

Beta Series Operating Manual



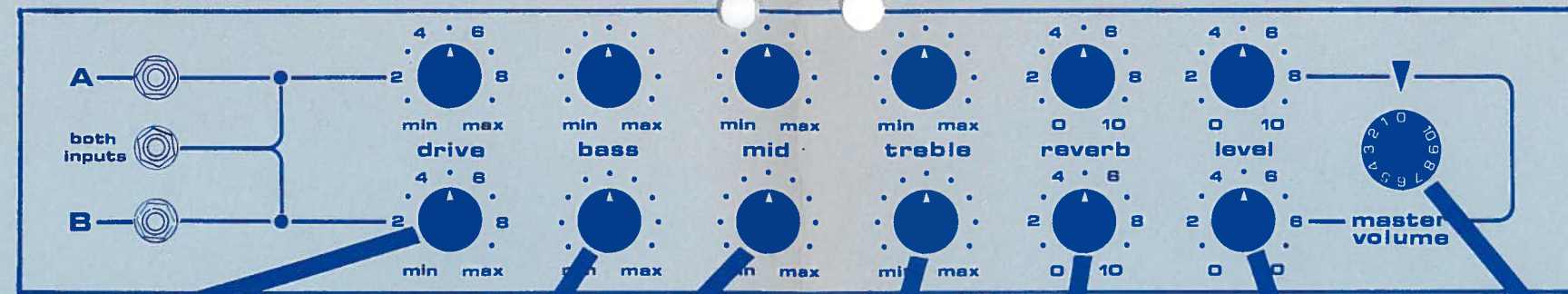
P.O. Box 429 • Tualatin, Oregon 97062 • 1-503-638-6551

Congratulations on your purchase of the new Beta Guitar amplifier. The Beta Series, with its advanced "Digital C-MOS Technology," demonstrates Sunn's basic philosophy of leadership and professionalism.

Exhausting research results in many advanced characteristics to harmonize with its extreme flexibility, unmatched by any other guitar amplifier yet developed. Features such as: digital channel switching, variable Q tone controls, independent reverb and level mixing, and more, combine to provide you, the performer, with the foremost in quality sound amplification and modifying capabilities.

Beta Series Features Operations

BETA LEAD



Drive control changes the gain or amplifying ability of its respective preamp channel. By adjusting this control to a lower setting, the user may obtain a clean sounding program. Adjusting to a higher setting accents the C-MOS overdrive characteristic, common only to Beta guitar amplifiers. With increasing amounts of overdrive the sustain is emphasized by the dynamic C-MOS compression.

Bass control enables the operator to vary bass equalizer response (20-400HZ) from off (min.) to an effective range of 32db.

Mid control enables the operator to vary mid equalizer response (400-1400HZ) from off (min.) to an effective range of 30db.

Treble control enables the operator to vary treble equalizer response (1400-20,000HZ.) from off (min.) to an effective range of 37db.

Reverb control adds reverberation effect to the channel under operation. Since the reverb signal is independent of the equalizer and level controls, they will not affect the reverberant level or its tone. This can allow an additional sound modification through use of the reverb control.

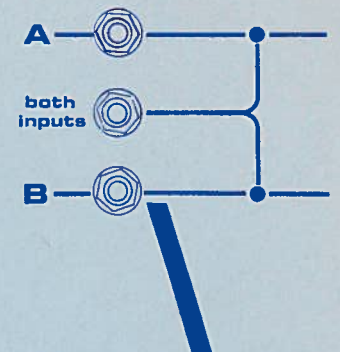
Preamp output **Level** control provides increase or decrease of amplitude for its respective channel only. It controls the volume of pre-set tone and drive controls affecting balance between channels.

Master Volume control combines both channels A and B for overall output level of the Beta system including patched accessories. After balance is achieved, overall level may be adjusted with this single control.

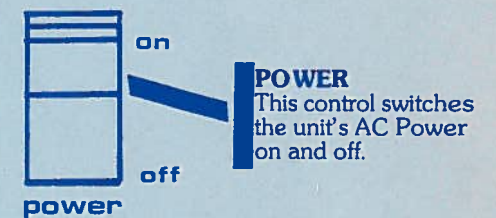


BETA BASS

INPUTS



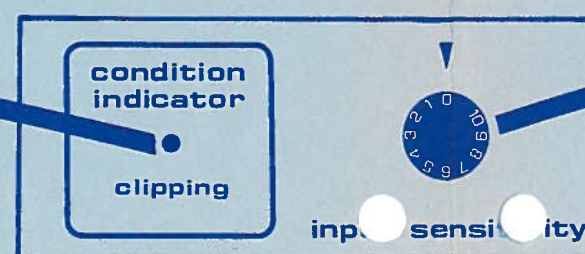
Switchable electronic inputs create valuable features to your system. If no instrument is plugged into the input Jack, that channel's input is off. Therefore, the idle channel is not creating any noise or interference for the operating channel. If an instrument is applied to Channel A, for example, the L.E.D. indicator will light, showing Channel A is on and ready for operation. When the BOTH inputs Jack is utilized, BOTH channels will be activated, and both L.E.D. indicators will be on. These types of inputs are extremely useful for stereo guitars, etc. In addition, the BETA-SWITCH accessory available for your Beta system presents remote switching capabilities, as well as remote reverb operation. (See BETASWITCH in Patching Guide.)



POWER
This control switches the unit's AC Power on and off.

BETA POWER +

CONDITION INDICATOR-CLIPPING
Red L.E.D. condition indicator, when fully lighted, signifies a shorted or improper load, as well as power amplifier clipping. (Clipping occurs at the point when the power amp has reached maximum power and distortion is evident.)



Input Sensitivity control allows the user a wide range of input amplitude. When used with a Beta Lead or Bass, the sensitivity control would normally be set at maximum. This calibrates the Power+ to the Lead and Bass for the same output level.

The Power+ **Line in** Jack accepts a variety of input signal levels from external sources to be amplified.



The **Line out** Jack represents the same program applied to the Line in Jack, of equal amplitude. This output can be utilized for patching additional amplifiers.

Specifications

BETA LEAD—BASS—POWER+

Preamp input (A-B)	100K ohms
Preamp input (Both)	50K ohms
Master Accessory from (Power Amp Input)	10K ohms
Accessory from (A-B) (Mixer input)	27K ohms
Master Accessory to (Master Line Out)	150 ohms
Accessory to (A-B) (Preamp Lineout)	150 ohms
Line In	10K ohms

POWER OUTPUT

All Beta series	100 watts RMS
	@ 4 ohm load
Total Harmonic distortion	Less than .25%

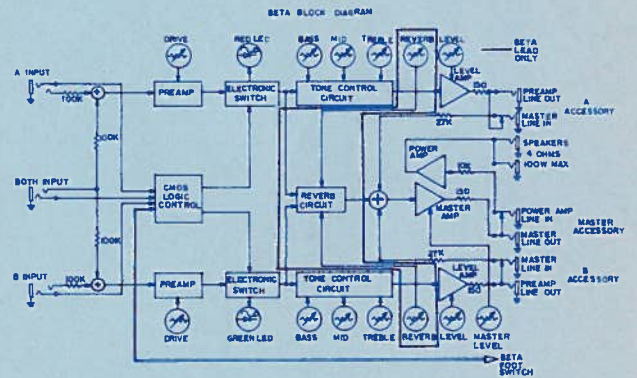
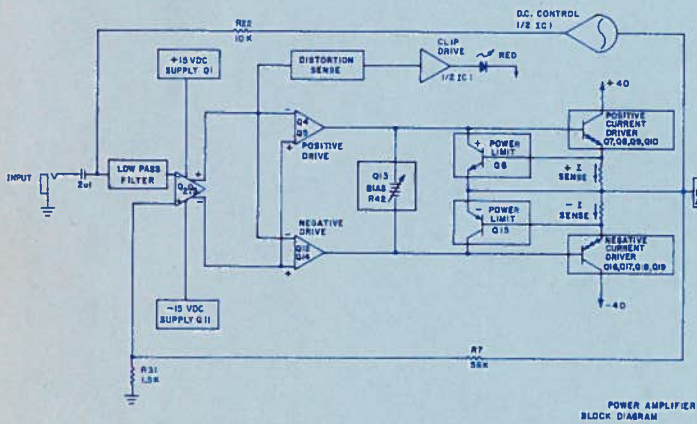
SYSTEM GAIN

Beta Lead-Bass (A or B)	110db.
Power+	30db.

WARRANTY

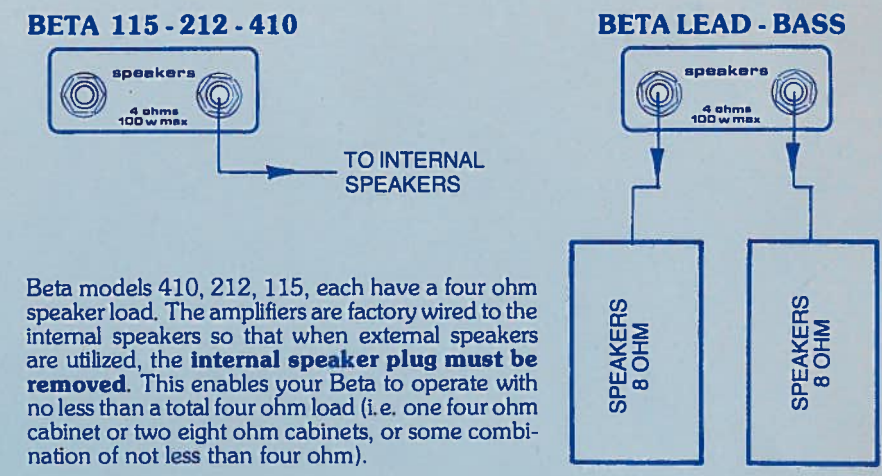
..... 1 year Limited

Block Diagram



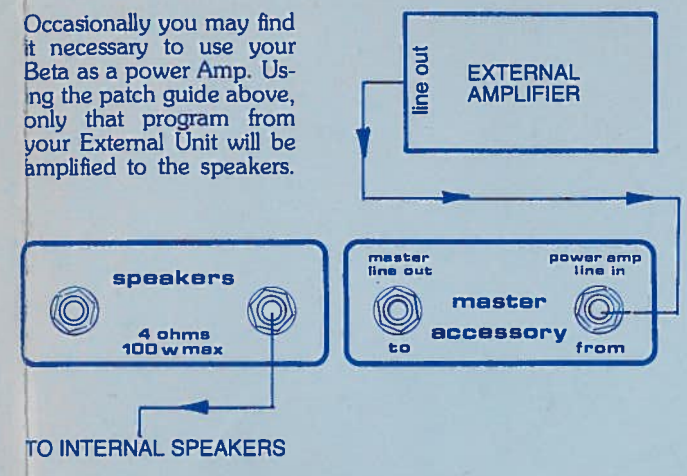
Beta Series Patching Guide

SPEAKER HOOK UP

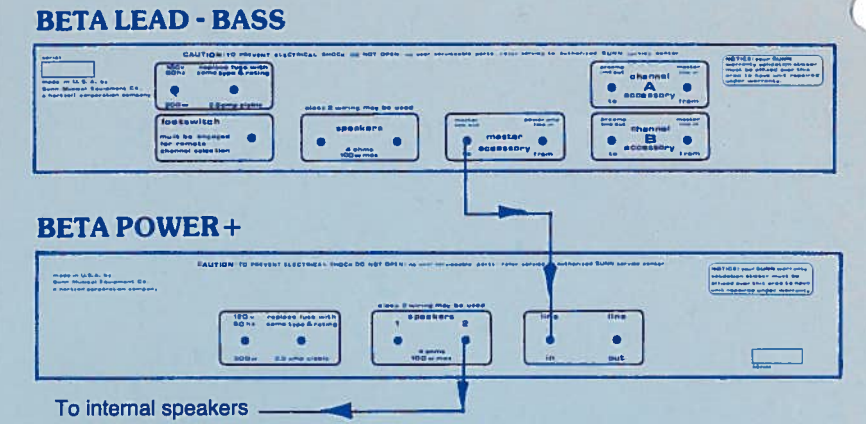


Beta models 410, 212, 115, each have a four ohm speaker load. The amplifiers are factory wired to the internal speakers so that when external speakers are utilized, the **internal speaker plug must be removed**. This enables your Beta to operate with no less than a total four ohm load (i.e. one four ohm cabinet or two eight ohm cabinets, or some combination of not less than four ohm).

AS A POWER AMPLIFIER

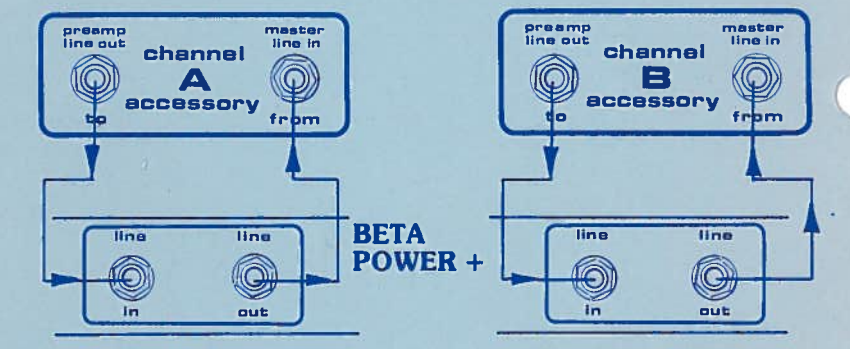


ADDITIONAL POWER



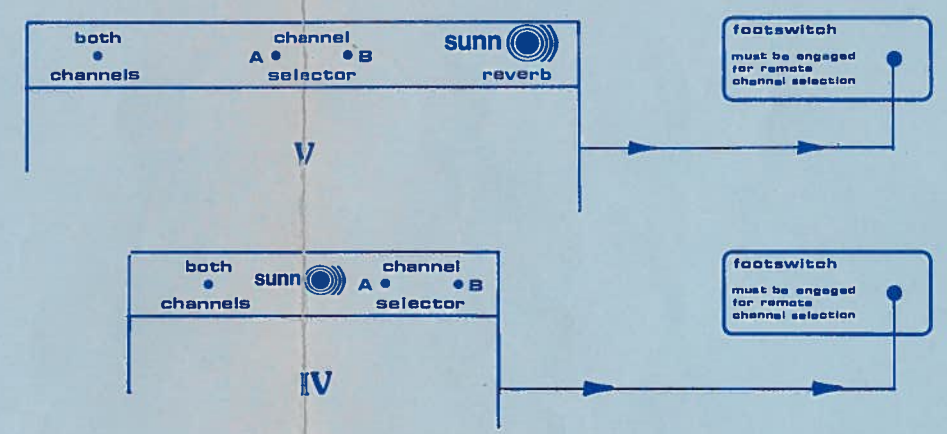
The master accessory "to" (master line out) can be utilized for driving additional power amplifiers from your Beta. The Beta Power+ is available with the same speaker options. This design allows the user exact sound duplication or diversification.

Channels A and B feature the same accessory "to" output which can also be used for separate amplification. For example, if Channel A Patch is used, a "dummy plug" (see prelude to patching) may be installed into Channel A "Accessory From." This allows Channel A to operate independent from Channel B and the master volume. This presents the possibility of a second musician to use Channel A, with his own controls and power amp.



BETASWITCH IV-V

The Betaswitch (IV for Bass, V for Lead) offers remote switching of reverb and channel selecting. To provide maximum switching capabilities when using the Beta-switch, your instrument should be applied to the "Both" Jack, or both Channel A and B utilized. L.E.D. indicators on the Betaswitch operate simultaneously with indicators of your amplifier. This displays at a glance the activated channels. The A and B selector is simply depressed to instantly change from A to B. Or, depressed again to change from B to A. When the "Both" selector switch is used, both Channels A and B are functioning. However, your Betaswitch does not forget the single channel operating previously. Channel A or B indicator will remain lighted to show what channel you will return to when the "Both" selector is deactivated. In addition, while the "Both" selector is on, the A to B switch may be used to enable return of program to either A or B.

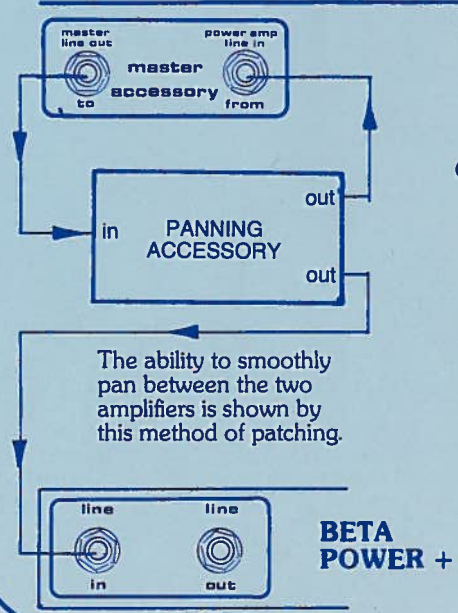


ACCESSORIES

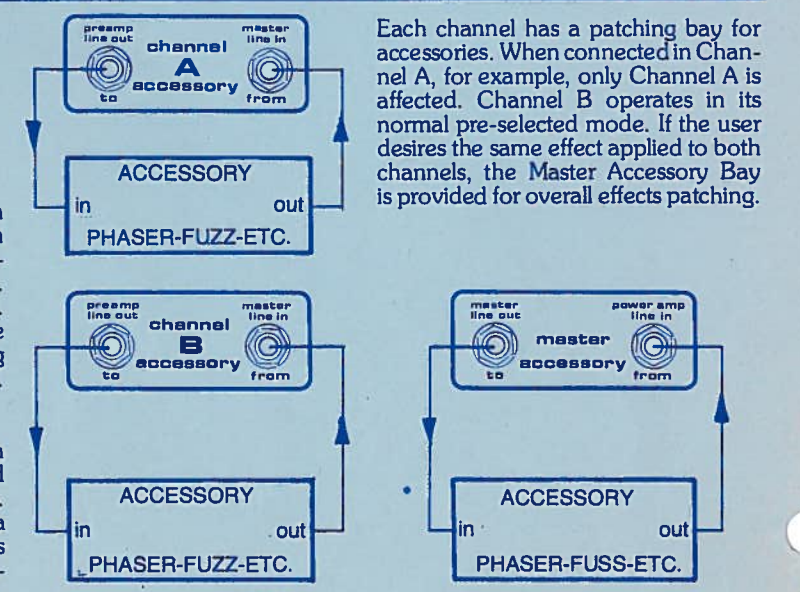
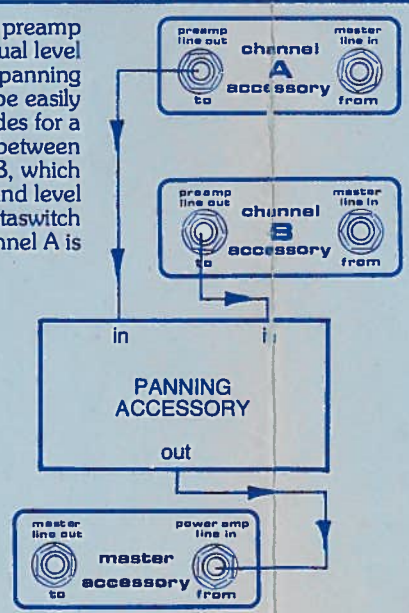
PRELUDE TO ACCESSORY PATCHING

Due to the extremely versatile Beta series amplifier, Sunn has attempted to illustrate only some of the more common patching situations. In your experimenting with its flexibility, you will find many exotic and useful capabilities. For example, connect your instrument to Channel A input. Add the output of Channel A (accessory "to") to the input jack of Channel B. This creates some interesting sound qualities not obtainable by other guitar amplifiers.

You will also find the term "dummy plug" in this patch guide. Defined simply as a phone plug without a cord attached. This plug may find its place in various modes. For instance, using the patch described above, install a dummy plug into Channel A "Accessory From". This will isolate Channel A from the master mixer stage, resulting in even more sound modification.



Independently operating preamp channels with individual level controls enable a panning effects unit to be easily patched. This provides for a smooth remote pan between Channel A and Channel B, which have pre-set tone and level controls. If the Betaswitch is installed, and Channel A is switched off, the pan pedal becomes a volume pedal for Channel B.



Each channel has a patching bay for accessories. When connected in Channel A, for example, only Channel A is affected. Channel B operates in its normal pre-selected mode. If the user desires the same effect applied to both channels, the Master Accessory Bay is provided for overall effects patching.