Baby Baby Blue

OWNER'S MANUAL

SWR • SCOTTSDALE, AZ • USA

IMPORTANT SAFETY INSTRUCTIONS

CAUTION: TO REDUCE RISK OF ELECTRIC SHOCK, DO NOT REMOVE THE COVER OR BACK.
NO USER-SERVICEABLE PARTS INSIDE. PLEASE REFER TO A QUALIFIED SERVICE TECHNICIAN.

A. Read Instructions: All safety and operation instructions should be read before the product is operated.

B. Retain Instructions: The safety and operating instructions should be retained for future reference.

C. Heed Warnings: All of the warnings on this product and in the operating instructions should be adhered to.

D. Follow Instructions: All operating and use instructions should be followed.

E. Cleaning: Unplug this product from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a slightly damp cloth for cleaning.

F. Water and Moisture: Do not use this product near water; for example, near a swimming pool, wet basement, and the like.

G. Accessories: Do not place this product on an unstable cart, stand, tripod, bracket or table. The product may fall, causing serious injury to a child or adult, and serious damage to the product.

H. Ventilation: Slots and openings in the unit are provided for ventilation and to ensure reliable operation of the product, to protect it from overheating, thus these openings must not be blocked or covered. This product should not be placed in a built-in installation such as a bookcase or rack unless proper ventilation is provided or the manufacturer's instructions have been adhered to.

I. Grounding: This product is equipped with a three-wire grounding-type plug, a plug having a third (grounding) pin. This plug will only fit into a grounding-type power outlet. This is a safety feature. If you are unable to insert the plug into the outlet, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the grounding-type plug.

J. Power Cord Protection: Power supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon them, paying particular attention to cords at plugs and the point where they exit the product.

K. Lightning: For added protection of this product during a lightning storm or when it is left unattended and unused for long periods of time, unplug it from the wall outlet. This will prevent damage to the product due to lightning and power-line surges.

L. Overloading: Do not overload wall outlets or extension cords as this can result in a risk of fire or electric shock.

M. Object and Liquid Entry: Never push objects of any kind into this product through the openings as they may touch dangerous voltage points or short out parts that could result in a fire or electric shock. Never spill liquid of any kind on the product.

N. Servicing: Do not attempt to service this product yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.

O. Damage Requiring Service: Unplug this product from the wall outlet and refer servicing to qualified service personnel under the following conditions:

1) When the power supply cord has been damaged
2) If liquid has been spilled or objects have fallen into the product
3) If the product has been exposed to rain, water, or other conductive liquids
4) If the product does not operate normally by following the operating instructions
5) If the product has been dropped or damaged in any way
6) When the product exhibits a distinct change in performance.

P. Replacement Parts: When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer or have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock, or other hazards.

Q. Safety Check: Upon completion of any service or repairs to this product, ask the service technician to perform safety checks to determine that the product is in proper operating condition.

R. Heat: The product should be situated away from heat sources such as radiators, heat registers, stoves or other products that produce heat.

INTRODUCTION

Congratulations on your purchase of the SWR Baby Baby Blue Bass Combo Amplifier! You now own the legendary SWR Sound in its most portable configuration to date.

You may read the name of the product and think, “Baby Baby Blue—is that a typo?” No, it's not. It's a smaller, more compact version of one of the most sought-after pieces ever produced by SWR, the Baby Blue Combo. This combo amp, developed by SWR in the early 1990s, was designed for “the discerning professional bassist in need of a superior small bass rig for studio and small venues.” More specifically, it was designed to emulate a studio reference monitor, and this was done in two ways. First, it employed a groundbreaking speaker complement (two 8" drivers and one time-aligned 5" cone tweeter). Second, it contained a hyper-tweaked version of the original SWR preamp and power amp circuitry, with superior specs in signal-to-noise ratio, power amp frequency response, and—of course—purity of tone. Professional players such as Walter Becker (Steely Dan), Jimmy Haslip, Neil Stubenhaus, and many more were key in the final stages of development. The final result: an industry-standard bass combo amp coveted by both electric and upright players—and, by fervent account of SWR insiders and studio musicians, perhaps the best-sounding electronics package SWR ever produced.

Demand for an electronics-only version of the Baby Blue spawned sporadic limited runs of the head (called the “Electric Blue” or the “Baby Blue Head” depending on the time period). People kept telling us how incredible the amp sounded with a variety of speaker complements, but one thing was consistent—they were all small, highly portable systems. We asked ourselves: what would happen if we combined these electronics with a single SWR Professional Line 10" speaker—the same as used in our famous Goliath III 4x10 speaker cabinet and Super Redhead 2x10 combo—in the smallest cabinet configuration possible?

The result is the “Baby” Baby Blue, the easiest way to take the SWR sound with you wherever you go. The electronics have been preserved in their original form. The speaker cabinet was designed for maximum low end response and tone while still maintaining a weight (under 40 lbs.) and size designed for one-hand carrying into the gig. The features—3-band semi-parametric EQ with extended third-band high end, Aural Enhancer, switchable EQ and side-chain effects loop—provide maximum tone and flexibility for both onstage and in the studio. The sound is pure SWR. And, of course, every Baby Baby Blue is still assembled by hand and individually soundtested in the USA at our factory in Southern California.

It’s all part of SWR’s commitment to continued improvement and refinement of even our most popular models, so that we can continue to assist today’s bassist in the pursuit of the ultimate goal: finding equipment that not only does the job, but actually enhances the overall musical experience and contributes to the creative process. Everyone here at SWR sincerely hopes that the purchase of your Baby Baby Blue helps you get there from here... and beyond.

Please take the time to read your User Guide thoroughly and completely, so that you can realize the full potential of your new Baby Baby Blue Bass Combo Amplifier. Once again, thanks for your purchase, and for letting SWR help Amplify Your Future.™

Sincerely,

SWR

Note: Please take a moment to verify that the following items were included in your SWR Baby Baby Blue packaging: AC Cable, User Guide, SWR Catalog.

BABY BABY BLUE – FRONT PANEL FEATURES

- High (“passive/active”) and low (“active”) sensitivity 1/4" inputs
- Gain control with LED peak preamp clipping indicator
- Aural Enhancer Control
- 3 band semi-parametric EQ
- EQ bypass switch
- Effects Blend Control
- Effects Loop bypass switch
- Master Volume Control with LED peak power amp clipping indicator

BABY BABY BLUE – REAR PANEL FEATURES

- Side-chain effects loop
- Balanced XLR Output with select switch for Line or Direct Mode
- XLR pad (level) control with ground/lift switch
- 1/4" Line Out Jack
- Tuner Out Jack
- Headphone Jack
- 1/4" Extension Speaker Output Jack
- Speaker Fuse: 3AG, 8 amp fast-blo
- Line Fuse: 3AG, 3 amp slo-blo (120V)
- 3-Position Tweeter Mode Switch (on back of cabinet)

SPECIFICATIONS

ELECTRONICS

Note: All measurements were taken with a line voltage of 120VAC.

Maximum power at 1kHz under clipping

120 Watts RMS @ 8 ohms
160 Watts RMS @ 4 ohms
180 Watts RMS @ 2.6 ohms
200 Watts RMS @ 2 ohms

Power Amp Distortion (1kHz)

0.02% THD, 100 Watts RMS @ 8 ohms
0.03% THD, 100 Watts RMS @ 4 ohms

Intermodulation Distortion

@ 8 ohms, 100 Watts RMS, 60/7kHz, 4:1, =0.05%

Frequency Response (power amp):

–3db at 10 Hz and 22kHz

System Distortion (Gain and Master Volume full, enhancer and tone controls set flat, 1kHz):
0.5% THD

Sensitivity (for full output @ 8 ohms, 1kHz):
Passive/Active Input Jack: 10 millivolts
Active Input Jack: 50 millivolts

Input Impedance
Passive/Active Input Jack: 800k ohms
Active Input Jack: 60k ohms
Effects Return Jack: 27k ohms

Output Impedance
Effects Send Jack: 100 ohms
Line Out Jack: 100 ohms
Tuner Out Jack: 100 ohms
Headphone Jack: 100 ohms

Signal to Noise Ratio (unweighted)
–72db (7 millivolts typical)

Equivalent Input Noise
2.5 micro-volts

Chassis Material
Aluminum

CABINET
Outer Dimensions
13 7/8" W x 19" H x 13 7/8" D

Internal Impedance
8 ohms

Cabinet Construction
Interlocking dado joints, glued and nailed, covered in blue carpet

Cabinet Material
7 ply, 5/8", waterproof, void free, birch or maple plywood

Speakers
(1) 10" PAS driver (proprietary to SWR)
(1) LeSon TLX-1 Piezo Tweeter

Passive Crossover Components
Capacitors: polyester
Coils: 1.7 milli-henry iron choke, low DCR, custom made

Grill
Stamped 16GA steel, chrome-plated

Total Weight
39 lbs.

BABY BABY BLUE - GETTING STARTED

Remove the AC cable from the accessory pack and connect it from the amplifier to a standard wall outlet. Make sure that the "Gain" and "Master Volume" controls are set to the minimum position (fully counter-clockwise). Locate the power switch on the right side of the front of the unit and turn the amplifier on. Upon powering up, don't be surprised if you hear a small pop. This is absolutely normal.

Plug your instrument into the desired input jack (refer to "Front Panel Features" for greater detail). Turn your instrument's volume up to at least 75% of maximum and slowly adjust the gain control. Once you begin to play your instrument and you see the red light (marked "preamp clip") over the gain control illuminate, back off the gain a bit. Now turn up the "Master Volume" and you should hear the sound of your instrument amplified through the Baby Baby Blue. For more detailed information, please read the entire manual carefully so that you can fully realize the potential of the your new Baby Baby Blue.

BABY BABY BLUE – FRONT PANEL FEATURES

Input Jacks

Both input jacks accept a standard 1/4" phone plug and both inputs can be used at the same time. Since the two inputs are totally independent, no loss in volume or tone will occur by using two instruments simultaneously. However, the main applicational use for the two separate input jacks is their difference in level, as the Passive/Active input has five times more gain than the Active input. In other words, it's not necessarily intended as a "submixer" for two instruments, but no harm will come from having two instruments plugged in at once. Please read below for more details.

Passive/Active Input Jack

This input jack is designed to accommodate both "passive" instruments and most "active" instruments. A passive instrument has no built-in preamp and does not use a battery, while an active bass utilizes a battery-operated preamp for gain, tone controls, or both. The Passive/Active Input will work with all instruments having a maximum output of less than 1 volt RMS. Some active pickups such as EMG, Bartolini, etc., use batteries for operation and will work perfectly using this input. Instruments made by MTD, Sadowsky, Modulus, etc., have active electronics that are suited for use in the Passive/Active input.

Generally speaking, try this input first. If you hear a small amount of distortion and the preamp clip LED is not activated, try using the Active input jack. If the Active input does not correct any audible distortion, check the battery in your bass.

> Note: If you would like to overdrive the first TUBE stage, this can be accomplished by using an external preamp between your instrument and the Passive/Active input. To obtain optimum sound when trying this, make sure the preamp clip LED is not activated. If this occurs, turn down your Gain control until the LED does not light. The first preamp tube stage is NOT monitored by the preamp clip circuit for this reason.

Active Input Jack

The Active input jack should be used with instruments having a built-in (on board) preamp or other sound sources that will produce output levels greater than 1 volt RMS. The number of bass manufacturers has increased significantly over the years, and it's impossible to try and keep track of them all. Generally, if you have very "hot" pickups and/or tone controls installed in your instrument, and you use them to boost the level of your bass signal 10 dB or more, you may find the Active input more compatible. The best judge is your own ears.

If you're using a keyboard or bass pedal with the Baby Baby Blue, we have found the best choice to be the Active input.

> Note: Using the Active input with passive basses (active instruments will always employ a battery) may result in a loss of high end transients. Players who roll off their high end starting at about 2kHz, or prefer a "darker" sound, may find this input more to their liking.

If you hear some distortion with your active bass and are using the Active Input, make sure the preamp clip LED indicator is not lighting. If the preamp stage is not being driven into clipping, replace the battery

in your instrument.

Gain Control

The Gain control adjusts the volume of the preamp section. Since the Gain control is similar to a “pad,” a small amount of signal will be heard even with the Gain control rotated fully counter-clockwise (“MIN”) if the Master Volume is up.

After all EQ settings and the Aural Enhancer are set, the Gain control should be raised until the preamp clip LED barely flashes when your loudest note is struck. This will insure maximum signal to noise ratio and prevent unwanted clipping of the preamp section.

Note: The Gain can serve as an EFFECTS SEND LEVEL ADJUSTMENT. If your effect is being overdriven, turn down the Gain control and readjust your Master Volume for overall loudness.

Preamp Clip LED

The preamp clip LED will light whenever the preamp, tone section or output buffer reach clipping (run out of headroom). This function does NOT monitor the first tube stage of the Passive input. See that section for more info.

In the event the clip indicator lights, turn down the Gain control. Since this circuit monitors the tone controls, boosting any one of them can cause the clip LED to activate. Once again, you may leave the tone control at its desired level, but turn the Gain control down further.

Note: Even though the Preamp Clip LED lighting indicates that at some point the preamp is clipping, no harm is being done to your amplifier. However, clipping of the power amp can cause damage to your speakers and is not recommended.

Aural Enhancer

The Aural Enhancer is a feature that’s been on just about every SWR amplifier since the company’s inception in 1984, and is a trademark part of the “SWR Sound” people have come to know and love. It was developed to help bring out the fundamental low notes of the bass guitar, enhance the high-end transients, and reduce certain frequencies that help “mask” the fundamentals. The ultimate result is:

1. A more transparent sound, especially noticeable when slapping and popping.
2. It can make a passive bass take on an “active” type of quality when set at positions of “2 o’clock” or further clockwise.

Let’s take a second to learn how the Aural Enhancer works. Think of it as a variable tone curve that changes depending on where you set the Aural Enhancer control knob. As you raise the control clockwise from the “MIN” position, you are elevating a whole range of sound (lows, mids, and highs) at a variety of frequency points selected specifically because they’re different than those selected for the individual tone controls of most SWR units.

This remains true up to about the “2 o’clock” position. This position—a favorite for many users—brings out both the low end fundamentals and crisp highs and, at the same time, adds a little lower midrange to help cut through the band. However, if you go further clockwise and past the 2:00 position, selected mids will start to drop off—specifically, a group of frequencies centered around 200 Hz. At this point and after, the effect becomes much more pronounced. However, the curves involved here are gentle, as opposed to the very extreme curves you can create by boosting or cutting the Active Tone Controls (EQ).

Most significantly for basses, the Aural Enhancer will help bring out the fundamentals of your lower registers without masking them with overtones, as is possible when boosting the bass frequencies only. At the same time, it opens up the sibilance characteristics of all instruments without being harsh.

Obviously, numbers and curves and circuits all mean nothing compared to what you hear with your own ears. Play a chord, a repeated lick, or a harmonic, and turn the Aural Enhancer control to various points on the knob to hear the effect for yourself. As always, your ears are the best judge when it comes to settings that affect the tone of your instrument.

EQ Defeat Switch

Located on the Aural Enhancer Control knob, this feature gives you the ability to easily defeat whatever

EQ settings you have dialed in on the semi-parametric active tone controls of your Baby Baby Blue. To activate the feature, simply pull out on the Aural Enhancer knob until you hear a "click." Push the control back in to re-activate the EQ circuitry. This simple feature can be very useful in studio situations (imagine the engineer telling you, "OK, let's hear your EQ. Now let's hear it without it."), or for your own "A/B test" in analyzing how you have set your tone controls in comparison to a flat response.

Three-Band Semi-Parametric Equalizer: A Basic Primer

The EQ section of the Baby Baby Blue is our top-of-the-line tone-shaping circuitry, an elaborate system that allows you to choose three separate frequency center points and cut and boost them at a level of detail scarcely found on small combos on the market today. They have the ability to: a) correct "dead" and "hot" spots that may be inherent in your instrument; b) correct the effects of poor room acoustics on your bass sound; c) bring life to old strings; d) correct peaks or dips in speaker systems; and, best of all, e) bring out the best sonic qualities of your instrument and your playing technique. At first glance the number of controls and variables may seem fairly complicated. But once you get acquainted with how to use and apply the three bands of EQ, the possibilities for tone-shaping are practically limitless.

What does "semi-parametric" mean?

In this case, the term "semi-parametric" means that each EQ control contains two functions:

a) A level boost/cut function

b) A frequency select function

A semi-parametric EQ has the advantage of allowing you to select which frequency is cut or boosted by the level control. A regular EQ as found on most amps has fixed center frequencies which cannot be altered by the user. (For the record, a fully parametric EQ contains three functions: the two listed above, plus a bandwidth or "Q" control.)

Using The Semi-Parametric EQ Controls

On each band of the semi-parametric EQ there are two concentric knobs. The inner knob is the LEVEL control. It cuts or boosts the frequency set by the FREQUENCY control, which is the outer knob. If the LEVEL control is in its center position (or "flat"), that band will be essentially off. In this case, moving the frequency (outer) knob with the level control in the flat position will have NO AFFECT on the sound or tonal structure. The level control MUST be in a cut or boost (off center) for any change in tone to be audible.

How will you know when the level control is in the center (or "flat") position? Easy—a center click has been provided, which you'll feel "snap" into place when the indicator points to 12:00. In addition, the frequency control knobs are equipped with twenty-four stepped positions so that you can easily return to a desired setting.

Becoming Familiar With Frequencies

Most people intuitively understand boosting and cutting "bass," "mid" or "treble." But how do all these frequencies relate to what you think of as "bass" or "treble"? Try this on each of the three controls:

a) Raise the level control close to +15

b) Play one note repeatedly (open "A" is a good choice)

c) Rotate the frequency control slowly from one end to the other

On each band, you should notice an audible "sweep," like of like a wah-wah pedal opening up. Each of the three bands will accentuate a different range of frequencies, and you can begin to correlate numbers with certain sounds. Chances are that, with each section, you'll find a couple of positions that are either pleasing or unpleasing to your ear. As you notice this, adjust the level control of that band to the desired amount of cut or boost.

After finding a position on each control, activate the EQ DEFEAT switch (located on the Aural Enhancer Control Knob) to compare. The more you do this, the more you should be able to relate frequency num-

bers to their respective sounds. As you find different settings that you like, you may want to write them down somewhere.

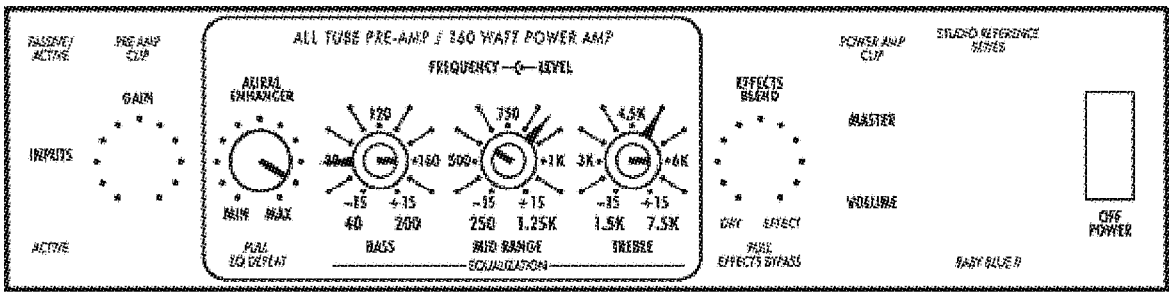
Here's a quick guide that will help you get off the ground in finding a certain kind of sound with the semi-parametric EQ controls:

Problem:	EQ Solution:
Not enough solid low end	Boost the 40-60Hz range
Midrange is honky or hollow sounding	Cut the 600-1000Hz range
Treble is harsh and hurts the ear	Cut the 1.5k to 2.5kHz range
Having trouble cutting through the band	Boost around 200Hz
Not enough presence, lackluster	Boost from 5kHz to 7.5kHz
Too much pick or finger noise	Cut the 5KHz to 7.5KHz range
Need a more dynamic, "piano" sound	Cut 800Hz, boost 40 & 6kHz

Try a few of the above examples. Then try doing just the opposite, just to hear both ends of the spectrum. As always, there's only one final judge as to what's a "good" sound—your own ears. Experimentation is encouraged.

Suggested Settings

Not sure where to start? Try any of these five Aural Enhancer + EQ settings we dialed in at the factory.



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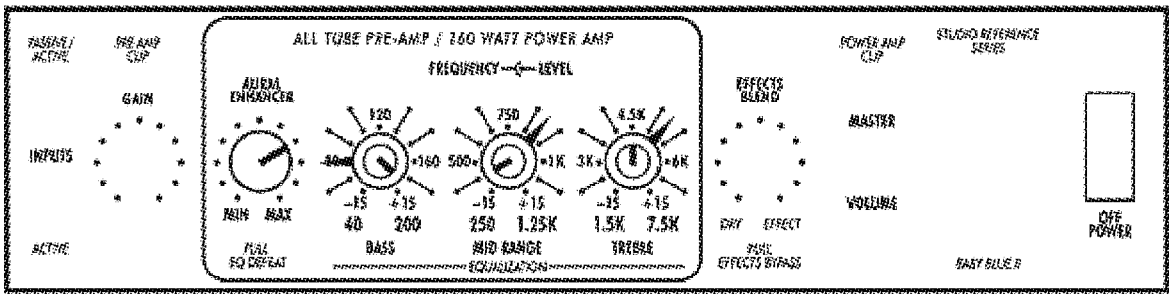

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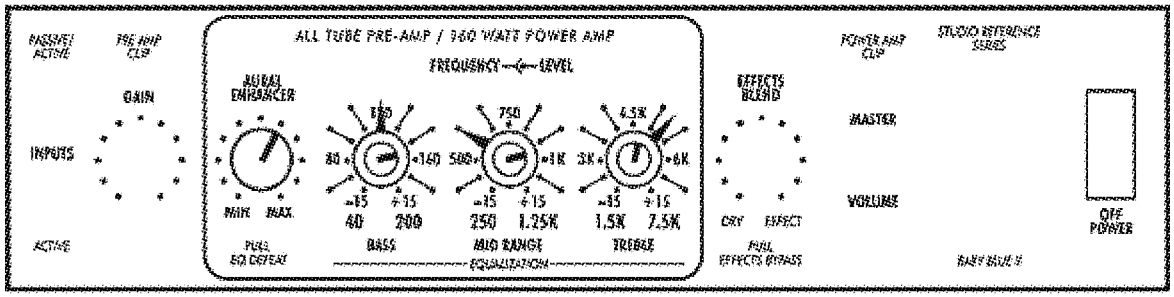

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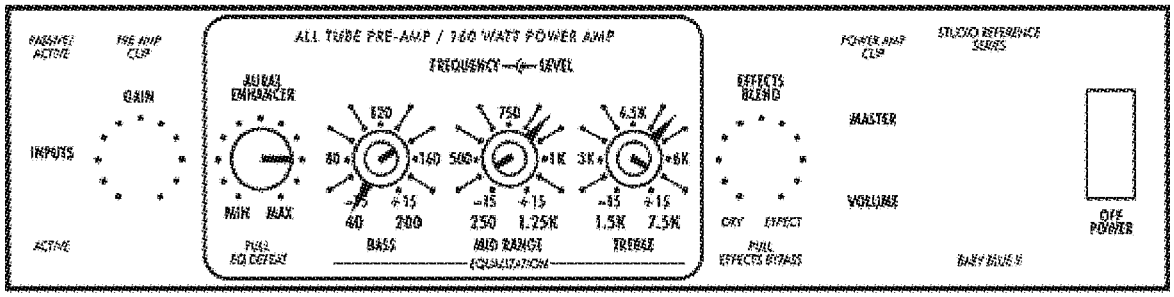
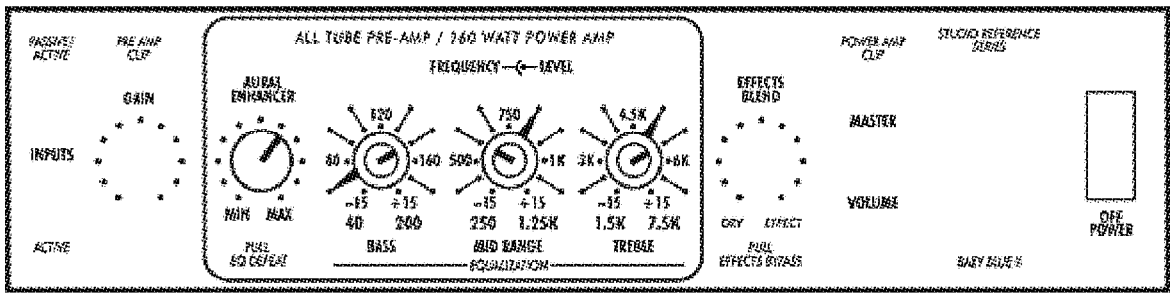


CLASSIC SLAP



STUDIO

Controlling Feedback and Sustain On Upright Basses

The original Baby Blue was and continues to be a very popular model for use with upright basses, largely because of the compact size and ultra-flexible EQ. The low-mid to hi-mid areas (80 Hz to 1kHz)—which are now easily adjustable on the semi-parametric EQ—can be extremely useful in correcting feedback in acoustic bass guitars or upright basses.

If you are getting a slight amount of feedback from your instrument, try the following:

a) Set your volume to a point where the feedback is just occurring, but not out of control

b) Raise the Level control of the first or second band of the semi-parametric EQ that is activated to about +7 dB

c) Slowly rotate the Frequency control from left to right. At some point (on either the first or second band) during the rotation of the Frequency control, the feedback should get more intense. This is the frequency area that needs attention, and once you find it, you should leave the Frequency con trol at this position for a second to confirm the diagnosis

d) Now adjust the Level control counter-clockwise (in other words, cut the level of this frequency) until the feedback disappears.

You may find that as you raise the volume, you may need to further cut the Level control to achieve the desired playing volume. In this example, when the feedback becomes more intense, listen closely to make sure it is the same “pitch” as the original feedback. Feedback can be induced at different frequencies by boosting their levels, and you certainly don’t need two problem areas.

Also, by reversing the technique above, you can achieve greater sustain in certain areas or on certain notes. Finally, you can also use these guidelines to correct hot or dead spots on the neck of your instrument or inherent in your speaker system.

Effects Blend Control

The Effects Blend Control “blends” the signal sent from your instrument with the signal coming from an external effects unit. With the Effects Blend fully counter-clockwise (“DRY”), no signal from your external effects unit will be heard. As you turn this control clockwise, more of the effect can be heard in the overall sound. When the Effects Blend control is set fully clockwise (“WET”), no true or unaffected signal is heard other than what your external effects unit provides. If your external effects unit has a similar control, adjust it to the fully clockwise (“WET”) position. This will avoid any possible phasing problems.

The Effects Blend circuit is similar to that used on recording consoles with the effects loop on a “side chain” to the normal circuit. Unless the control is set to the full “wet” position, you will always get the full sound of your instrument AND get the diversity an effects unit offers. This circuit is also effective in reducing noise generated by effects units because it is located after the gain stages in the preamp.

The Effects Blend control functions only when the Effects Loop is being used. It is activated when a 1/4" phone plug is inserted into the Effects Receive jack (for more information, please see the heading titled “Effects Loop” in the “Rear Panel Features” section later in this manual).

Effects Bypass Switch

Located on the Effects Blend Control knob, this feature gives you the ability to easily defeat whatever signal you have blended into the Baby Baby Blue’s effects loop from an external effects device. To activate the feature, simply pull out on the Effects Blend Control knob until you hear a “click.” Push the control back in to return the external effects to your signal. This feature will function regardless of the position of the Effects Blend control.

Note: If you’re wondering why you can’t get any signal from your external effects unit even though you have it blended in on the Effects Blend Control, check the position of this control and make sure it’s "in” as opposed to “out.”

Master Volume Control

The Master Volume control adjusts the level being sent to the power amplifier in your Baby Baby Blue—it controls the overall volume of the unit. Turning the control counter-clockwise reduces the overall level, while turning the control clockwise boosts the overall level.

Two notes: The Master control never affects the level present at the various audio output jacks on the

rear panel—it only affects the level being sent to the power amplifier, and subsequently, your internal speaker and extension speaker output only. Also, losses caused by external effects units can be recovered by increasing the Master control.

Power Amp Clip LED

The power amp clip LED will illuminate when the internal power amp reaches "clipping," meaning it has run out of headroom. If this LED lights more than occasionally, the Master Volume should be turned down. Constant clipping of a power amplifier can lead to overheating of the electronic components, and can cause serious harm to your speaker system! (It also sounds pretty bad.) Speakers that have failed due to continuous clipping of a power amplifier are easy to detect and are generally not covered under warranty. Once again, to correct this situation, turn down the Master Volume.

BABY BABY BLUE – REAR PANEL FEATURES

Balanced (XLR) Output

The Balanced XLR out is a true electronically balanced output, suitable for studio and "front-of-house" (live) mixing consoles. The level present at this output can be adjusted by using the XLR Pad control (see the "XLR Pad Control" section below for more details). The signal appearing at the Balanced Output is governed by the setting of the two-position XLR Mode switch located directly below it (Line/Direct).

In the DIRECT position, the Balanced Output signal comes from directly after the first stage of the specially-selected 12AX7 preamp tube, giving you the sound of your instrument and some added warmth. In other words, it becomes an active TUBE direct box. In this position, no front panel controls are functional.

In the LINE position, all front panel controls are functional except the Master Volume control, and the signal is essentially the same as that heard through your speaker system. If you are using an external effects device in the effects loop, that signal will also be present when in the LINE position (dictated by the setting of the Effects Blend control on your Baby Baby Blue). When in this position, the output level will be affected by the Gain control on the front panel as well as the XLR Pad control. It's worth noting that changing the level of the Gain control will affect the signal present at your speakers, the Effects Send jack, the Line Out jack, and the Balanced Output, while the XLR Pad control affects the level present at the Balanced Output only. For this reason, it's usually better to set your Gain control in accordance with the directions in the "Gain Control" previously listed in the "Front Panel Features" section of this manual, and to use the XLR Pad control to set the level specifically for the Balanced Output.

Wiring for the XLR jack at the Balanced Output is as follows:

Pin 1 = ground, Pin 2 = + (plus), Pin 3 = – (minus)

(American Standard)

Note: Turn off transients appear at the Balanced Output when the amplifier is shut down. We recommend that equipment being used in conjunction with the Balanced Output be turned down, off, or disconnected BEFORE the unit is turned off.

XLR Mode Switch (Line/Direct)

This two-position switch determines the signal present at the Balanced (XLR) Output jack as described in the section directly above. In simple terms:

1. Direct = pre-EQ, post-first tube stage
2. Line = post-EQ, pre-master volume

Make sure the switch is set either to full left or full right to avoid an intermittent condition.

XLR Pad Control

This control sets the level present at the Balanced (XLR) Output. Turning the control counter-clockwise

reduces the overall level, while turning the control clockwise boosts the overall level. It should be noted that turning the control fully counter-clockwise to "MIN" does not fully defeat the signal. This is normal, as the XLR Pad is designed to provide a range of usable levels to be sent to a front-of-house or studio mixing console.

XLR Ground/Lift Switch

Sometimes connecting to certain mixing boards or studio consoles with non-standard XLR wiring can cause a ground loop. Your Baby Baby Blue has a switch—located on the XLR Pad Control knob—for lifting the ground on the Balanced (XLR) Output. (It affects no other outputs.) Pulling the knob out or pushing it back in will change the mode of operation. When the knob is in the "in" position (default setting from the factory), ground is on Pin 1 of the Balanced Output jack as normal. When the knob is pulled to the "out" position, the ground is lifted from Pin 1 of this output. If a persistent hum exists after trying both positions of the ground lift, there is probably:

1. A bad cable or connection somewhere between your Balanced Output jack and the snake leading to the mixing console
2. A dirty or miswired A/C socket
3. Mis-wired or poorly wired A/C in the building
4. fluorescent lighting directly above you or in close proximity (especially when using single-coil pickups)
5. A cell phone in your right pocket that's interacting with the electronics in your bass (don't laugh, this actually happens!)

But, in the case of a true ground loop, this switch can often times solve the problem.

Tuner Out Jack

The Tuner Out function—marked "To Tuner Input" on the rear of your Baby Baby Blue—allows the user to plug their instrument tuner into this jack and "tune up" without having to unplug and go back and forth from amp to tuner. This feature is totally isolated from the rest of the preamp and will function regardless of the settings on the front panel. Being isolated on a side chain avoids loading down of the instrument, which can cause a loss in dynamic range.

To use this feature, connect a shielded patch cord from the "To Tuner Input" jack on your Baby Baby Blue to the input jack on your tuner. Turn the amplifier on and you're ready to go. If you do not wish to monitor your sound during the tuning process, you may turn down the Master Volume.

Line Out Jack

This jack provides an audio output located later in the signal chain than the Effects Send jack. This signal is post-EQ and post-effects loop, but still before (pre) the Master Volume control. You should use this jack when using an effects device in the effects loop and wish to achieve:

1. A line level output for use in conjunction with an additional power amp or powered extension speaker cabinet
2. An unbalanced output suitable for recording or live mixing board purposes

Effects Loop

As mentioned previously in the "Effects Blend Control" section of the manual, the Effects Blend circuit in your Baby Baby Blue is similar to that used on recording consoles, with the effects loop on a "side chain" to the normal circuit. Unless the Effects Blend control is set to the full "wet" position, you will always get the full sound of your instrument AND get the diversity an external effects unit offers. Use of the effects loop will reduce the noise generated by external effects units (as compared to using the effect between your instrument and the input jack, though many people use it in this fashion anyway). This is because the loop is after the preamp gain stages.

The Effects Loop is compatible with most individual or multi-effect external effects devices. Many effects devices on the market have input level adjustments. For instance, some units have a switch that you can set for either -20 dB or +4 dB. In all cases, these should be set for 0 dB (if available) or +4 dB. The level going to your effect is controlled by the Gain control on the front panel.

Note: The Effects Loop is used in conjunction with the Effects Blend control on the front panel. When the Effects Blend Control is in the full counter-clockwise (“DRY”) position, no effects will be heard. This is normal.

Connecting An External Effects Device To The Effects Loop

Obtain two high-quality shielded patch cables, preferably as short as possible. Route them in the most direct way possible. (Running patch cables over the top of the Baby Baby Blue—as with any amplifier—can induce hum in the cables and is not recommended.) Take one cable and connect it from the Effects Send jack on the Baby Baby Blue to the input of your external effects device. Take the second cable and connect it from the output of your external effects device to the Effects Return jack on your Baby Baby Blue. To set levels, follow the instructions as previously listed in the “Effects Blend Control” heading under “Front Panel Features.”

Effects Send

This jack’s primary function is to send a post-EQ signal to an external effects device for use in the Baby Baby Blue’s Effects Loop. However, it can also be used as:

1. A line level output for use in conjunction with an additional (slave) power amp or powered speaker cabinet.
2. An unbalanced output suitable for recording or live mixing board purposes.

The output impedance of the Effects Send jack is 100 Ohms.

Effects Receive

This jack’s primary function is to complete the Effects Loop circuit by routing the post-external-effects device signal back into the power amp of the Baby Baby Blue, where it can be blended back in with the original signal by using the Effects Blend control on the front panel. However, it can also be used as:

1. A power amp input jack. If, for some reason, you wished to bypass the entire front end and use the Baby Baby Blue strictly as a powered speaker cabinet, you could take the output of whatever line-level audio source you wished and connect it to this jack. Then, set the Effects Blend control to the full clockwise (“WET”) position. Use the Master control to set the overall level, and your Baby Baby Blue is now a powered speaker cabinet.
2. An input for pre-recorded music, for playing along and practicing purposes. To accomplish this, insert a CD player or other sound source into the Effects Receive jack. (It must be a MONO 1/4" plug that goes into this input, so you’ll have to use a stereo-to-mono cable adaptor of some kind.) You can adjust the level of recorded music versus the “live” sound of your instrument by using both the Effects Blend control (the more clockwise the control, the more pre-recorded music signal you’ll hear) and the volume control of your CD (or other) audio source. The mixed sound will be heard through your speakers. Besides pre-recorded music, this is also an excellent way to practice along with a drum machine.

Input impedance of the Receive jack is 27k Ohms minimum.

Note: Inserting a plug into the Effects Receive jack activates the Effects Blend control. The control receives this command through the ground created by the phone plug making contact with the jack. The plug must be a mono plug (tip and ground). If you have a stereo plug only, it will be necessary to tie the ring and the ground together.

Headphones Jack (Stereo Only)

By inserting a set of stereo headphones into this jack you can monitor your sound more closely in a studio situation, or practice silently (in conjunction with the Speaker On/Off Switch on the back panel) so as not to completely annoy your neighbors. The headphone volume level is adjusted by the Master Volume. We suggest you begin with the Master Volume full off (counter-clockwise), then slowly bring up the volume to the desired level. If you hear some distortion in your headphones that isn’t present through your speaker system, turn down the Master Volume. You are probably overdriving your headphones and could ruin them, to say nothing of what you may be doing to your ears.

Any impedance headphones will work. However, optimum impedance is 75 ohms.

Using Extension Speakers With Your Baby Baby Blue

This section of the manual will deal with the proper connection of extension speaker cabinets to your Baby Baby Blue, so feel free to skip this section if you only plan on only using the unit as a stand-alone combo. But if you're interested, this section will provide information in great detail about power amplifiers, impedance and speaker cabinets, as they are all crucial in determining how best to operate your new Baby Baby Blue with extension speakers.

How Impedance Affects Power Ratings

People often have questions about impedance. What is it? The root of the word "impedance" is the verb "impede," which means to block or resist. That's what impedance is—resistance to power.

Power amps themselves do not have a pre-determined impedance. They deliver power at whatever impedance the speaker cabinet tells it to. That's why you hear the term "slave amp"—amplifiers only do what they're told. So if someone tells you that they have a "4 ohm power amp," their terminology and understanding of the concept is way off the mark.

Unlike power amps, every speaker cabinet has a pre-determined impedance rating measured in "ohms." In most cases this rating is either 4 or 8 ohms (though there may still be some old 2 ohm creakers out there). The higher the impedance of the speaker cabinet, the more resistance to power it will offer. The lower the resistance of the speaker cabinet, the less resistance to power it will offer. In other words, HIGHER IMPEDANCE MEANS LESS POWER CAN ENTER THE SPEAKER CABINET. LOWER IMPEDANCE MEANS MORE POWER CAN ENTER THE SPEAKER CABINET.

You may be thinking that you've found the solution to the universe—just use speaker cabinets with really low impedances and you can get skull-crushing power out of your amplifier, right? Wrong. There's a catch. Power amps have limits as to how low an impedance they can drive safely. This is what's known as an amplifier's "Minimum Impedance Rating." If you try and operate a power amp below its minimum impedance rating, it will give you lots and lots of power for about five minutes...and then overheat, short out and fail completely. In other words, THE LOWER THE OPERATING IMPEDANCE OF THE AMPLIFIER, THE HOTTER IT WILL GET.

Baby Baby Blue Power Amplifier Minimum Impedance Ratings

Here's what this means to the power amp in the Baby Baby Blue. Being a combo amp, it comes equipped with its own internal speaker complement. The operating impedance of the internal speaker system in your Baby Baby Blue is 8 ohms. The "Minimum Impedance Rating" of the Baby Baby Blue's power amp is 2 ohms. In terms of adding extension speakers, this means that you can safely connect:

- One 8 ohm speaker enclosure (total impedance: 4 ohms)
- One 4 ohm speaker enclosures (total impedance: 2.6 ohms)
- Two 16 ohm speaker enclosures (total impedance: 4 ohms)
- Two 8 ohm speaker enclosures (total impedance: 2.6 ohms)

All of the hookups listed above will give you between 160 and 200 watts of power. But in the case of operation at 2.6 ohms or lower, your amplifier will run hotter, and an amp that runs at or near its minimum impedance all the time may wear the life of its components faster than normal. Furthermore, damage to the power amplifier section of the Baby Baby Blue may occur if speaker enclosures with total impedances less than the minimum loads listed above are connected to the extension speaker output jack. The owner's manual that came with your desired extension speaker cabinet should state its total impedance. On SWR speaker enclosures, the total impedance is generally indicated on the speaker's input panel.

So how do you determine the total operating impedance of your Baby Baby Blue when an extension speaker is connected? Here's a quick key of the most common setups:

Internal 8 ohm enclosure + one 8 ohm extension speaker = 4 ohms total impedance

Internal 8 ohm enclosure + one 4 ohm extension speaker = 2.6 ohms total impedance

Here's another formula: To figure out the total impedance of two or more cabinets of equal value hooked up in parallel, divide the impedance of one cabinet by the number of cabinets:

Impedance of one cabinet / number of cabinets = total impedance

(For an even more in-depth discussion of impedance and power rating issues, go to the SWR Website at www.swrsound.com, click on “Press,” then click on “Articles,” then click on “Plug and Play: Setup Tips for Amps and Speakers”—an article by SWR founder Steve Rabe that ran in the August ’92 issue of Bass Player Magazine.)

Baby Baby Blue Power Delivery Capabilities (Power Ratings)

After determining how the extension speaker you wish to run affects the total operating impedance, you need to take into account the power handling capabilities of that speaker cabinets as compared to what the Baby Baby Blue can deliver at that impedance. Those ratings are as follows:

120 Watts @ 8 ohms (internal speaker system)

160 Watts @ 4

180 Watts @ 2.6 ohms

200 Watts @ 2 ohms

So, for example, if you use one 8 ohm extension speaker cabinet, the power amp will deliver a total of 160 watts into both the internal and extension speaker, 80 watts a piece evenly split. It’s unlikely that an extension speaker would not be able to handle 80 watts of power, and the power rating of the internal speaker is 175 watts, so overpowering drivers should not be much of an issue. However, there is the situation known as underpowering your speaker cabinets. This is caused when the power amp, in the process of trying to drive one or more speaker cabinets, reaches its limit and goes into clipping. That “clipped” waveform (or “square wave”) will quickly heat up the voice coils in speakers, and if operating continually while clipping, eventually will burn the voice coils and cause the speakers to fail.

This is especially important to remember when running the amp at 2.6 or 2 ohms, as you are operating at or near the maximum capacity of the power amplifier. With extreme settings on the Gain and Master Volume controls, you may hear audible clipping of the power amp (and the “power amp clip LED” should illuminate). If so, you have exceeded the maximum capacity of the power amp. POWER AMP CLIPPING CAN CAUSE DAMAGE BOTH TO ITSELF AND YOUR SPEAKER CABINETS. Back off on the Gain and Master controls to help smooth out the peaks.

Remember, it’s always better to have a little too much power than just barely enough. Obviously, the Baby Baby Blue is a small combo, meant for small gigs and studio work. If you find yourself constantly wanting more power than the Baby Baby Blue provides, either:

a) Tell your bandmates to turn down

b) Tell the monitor engineer to turn you up

c) (better option) Take the time to investigate getting an external power amp for the additional speaker cabinets to supplement your rig

d) (best option) Investigate getting a larger combo for those gigs where more power and volume is needed

Question: Can you safely run a 4 ohm extension speaker cabinet off of the Baby Baby Blue, even though its internal impedance is 8 ohms? Yes, but the 4 ohm extension speaker cabinet will get more power—and be louder—than the internal 8 ohm speaker in the Baby Baby Blue. For this reason, it’s best to use an 8 ohm extension cabinet.

Extension Speaker Output Jack

One 1/4" phone jack has been provided for connection of the Baby Baby Blue to your desired extension speaker cabinet. Only SPEAKER CABLE of 18 gauge or heavier (the heavier the cable, the lower the gauge) should be used to connect your Baby Baby Blue to your extension speaker system. Do not use shielded instrument cable for this purpose, as this can result in intermittent power loss, cause your amp to oscillate and damage itself and/or your speakers, and render the cable useless.

Recommended SWR extension speaker enclosures for use with the Baby Baby Blue include:

- Goliath Junior III 2x10 (8 ohms)

- Bass Monitor 12"
- Son Of Bertha 1x15"
- Workingman's 1x10T
- Workingman's 2x10T

Speaker Fuse

The speaker fuse is provided to protect your speakers in the unlikely event of a power amp failure or to protect your power amplifier from incorrect speaker impedances or hookups. Size and rating of the fuse is 3AG, 8 amp, fast-blo. Do not defeat the purpose of this feature by using a higher rated fuse as it can damage your amplifier and void your warranty.

The fuse can open as a result of a fault in an extension speaker cable, the speakers themselves, or the power amp being sent well into clipping. With this in mind, it is wise to carry extra fuses at all times.

Line Fuse (A/C or Mains Fuse)

This fuse is provided to protect the internal electronics against power surges, etc. It also protects the unit against itself should one of the internal components fail. If this fuse should open, replace it with the same type of fuse and rating. Do not defeat the purpose of this feature by using a higher rated fuse as it can void your warranty.

Proper size of the AC fuse for all countries is 3AG. Proper rating of the fuse is as follows:

United States (120V): 3 amp slo-blo

Japan (100V): 3 amp slo-blo

Europe (230V-240V): 1 1/2 amp slo-blo

A/C Cord Receptacle

This receptacle accepts a standard A/C power cable (supplied with the Baby Baby Blue in the United States) used with almost all current musical, professional and household electronic devices. We recommend great care when packing up. If it does become misplaced, a replacement cable can be purchased at almost any music or computer store.

Note: The rating for this cable is 3 conductor, 10 amperes minimum. Look for this rating on the cable. Make sure the cable is plugged in all the way in both the amp and the wall socket.

Two-Position Speaker On/Off Switch

Located on the rear of the speaker cabinet section, this two-position switch can defeat the entire speaker system if desired. Its primary function is to allow for silent practicing in conjunction with a set of stereo headphones, but it can also be used as an overall mute switch. The upper position (marked "On") allows the speaker system to operate in its normal capacity. The lower position (marked "Off") defeats both the speaker and the tweeter in the Baby Baby Blue.

Three-Position Tweeter Switch

Located on the rear of the speaker cabinet section, this three-position slide switch allows you to choose the mode of operation for the piezo tweeter. FULL will provide the full range, unattenuated signal through the tweeter; –6dB will bring the tweeter level down slightly; and OFF will defeat the tweeter completely.

Note: If the Speaker On/Off Switch is set to "Off" the tweeter will be defeated along with the speaker, and therefore the tweeter switch will have no effect.

Internal Feature: Vacuum Tube (Valve)

SWR installs a specially selected 12AX7A dual triode on the preamp circuitboard of every Baby Baby Blue. If this tube needs replacing, we recommend that you replace it with a similar high quality product.

This tube will need replacing only if it becomes noisy or microphonic (which sounds like glass tinkling in the background of certain notes), or completely fails (causing no signal or signal at very low levels). The tube in your Baby Baby Blue should last one to three years, depending on usage.

A Few Words Concerning Heat

One of the most asked questions about our amplifiers is why they tend to get warmer than other amps. The chassis of your amplifier can get quite warm during normal usage. This is especially true if you are operating your Baby Baby Blue at a 2 or 2.6 ohm total impedance. This is because these low impedances are introducing the least efficient condition of the unit (in terms of power drawn from the outlet in relation to power produced in the speakers). The difference in these two figures can be as high as 300 watts. This would be the equivalent of putting a 300-watt light bulb inside a metal box, which would obviously get quite hot.

Most musical instrument amplifiers on the market today use steel for their chassis, which does not conduct heat as well as aluminum. The Baby Baby Blue uses an all aluminum chassis and because it has less impurities than steel, is less susceptible to rust, and is a better conductor of heat. This results in the chassis acting as an additional heatsink, drawing heat away from heat-producing components inside and thus extending their life. In this manner, we feel we have produced a more reliable amplifier, but at the same time, the outside of the Baby Baby Blue will get warmer than cases made out of steel.

The one condition you should be aware of is if the power amplifiers in your unit becomes "over-biased." This condition can be recognized by turning your amplifier on and letting it sit "idle" (without playing it). If your unit starts getting hot under these conditions, it may be over-biased. This situation should be attended to and can be easily remedied in about 15 minutes by a qualified service technician. A power amp can become over-biased through continuous vibration or by any large jolt received in shipping, etc.

Final Engineering Summary

The two preamp gain stages utilize a specially-selected 12AX7A. The tone controls incorporate I.C.'s, and the power amp is designed with extremely high quality bi-polar devices. Each type of device was chosen for its performance and reliability in the application used. The chassis of the Baby Baby Blue comprised of aluminum, because of its superior electrical and thermal characteristics and light weight. All primary electrical components are U.L. approved, and SWR uses Beldon Cable for all shielded wire. All units are assembled by hand and individually soundtested in the U.S.A. at our factory in Southern California.

BABY BABY BLUE LIMITED WARRANTY

The **BABY BABY BLUE** from FMIC is warranted to the original consumer purchaser for TWO YEARS from the date of purchase, against defects in materials and workmanship and provided that it is purchased an Authorized SWR Dealer. This warranty applies only to products purchased in the USA or Canada.

This warranty is VOID if the unit has been damaged due to accident, improper handling, installation or operation, shipping damage, abuse or misuse, unauthorized repair or attempted repair, or if the serial number has been defaced or removed. FMIC reserves the right to make such determination on the basis of inspection by an Authorized FMIC Service Center.

All liability for any incidental or consequential damages for breach of any expressed or implied warranties is disclaimed and excluded herefrom.

Some states do not allow limitations on how long an implied warranty lasts, or the exclusion or limitation of incidental or consequential damages, so that the above exclusion may not apply to you. This warranty gives you specific legal rights and you may also have other rights which vary from state to state.

SHOULD YOUR SWR AMPLIFIER REQUIRE SERVICE OR REPAIR, PLEASE USE THE FOLLOWING PROCEDURE:

1. Locate your original receipt showing date of purchase, model and serial number.

2. Determine the closest Authorized FMIC Service Center to your location. The fastest way to get a complete list of Authorized FMIC Service Centers is on the web, at:

   http://www.mrgearhead.com/faq/allservice.html

   You can also get this information by calling FMIC Consumer Relations at (480) 596-7195.

3. To receive warranty service, return the complete product to an Authorized FMIC Electronics Service Center, with proof of purchase, during the applicable warranty period. Transportation costs are not included in this Limited Warranty.

4. Defective products that qualify for coverage under this warranty will be repaired or replaced, at FMIC's discretion, with a like or comparable product, without charge.

For a complete list of Authorized FMIC Service Centers, and the latest SWR news, interviews, and more, check out our website:

swrsound.com

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