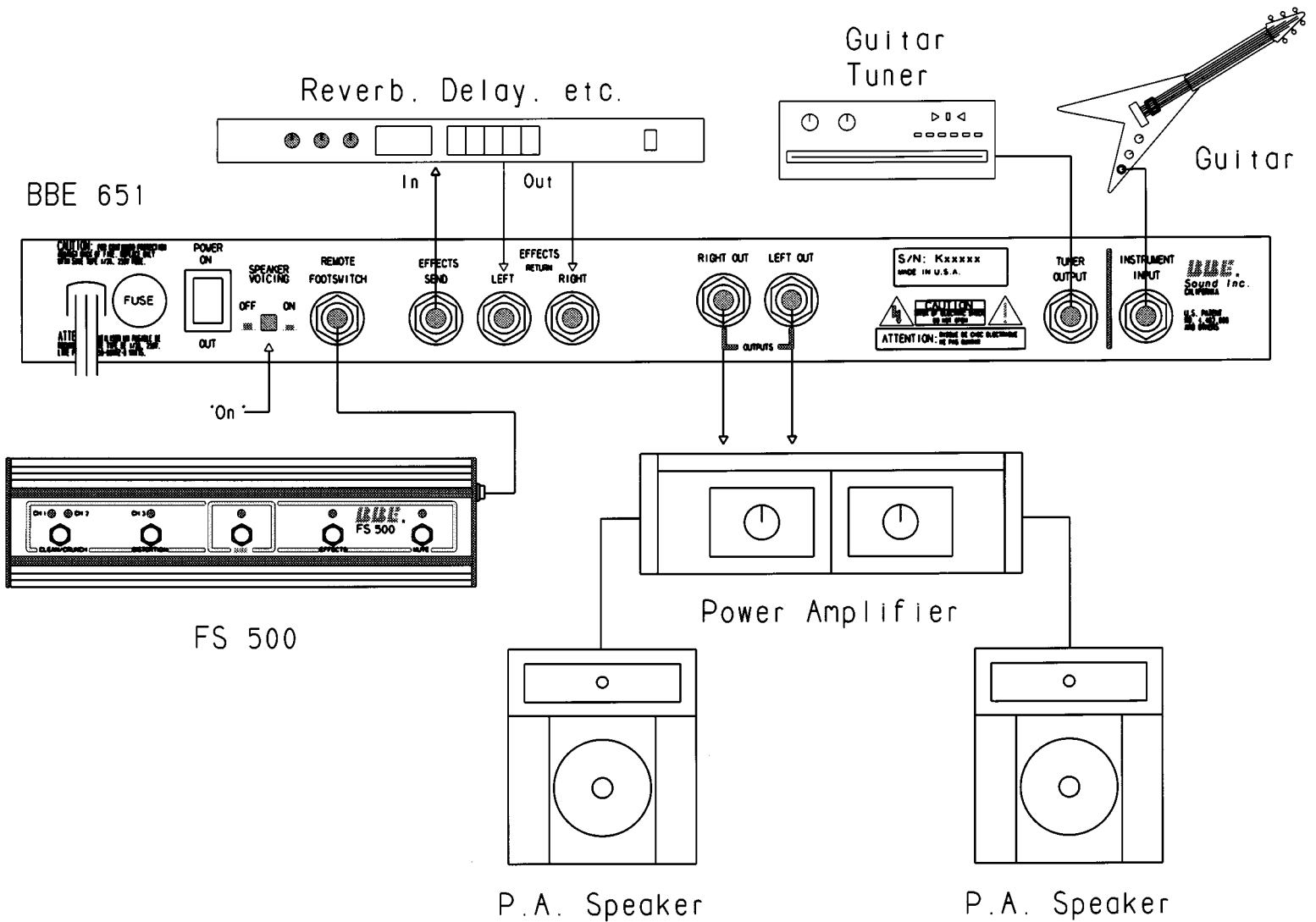
The **Main Outputs** of the **BBE 651** may be used in any combination of balanced/ unbalanced modes, or single monaural, dual monaural, dual stereo modes. Use the balanced mode, utilizing 1/4", tip-ring-sleeve, plug to connect directly into an onstage "snake" or similar long distance connection. The unbalanced mode, achieved by using a standard monaural 1/4" plug, can be used for short cable lengths or where balanced connectors are unavailable. Stereo separation is achieved by using the **BBE 651 Guitar Pre-amp** with a stereo effects processor while both of the main outputs are connected to separate power sources. i.e: a stereo power amplifier. Dual monaural output may be achieved by using a monaural effects processor and connecting both of the **BBE 651's** outputs to separate power channels. Single monaural mode is used where only one power channel is available. In this case, either output may be used to drive the amplifier.

Any effects processor, that accepts an average input level of -10dBu, may be inserted into the **BBE 651's** effects loop. (This level may vary due to the position of the individual channel volume levels.) Use the front panel **Effects knob** to adjust the amount of "dry," unprocessed signal to "wet," processed signal. Instantaneous defeat of the effects loop can be achieved via the **FS-500 Footswitch**. **Note: If a monaural effects processor is being used, either return may be used.**

The **Tuner Output** on the rear panel is especially handy to connect any guitar tuner to the **BBE 651** pre-amp. This buffered output allows any guitar tuner to be utilized without affecting any of the guitar's original tonal characteristics. Equally important, the guitar tuner may remain connected at all times, eliminating any repatching to adjust the guitar's tuning.

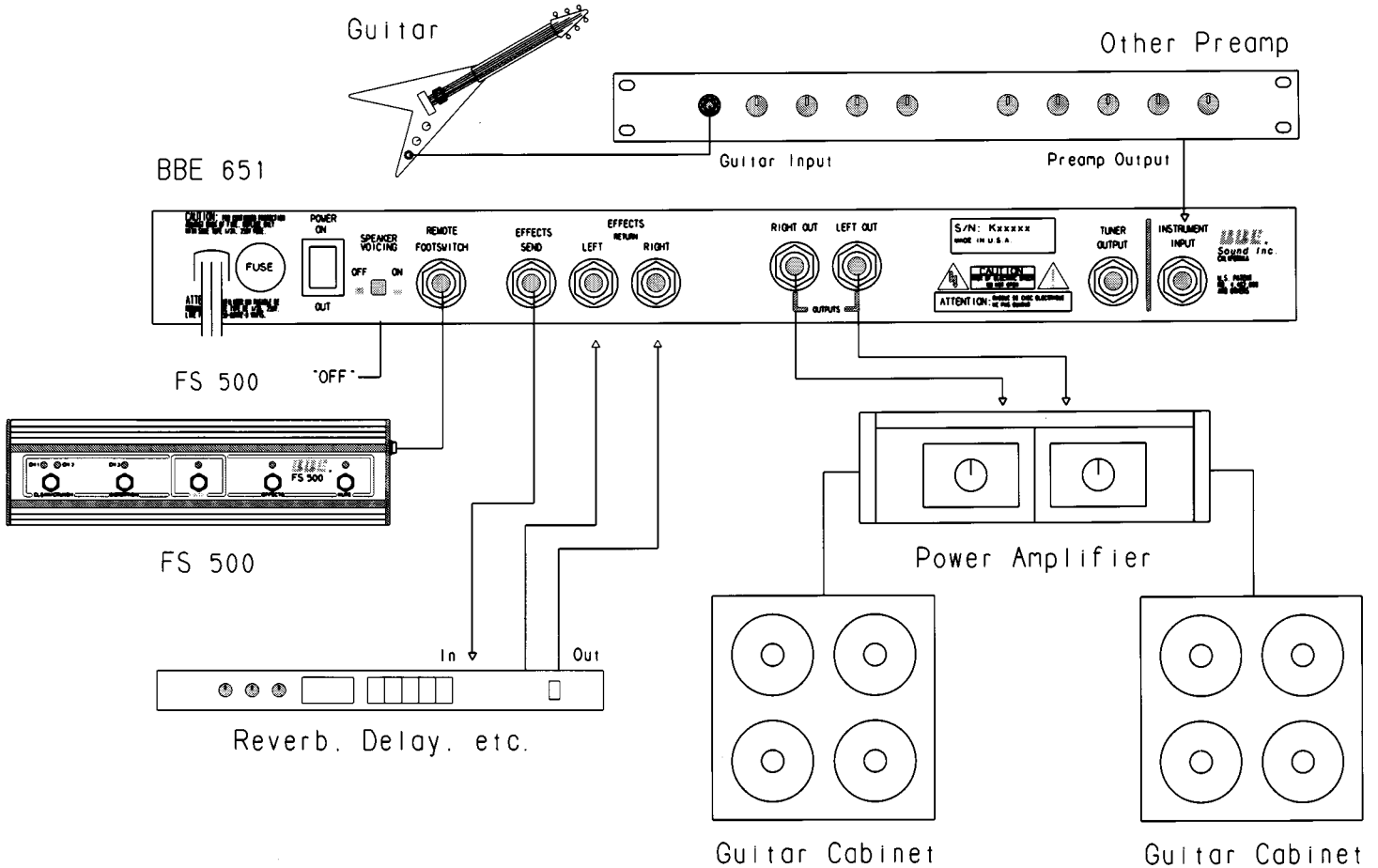
Use the following illustrations to guide in placing the **BBE 651** in the signal chain.

USING THE BBE 651 GUITAR PRE-AMP WITH P.A. SPEAKERS



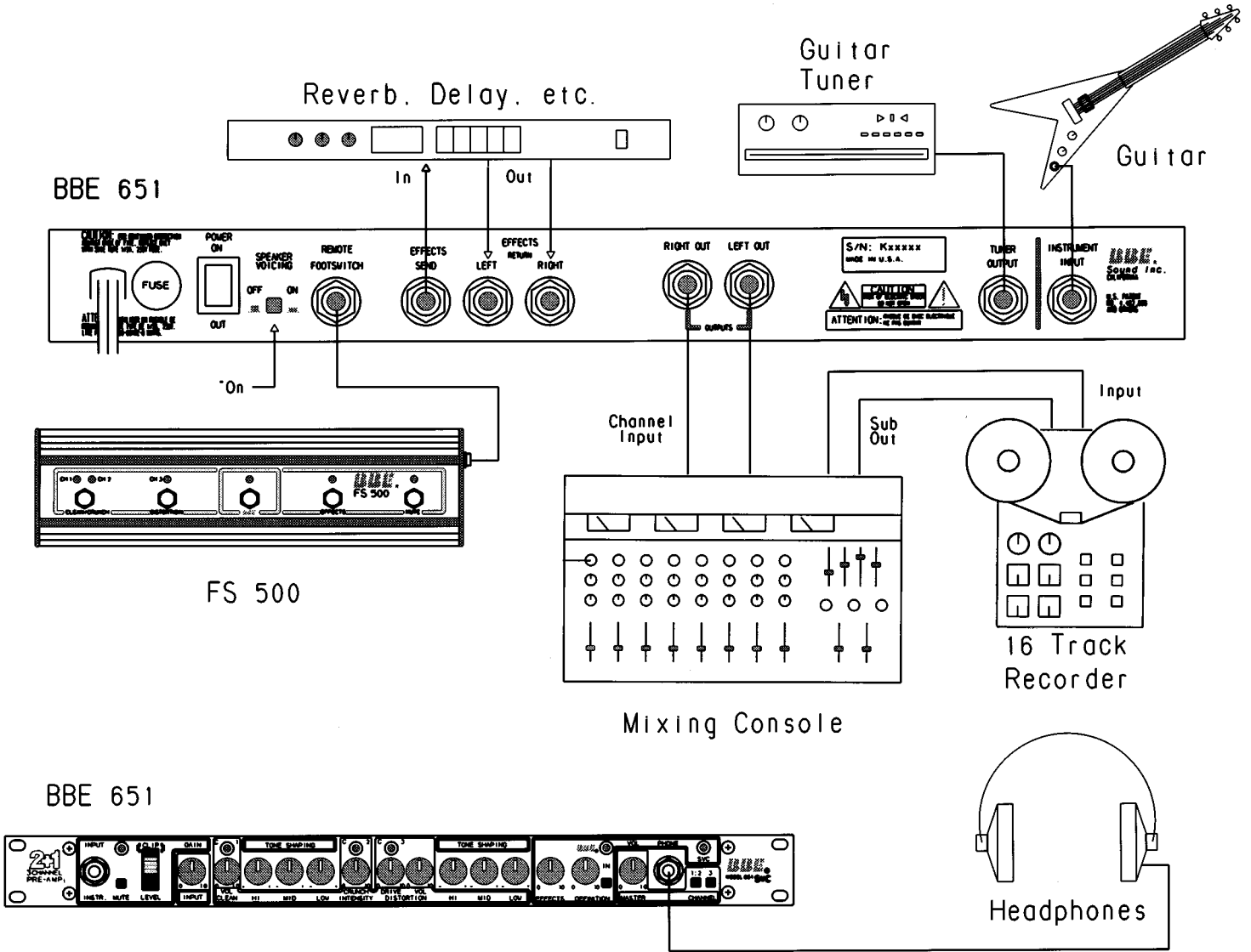
The BBE 651 Guitar Pre-amp may be connected directly into a mixer or into a power amp (as illustrated) and still maintain a warm guitar cabinet sound with the use of the SVCtm circuit.

USING THE BBE 651 GUITAR PRE-AMP WITH ANOTHER PRE-AMP



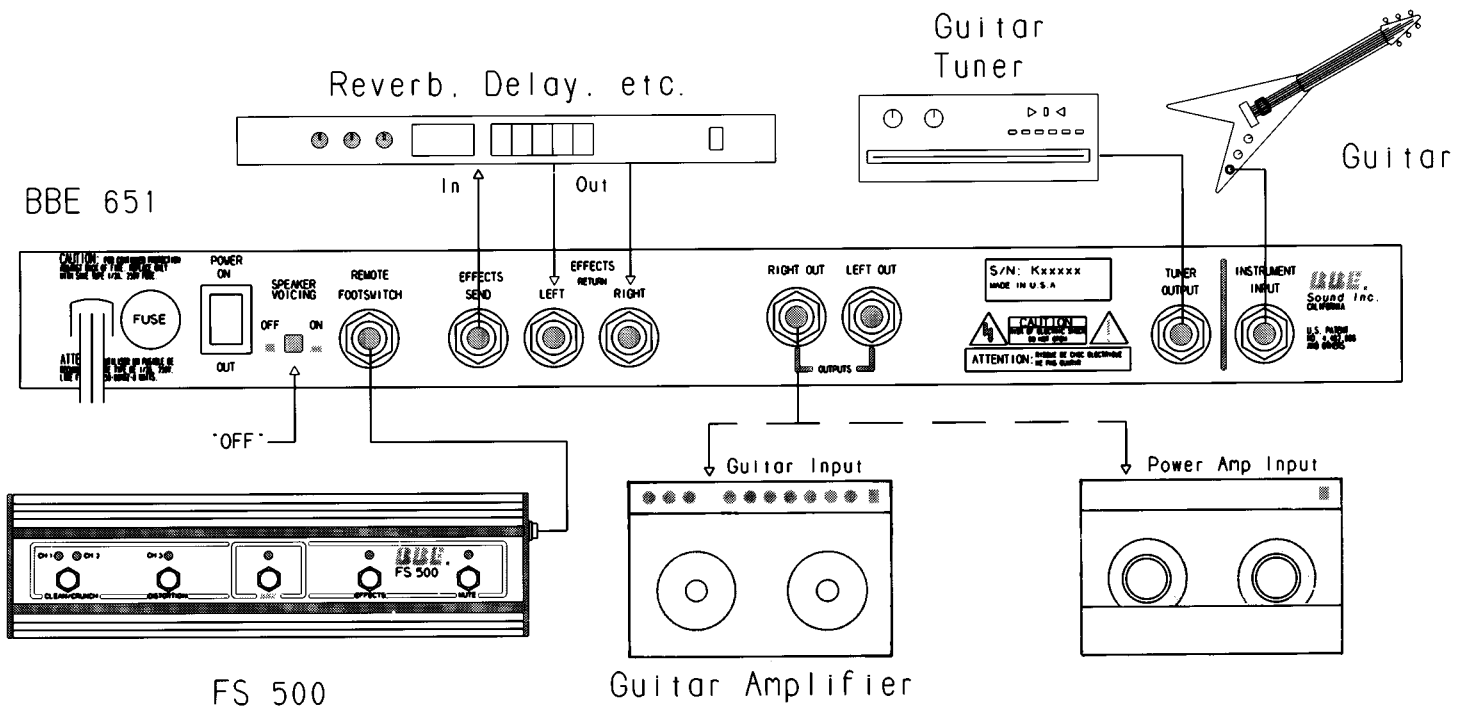
The BBE 651 Guitar Pre-amp may be configured with one or more guitar pre-amps to achieve new and exciting tones. Experimentation is suggested to determine which pre-amp shall be first in the signal chain. **Note: The SVCtm circuit should be in the "OFF" position when the BBE 651 is being used with guitar speaker cabinets.**

USING THE BBE 651 GUITAR PRE-AMP IN A STUDIO APPLICATION



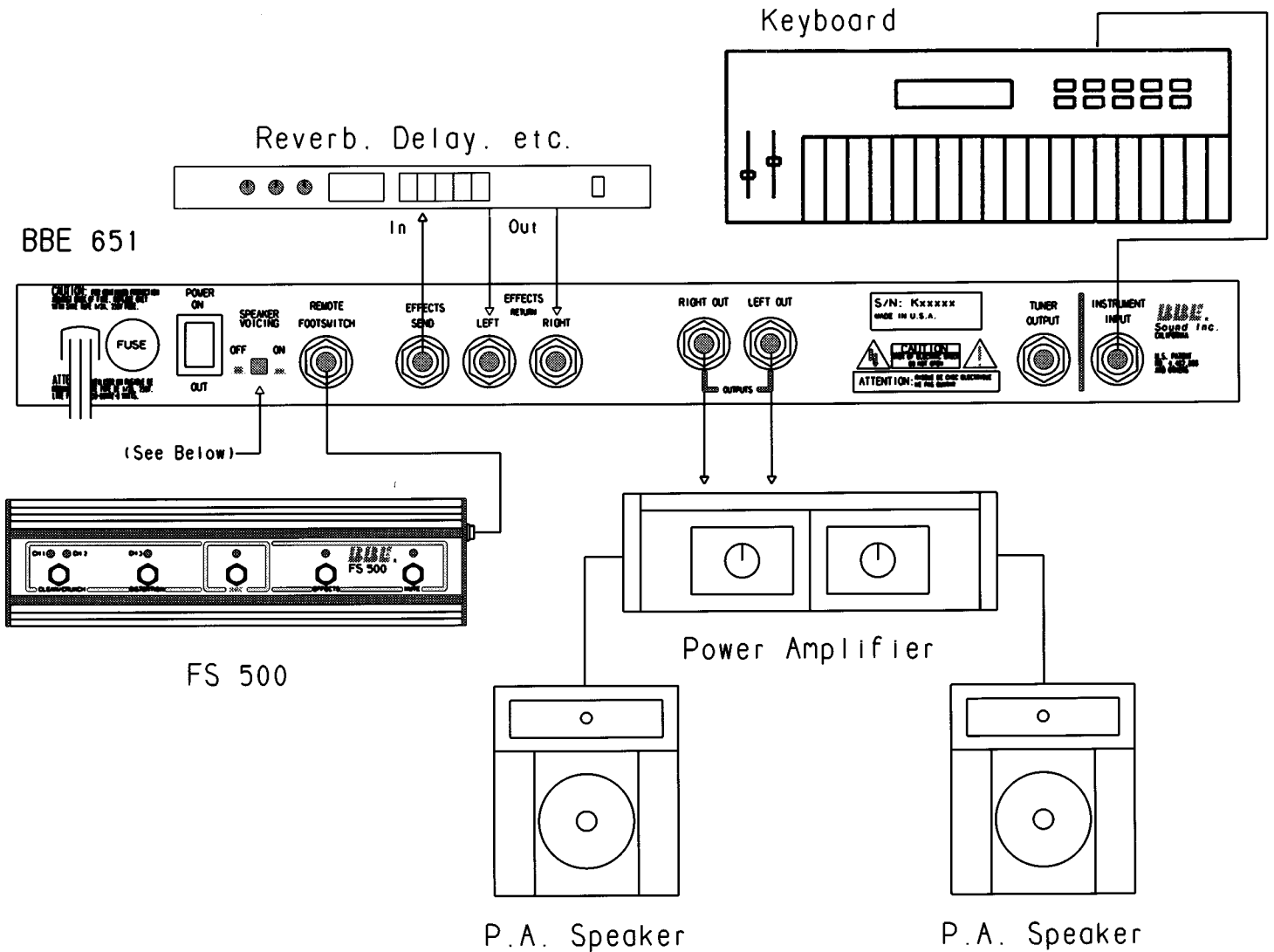
Use the BBE 651 Guitar Pre-amp with the SVC[™] circuit in the "IN" position when recording direct. This proves to be a great convenience in that "miking" a speaker cabinet becomes unnecessary. **Note:** The BBE 651 may connect directly to the recorder to reduce the amount of equipment in the signal chain, thus preserving as much of the original tone as possible.

USING THE BBE 651 GUITAR PRE-AMP WITH EXISTING GUITAR AMPLIFIER



When using the BBE 651 Guitar Pre-amp with another guitar amplifier, two methods of connection are available. The first would be to connect the BBE 651 directly into the front input of the amplifier. This will allow the user to use both the **Tone Shaping Controls** of the BBE 651 and the tone controls of the existing amplifier for a greater variety of tonal capabilities. The second would be to connect the BBE 651 into the jack labelled "POWER AMP IN," or equivalent, to utilize only the power amp and speaker output of the guitar amplifier. In either instance, the SVC[™] circuit should be in the "OFF" position.

USING THE BBE 651 GUITAR PRE-AMP WITH A KEYBOARD



The BBE 651 Guitar Pre-amp may be used with instruments other than a guitar. Keyboards, for example, will have new life and interesting results when run through the **Crunch** or **Distortion** Channels of the BBE 651. Remember the BBE® process may be added to further emphasize the results. **Note:** The SVCtm circuit may or may not be used depending upon the patch or instrument being used with the BBE 651 Guitar Pre-amp.

Service

We recommend that if at all possible a BBE 651 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 to BBE Sound, Inc. This helps us add reliability data to our files for use in designing future products.

Warranty

Warranty registration of the unit with 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 651 Guitar Pre-amp is warranted against defects in material and workmanship for a period of one (1) year from date of purchase from BBE Sound, Inc. or from an authorized dealer.

During this period, we will repair units free of charge providing that they are shipped prepaid to BBE Sound, Inc., 5500 Bolsa Ave, Suite 245, Huntington Beach, CA 92649. We 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 1 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 pre-amp fail to operate for any reason, our sole obligation is to repair the unit as described above.

Maintenance

Maintenance of the BBE 651 is limited to proper cleaning of the unit with a mild household cleaner such as Formula 409tm or Windextm. 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 651 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.

SPECIFICATIONS

Power Requirements:

U.S. and Canadian Models: 100-120Vac, 50/60Hz, 20 Watts
Standard Model: 200-240Vac, 50/60Hz, 20 Watts

Fuse:

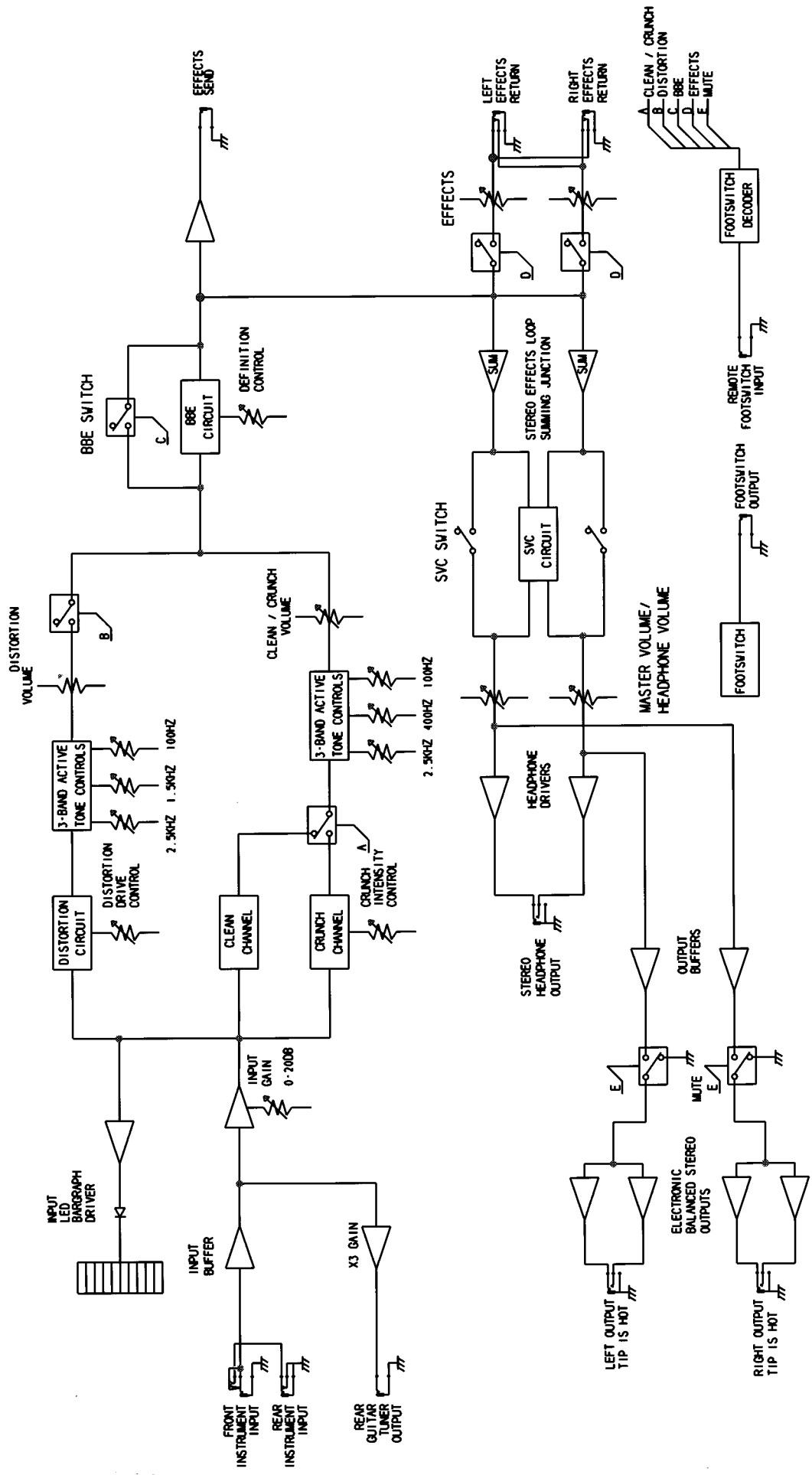
Replace with same type Fastblow fuse
U.S. and Canadian Models: 250Vac, 1/2A Fastblow type fuse
Standard Model: 250Vac, .125A Fastblow type fuse

Dimensions: 19"(W) x 8.5"(D) X 1.7"(H)

Weight: 651 7lbs. (3.2kg) FS-500 3lbs. (1.4kg)

Special Thanks to: *Mike A., Ken J., Ross M., Joey T., Rich W., Trevor W., and friends.*

BBE Model 651 Functional Block Diagram



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