

Basic Black

Please Note: The Basic Black is no longer in production (it was discontinued in 1999). The text below is provided for the convenience of SWR users who purchased this model on the used market.

GENERAL DESCRIPTION AND DATA

The Basic Black Integrated Bass System has been designed as a no-frills amplifier for the player requiring a pure sound and a minimum of controls.

The precision electronic section is entirely hand-built, employing a variety of technologies selected for their sound quality and practical usefulness in a road able and studio-ready amplifier, including vacuum tubes in the initial gain stages of the preamplifier section and discrete solid-state design in the power amplifier. Regardless of its lower price, the Basic Black offers no compromises of the essential SWR design and construction philosophy. Corners are not cut from a more elaborate model: rather, each product's design parameters are conceived from the ground up and the best available components selected for each application.

The Basic Black's tone-shaping section, including the Aural Enhancer (found in all SWR Preamps and Integrated Amplifiers) and the Tone Controls, will not impose a character on your sound. They will instead make the interface between your instrument and the speaker system, the two biggest factors in your final tone, a simple matter and a minimal effort. The center frequencies of the Tone Controls were chosen for their musical effect on most basses.

The Basic Black speaker system features a single die-cast frame (as opposed to the more frequently found stamped frame) 15 inch bass driver from Professional Audio Systems coupled with a piezo tweeter for frequencies above 5KHz. The cabinet is constructed from 3/4" Douglas fir and 7-ply birch.

We truly hope that the Basic Black helps bring out the best in your playing and adds to the enjoyment of your profession.

EVERY BASIC BLACK FROM SWR IS ENTIRELY ASSEMBLED BY HAND IN CALIFORNIA. AT LEAST 75% OF OUR COST IN RAW PARTS ARE MADE IN CALIFORNIA. TRULY "HAND MADE IN THE U.S.A."

SPECIFICATIONS - ELECTRONIC

Note: All measurements were taken with a line voltage of 120V AC. Maximum power at 1KHz under clipping:

120 Watts RMS @ 8 ohms

160 Watts RMS @ 4 ohms

*current limited at 2 ohms for thermal stability.

*160 Watts RMS @ 2 ohms

Power Amp Distortion (1KHz)

0.05% THD at rated output, 8 ohms

Intermodulation Distortion @ 8 ohms,

100 Watts RMS, 60/7KHz, 4:1, = 0.11%

Frequency Response (power amp): -3db at 10 Hz and 30KHz

System Distortion (Gain and Master Volume full, enhancer and tone controls set flat,

1KHz) 0.175%THD

Sensitivity (for full output @ 8 ohms, 1 KHz)

Passive Input Jack = 10 millivolts

Active Input Jack = 50 millivolts

Input Impedance

Passive Input Jack = 800K ohms

Active Input Jack = 60K ohms

Effects Return Jack = 27K ohms

Output Impedance

Effects Send Jack = 100 ohms

Tuner Out Jack = 100 ohms

Signal to Noise Ratio, unweighted

-70db (10 millivolts typical, mostly hum)

Equivalent Input Noise

3.2 micro-volts

CABINET/SPEAKERS

Size: 22.75" wide X 20.5" high X 16.5" deep

Weight: 50 lbs.

Impedance: 8 ohms

15" Woofer

2" edgewound copper voice coil; die cast frame with bolt on magnet; 150 Watts RMS power handling capacity; custom designed and hand made in the U.S.A. for SWR by Professional Audio Systems

Tweeter

Inductive type piezo crossed over @ 5KHz

Cabinet Construction

Interlocking dado, glued and nailed using 3/4" Douglas fir

TOP PANEL FEATURES

INPUT JACKS

PASSIVE: This input can be used if your instrument has passive electronics (no built-in preamp). Some pickups, such as EMG, etc., employ batteries for operation and will work perfectly using this input. Technically speaking, this input should be used if your instrument has an output voltage of 1 volt RMS or LESS. Consult your owner's manual or ask the manufacturer if you are unsure.

NOTE: Generally speaking, you should try the Passive input jack first. Some built-in preamps, such as those made by Bartolini and Music Man, can be used with this input depending on their internal gain settings. If you hear a small amount of distortion and neither the Preamp Clip LED or the Power Amp Clip LED are activated, try using the Active input jack. And please note, some passive pickups DO distort. If you would like to overdrive the first TUBE stage, this can be done by using a preamp between your instrument and the Passive input. To obtain optimum sound when trying this, make sure the Preamp clip LED is not activated. If this occurs, turn down the Gain control. The first preamp stage is NOT monitored by the Preamp clip circuit for this reason.

ACTIVE: The Active input jack should be used with instruments having a built-in (on-board) preamp that will produce signals over 1 volt RMS. Known basses that should use the Active input only are the Kubicki X-Factor and some Ovation electrics. Some really "hot" pickups installed in your instrument may find the Active input more compatible. The best judge is your own ears.

NOTE: Using the Active input with passive basses may result in a loss of high-end transients. Players who roll off their high-end starting at around 2K to 3KHz may find this input more to their liking.

If you hear some distortion from your active bass and are using the Active input jack, CHECK YOUR BATTERY!! Also, make sure none of the overload indicators are lit.

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 jack (see that section for more info). In the event the Preamp clip indicator lights, turn down the Gain control. Since the Preamp Clip also monitors the Tone section, boosting any one of the tone controls can cause the LED to activate. Again, turn down the Gain control if this happens.

PREAMP CLIP LED:

NOTE: Constant clipping of the preamp will not harm the electronics in your Basic Black. However, damage can occur to speakers due to near-DC content present in a clipped waveform. Overdriving the first tube stage as described in the Passive input jack section does not apply to the above.

GAIN CONTROL:

The gain control adjusts the volume of the preamp section. After the Tone controls, Aural Enhancer and any effects you may be using have been set to your liking, the Gain control should be set to where the Preamp Clip LED barely flashes upon hitting your loudest note. After setting the Gain, use the Master Volume to set the desired volume level. Using these controls in this manner assures the maximum signal-to-noise ratio with no distortion caused by the preamp circuits clipping. Since the Gain control is similar to a "pad", a small amount of signal will get through with the Gain control turned all the way down.

AURAL ENHANCER:

The Aural Enhancer was developed to bring out the fundamental low notes of the bass, reduce certain frequencies that can "mask" fundamentals and enhance the high-end transients. The effect becomes more pronounced as the control is turned up. The result is a more transparent sound. Listening to a passive bass with the control set all the way down, and then turning it all the way up, can be likened to listening to the bass suddenly become "active".

TONE CONTROL SECTION

The Basic Black's Tone Control section is a three-band set of level controls centered around the frequencies 80 Hz (Bass), 800 Hz (Mid Range) and 5KHz (Treble). Each control can cut or boost its band a maximum of 15dB. Each control has a flat (center click) position that defeats its function. In this position, the tone controls are inactive.

For each tone control, rotating the knob counter-clockwise from the center "click" position will reduce or cut its designated frequency. Rotating the knob clockwise will boost its designated band or frequency.

EFFECTS BLEND:

The Effects Blend control mixes the signal coming from your instrument with the sound coming from your effect. With the Blend control fully counter-clockwise, no signal from your effect will be heard. As you turn this control clockwise, more of the effect can be heard in the overall sound. When the Blend control is fully clockwise, no dry or unaffected signal is heard other than the output of your effect device.

This type of control and patching arrangement is very effective in reducing noise caused by effects devices and in maintaining a more natural sound. If your effects device has a similar control, we suggest leaving it set to its maximum effect/minimum dry signal position and using the Effects Blend control for this function. Please read the "Effects Loop" section for more information.

MASTER VOLUME:

The Master Volume adjusts the signal level going to the power amplifier. It DOES NOT control the output of the effects send jack or Balanced Direct Record XLR output. It DOES affect the output of the extension speaker jack. If the Power Amp clip LED lights more than occasionally, turn down the Master Volume control to correct this condition.

POWER AMP CLIP LED:

The Power Amp Clip LED will light when the internal amplifier reaches clipping (runs out of headroom). Although no harm will come to the electronics due to the power amp clipping, continual clipping of the power amp will shorten the life of the internal (or any) speakers and could cause speaker failure. **SPEAKERS THAT HAVE FAILED DUE TO CONTINUOUS CLIPPING OF THE POWER AMP WILL NOT BE COVERED UNDER WARRANTY!** Occasional clipping of the power amp (no more than every fourth or fifth note) will not harm the internal speakers. Turning down the Master Volume control will correct this condition.

EFFECTS LOOP:

The Effects Loop is located POST EQ and PRE Master Volume in the signal path. The level appearing at the Send jack is controlled by the Gain control on the top panel. If you are getting too hot a signal to the input of your effect, reduce the level of the Gain control and raise the level of your Master Volume control to retain similar overall volume levels. By using the Gain, Master Volume and Effects Blend controls, optimum performance should be easily obtainable with any effects device.

The Effects Loop is designed as a "sidechain" (parallel) function similar to those found on mixing consoles. Use of the Effects Loop should greatly reduce noise generated by effects devices (as compared to in-line effects loops). Additional features of this type of loop can be found below under the Receive jack section.

SEND:

Run a shielded patch cable from the Send jack to the input of your effects device. This jack may be used as an additional line level output, in which case its level is determined by the setting of the Gain control.

RECEIVE:

Run a shielded patch cable from the output of your effects device to the Receive jack.

One unique feature of the Receive jack is the ability to practice along with pre-recorded music. Insert a sound source into the Receive jack (make sure it is a mono source). Use the Effects Blend control to mix the level of the recorded music with your instrument's level. The combined signal will be heard from the internal speakers.

NOTE: Inserting a plug into the Receive jack activates the Effects Blend control, which receives this "command" through the ground created by the insertion of a plug in the jack. Therefore, best performance can only be obtained using a mono (2-conductor) phone plug. If you have a stereo (3-conductor) plug only, tie the ring and the sleeve (ground) together. If you are not getting any "effect" through the speakers, check the position of the Effects Blend control.

REAR PANEL FEATURES**POWER SWITCH:**

Pressing the Power Switch to the ON position activates the Basic Black's electronics as indicated by the red LED on the top panel lighting.

A/C LINE FUSE:

The line fuse can open (blow) due to power surges or high power line transients. This fuse will also open in the event of an electronics failure inside your amplifier. Correct size and rating of the Line (Mains) fuse: 3AG, 3 amp slo-blo for 120V operation, and 1 1/2 amp slo-blo for 240V operation.

A/C LINE CORD RECEPTACLE:

Accepts a standard A/C power cable (supplied with the Basic Black), used with almost all current musical, professional and household electronic devices. We recommend taking great care when packing up. Put the cable in your instrument case, accessory case, etc. If it does become misplaced, replacement will be easy at almost any appliance store, super market or the like. But

PLEASE NOTE: the rating for this cable is 3-conductor, 10 amperes. This is a rating of the current capacity of the cable, designated for higher power-drawing devices like amplifiers. If replacement is necessary, or if you wish to buy a longer cable, look for the rating on the cable and be sure it is at least 10 amps.

SPEAKER FUSE:

This feature is provided to protect your speakers in the unlikely event of a power amp failure or your power amp from bad speakers or their respective cables. This fuse can open (blow) if your amp is on and you are playing while plugging in an extension speaker cabinet. This is because the power amp is momentarily shorted out to ground. Always check this fuse first if no sound is coming from your cabinet. Correct size and rating of the speaker fuse is: 3AG, 8 amp, fast blo. (3AG = fuse size, amp = current capacity).

EXTENSION SPEAKER:

Use an unshielded 2-conductor cable with phone plugs (NOT A GUITAR CORD!) to connect additional speaker cabinets. Use a high quality, heavy gauge cable of at least 18 gauge (the lower the gauge, the heavier the cable). The impedance of the speaker(s) can be either 4 or 8 Ohms. If you wish to connect two additional cabinets be sure their combined load

impedance is not below 4 Ohms (equivalent to two 8-Ohm speakers connected in parallel).

Recommended extension speaker cabinets for the Basic Black manufactured by SWR are the Basic 2-Way, the Triad and the Goliath II.

TO TUNER INPUT:

The To Tuner Input jack allows the user to connect their instrument tuner to the Basic Black without having to unplug and go back and forth from amp to tuner to amp. This feature is totally isolated from the rest of the amp and will function regardless of the settings of the controls on the top panel. Being on a sidechain (isolated) also avoids loading down of the instrument causing a loss in its dynamic range.

To use this feature, plug in a shielded patch cord from this jack to the INPUT of your tuning device. Turn the amp on and you're ready. If you don't want to monitor your sound while tuning, turn down the Master Volume control.

BALANCED DIRECT RECORD OUT:

The Balanced XLR output is true balanced 600-ohm output. It is the equivalent of an ACTIVE TUBE DIRECT BOX, and no top panel controls affect its signal. When using this output for recording, optimum results can be achieved by driving the tape machine's input direct. This should always be tried; however, its output level may be too hot for some tape machines. This output is also suitable for sending a signal to a house mixer in live situations.

Wiring for the XLR connector is as follows: Pin 1 = ground, Pin 2 = +, Pin 3 = - (American standard)

USING THE TONE CONTROLS

To get the most out of the Tone Controls of your Basic Black, it would be best to first understand how the Aural Enhancer works, and how it interacts with the Bass, Midrange and Treble controls. Think of it as a variable tone curve, changing with its position. As you raise the control from its "0", or fully counterclockwise position, you are elevating the whole range of sound (lows, mids, and highs) at frequency points different than those selected for the individual Tone Controls. This remains true up to about the "2 o'clock" position, at which point the mids start to drop off. The curves involved here are gentle, as opposed to the very extreme curves you can create with the Tone Controls. Most significantly, the Aural Enhancer will raise the low end at a point lower than the Bass control itself. For a "normal" bass (4-string), the Bass control itself will suffice. For the 5-string player, the Aural Enhancer will help bring out the fundamentals of your instrument, in the 30-60 Hz range. Discretion should be used when doing this with a Basic Black with no extension cabinet. True low fundamentals (one of the sonic signatures of all SWR amplifiers) require lots of headroom and air motion. It is for this reason that we recommend that 5-string players use an extension cabinet to increase the power output of the amplifier and get more air moving.

The Bass control itself, as stated above, works in a range that will be useful under most "normal" conditions. Its musical use might be thought of as a "fatness" control. Leaving the Aural Enhancer in a position lower than 12 o'clock will not boost the extreme bottom so much as to make indistinct the working of the Bass control. The overall "punch" of your instrument, from your low E-string on up about two octaves (midway up the G-string), will be determined with this control. With passive instruments, this will be straightforward. With active instruments having bass-boost controls more exploration will be worthwhile. (Some active tone circuits have boost-cut controls such as Tobias, Sadowsky, etc. Others such as Music Man, are straight boost controls).

The Mid Range control operates in a crucial area for most instruments. Many basses, particularly with roundwound strings, can have a very "honky", or nasal, sound. Dropping the Mid Range control can go a long way toward smoothing out your tone. We suggest, though, that what sounds best when your listening to your tone by yourself may not be what works best in a band or recording. Sometimes that objectionable quality may be just the right "hair" on your note to still have an audible presence in the track or on stage.

The Treble control operates in a tonal area that extends through and beyond the usual Treble control range. It may be thought of as a "Transparency" control (it functions similarly to the option which we offer on our SM-400 amplifier; over time, we have found this approach to result in a more musically useful "treble"). Boosting the control will open up the sound of a dull instrument, particularly in conjunction with the piezo tweeter in the Basic Black's speaker complement. However, this is also the range of string rattle, finger slides, pickup clicks, etc. Again, we recommend you experiment with the control alone with your instrument while finding your tone, and listen again in a band context, both near to and away from the Basic Black. Qualities like punch, fatness, presence and bite can be fairly well spread out. Treble, despite the broad dispersion of the piezo tweeter, is a very directional quality. Spend some time exploring what you can hear in this area as you move around.

In the prototyping stage of the Basic Black we were asked why we didn't include an attenuator for the tweeter. The Treble control operates in the same frequency range as the tweeter, and can thus be used as a level control for it, in effect reducing the Basic Black's output in that tonal region rather than the tweeter itself, accomplishing the same function.

CAUTION!

The expanded metal grill that covers and protects your speakers has extremely sharp edges. If, for any reason, you intend to remove the grill, use a pair of pliers or an equivalent to lift the grill out after removing all the retaining screws.

When installing the grill, try and use the exact same screw holes as previously used to prevent any future "air leaks".

You may be interested to know that we have used a "powder coat" technique for the painting process on the grill. It is very hard and weather resistant and will keep it from rusting or corroding for many years.