

## **Bass 350 (Red Face)**

### **GENERAL INFORMATION AND SPECIFICATIONS**

The Bass 350 Bass Amplifier from SWR Sound Corporation was designed for the player who prefers a straight forward preamp combined with a power amp capable of delivering enough power and headroom for most live applications.

The 350 maintains the same quality components and materials found in all SWR products and is assembled by hand at our shop in Sylmar, California.

The two preamp gain stages utilize a specially selected Groove Tubes 12AX7A. The tone controls incorporate I.C.'s and the power amp is designed with very high quality bi-polar devices. Each type of device was chosen for its performance and reliability in the application used. Aluminum is used for the chassis because of its good electrical and thermal characteristics and is much lighter than commonly used cold rolled steel. All primary electrical components are U.L. approved and we use Beldon Cable for all shielded wire.

As well as the extruded aluminum heatsink, the power amp is cooled by a thermostatically controlled fan. This fan turns on when the heatsink reaches 50 degrees centigrade and turns itself off when the heatsink reaches 40-45 degrees centigrade. This allows for "silent running" when used at low volumes. Be sure to leave at least a 1/2" clearance between the vent on the left side of the Basic 350 and the side of any rack case or enclosure you should happen to install your amp in. This will allow for the hot air to escape.

Everybody at SWR sincerely hopes that the purchase of our product adds to the enjoyment of your playing and that it lives up to all your expectations and more!

### **FRONT PANEL FEATURES**

#### **PASSIVE/ACTIVE INPUT JACK**

A "passive" instrument has no built in preamp and does not use a battery. On the other hand, an "active" bass utilizes a battery operated preamp for gain, tone controls, or both. Although labeled "Passive," the Passive Input will work with all instruments having a maximum output of less than 1 volt RMS. Some pickups such as EMG, Bartolini, etc., employ batteries for operation and will work perfectly using the Passive input. Instruments made by Pedulla, Tobias, Sadowsky, Modulus Graphite, etc., have active electronics and should also be operated in the Passive input.

Generally speaking, try the Passive 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 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**

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 exceeding 1 volt RMS. Known basses that should use the Active input are the Kubicki X-Factor and some older Ovation electrics. Some really "hot" pickups installed in your instrument may find the Active input more compatible. The best judge is your own ears.

If you are using a KEYBOARD or BASS PEDAL with the Bass 350, 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, CHECK YOUR BATTERY!! Also, make sure the preamp clip LED indicator is not lighting. This will save you and a service technician a lot of aggravation.

#### **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 (with the Master Volume 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 correct, 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.

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.

## **AURAL ENHANCER**

The Aural Enhancer was developed to bring out the fundamental low notes of the bass guitar, reduce certain frequencies that help "mask" the fundamentals and enhance the high end transients. This effect becomes more pronounced as the control is turned to maximum. The result is a more transparent sound and is especially noticeable with a slap style of playing.

A particularly favorite setting for live gigs is at about 2 o'clock. This position of the Enhancer 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.

## **ACTIVE TONE CONTROL SECTION**

### **BASS CONTROL**

The Bass Control cuts or boosts the lower or bass frequencies. Starting at mid-center click-position, turning the control counter clockwise cuts the bass response and turning the control clockwise boosts the bass response.

The Bass control employs a shelving type circuit and boosts or cuts the bass response + or - 15dB from about 30 Hz to 100 Hz.

## **MID RANGE SECTION**

### **LEVEL CONTROL**

The Level control cuts or boosts the frequency set by the Frequency control. Starting at mid-position, turning the Level control counter clockwise cuts the desired tone. Turning the Level control clockwise boosts the desired tone (set by the Frequency control). WHEN THE LEVEL CONTROL IS SET AT MID (CENTER CLICK) POSITION, TURNING THE FREQUENCY CONTROL WILL HAVE NO AFFECT ON THE SOUND.

It is suggested that to find the midrange area you are looking for:

1. Adjust the LEVEL control to the full boost or cut position.
2. Rotate the Frequency control until the desired area you wish to cut or boost is found.
3. Adjust the Level control to the desired amount of cut or boost

### **FREQUENCY CONTROL**

The Frequency control sets the area that is to be cut or boosted by the Level function. If the Level control is set at mid-position, turning the Frequency knob will have NO affect.

Some hints: If you need to "cut through" the band a little more, try boosting 200 to 400 Hz. If you like a more transparent sound, try cutting 800 cycles. The midrange area is especially useful in controlling fretless basses and their inherent qualities.

### **TREBLE CONTROL**

The Treble control is a shelving type tone control that cuts or boosts the high notes and their octaves. Starting from mid position, turning the control counter clockwise cuts the highs while turning the control clockwise boosts the treble region. Range of the Treble control is from 2KHz to 14KHz.

### **EFFECTS BLEND CONTROL**

This function "blends" the signal sent from your bass, etc., with that coming from your effects unit. With the Effects Blend full counter clockwise, no signal from your effects will be heard (dry). As you turn this control clockwise, more of the effect can be heard in the overall sound. When the Blend knob is full clockwise (wet), no true or unaffected signal is heard other than what your effects unit provides.

If your effects unit has a similar control, adjust it to the FULL "WET" POSITION. This will avoid any possible phasing problems.

The 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 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. See the "Effects Loop" section for more information.

NOTE: PULLING THE EFFECTS BLEND CONTROL KNOB OUTWARD DEFEATS THE INTERNAL LIMITER CIRCUIT. PUSHING THE CONTROL BACK IN, ACTIVATES THE LIMITER.

### **MASTER VOLUME CONTROL**

The Master Volume adjusts the level being sent to the power amplifier in your Bass 350. Hence, controlling the overall volume of the product. It DOES NOT affect the level of the record XLR output in the "line" position.

Losses caused by effects units can be recovered by increasing the Master Volume.

## **FAN ON/OFF SWITCH**

Switching the Fan On/Off switch to the "On" position allows the Bass 350's internal cooling fan to operate, keeping the amplifier's heat sink cool. Switching the Fan On/Off switch to the "Off" position defeats the Bass 350's internal cooling fan. This position is suggested for situations such as recording where unwanted fan idle may be audible.

## **POWER ON/OFF SWITCH**

Moving the On/Off switch to the "On" position activates the electronics as indicated by the red LED being lit.

## **LIMITER/COMPRESSOR CIRCUIT**

This circuit is located after (post) the Master Volume and before (pre) the power amplifier. Therefore, the limiter is driven by the Master Volume. Its threshold (starting point) is preset by the factory so that the user can get maximum overall apparent volume without unduly overdriving the power amplifier or internal speakers. You may either activate or defeat the limiter via the Effects Blend knob. The "in" position activates the limiter. The "out" position defeats this feature.

## **LIMITER ACTIVE LED**

When the threshold of the limiter circuit is reached the green Limiter Active LED will light. This LED will obviously be inactive when the Limiter is defeated or when playing at lower levels.

## **REAR PANEL FEATURES**

### **BALANCED XLR OUT**

The Balanced XLR out is a true electronically balanced record out. The signal appearing at the XLR out is governed by the position of the Line/Direct switch. In the LINE position, all front panel controls are functional except the Master Volume, and the signal is essentially the same as that heard through your speaker system. The output level in the Line position is adjusted by the GAIN control on the front panel. If you are using an effect, this will also appear mixed in the signal when you are in the line mode.

In the DIRECT position, the Balanced XLR out becomes an active TUBE direct box. No front panel controls are functional and the level is only adjustable via your instrument.

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

NO PHANTOM POWER (48V SUPPLY) SHOULD BE APPLIED TO THIS OUTPUT. DOING SO MAY DAMAGE THE INTERNAL CIRCUITRY.

### **LINE/DIRECT SWITCH**

The Line/Direct switch gives the user the option of either a line signal (preamp out) or direct signal from the instrument. The signal appearing at the XLR out is slightly "hotter" than normal DI's. You may want to inform the engineer of this condition.

To use the Line/Direct function, position the knob in the desired location. Make sure the switch is all the way to the left or right to avoid intermittants.

NOTE: Turn off transients appear at the record outs when the amplifier is shut down. It is recommended that equipment being used in conjunction with the record out be turned down, off, or disconnected BEFORE the Bass 350 is turned off.

### **TO TUNER INPUT**

The To Tuner input 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 on a side chain (isolated) also avoids loading down of the instrument causing a loss in dynamic range.

To use this feature, plug in a shielded patch cord from the To Tuner input 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.

### **EFFECTS LOOP**

THE EFFECTS LOOP MUST BE USED IN CONJUNCTION WITH THE BLEND CONTROL ON THE FRONT PANEL. WHEN THE BLEND CONTROL IS IN THE "DRY" POSITION, NO EFFECTS WILL BE HEARD.

The Effects Loop should accept any effect such as a chorus, etc. It is designed as a "side chain" function and works exactly like that of studio consoles. Many effects 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.

Use of the effects loop should greatly reduce the noise generated by effects units (as compared to using the effect between your instrument and the input jack). This is because the loop is after the preamp gain stages.

## **SEND**

Run a shielded patch cord from the SEND jack to the INPUT of your effects unit. Output impedance of the send jack is 100 ohms. This jack can be used as a line level output to use in conjunction with a slave power amp such as SWR's Stereo 800. It may also be used as an unbalanced record out.

## **RECEIVE**

Run a shielded patch cord from the RECEIVE jack to the OUTPUT jack of your effects unit.

All patch cords used with effects should be as short as possible and should be routed as direct as possible. Running patch cables over the top of the Basic 350 (as with any amplifier) could induce hum in the cables.

One unique feature of the receive jack is the ability to practice a part along with pre-recorded music. To accomplish this, insert a tape recorder or other sound source into the Receive jack (make sure it is a MONO source). Using the Blend control, adjust the level of recorded music from the Receive to the "live" sound of your instrument. The mixed sound will be heard through your speakers. Besides pre-recorded music, this is an excellent way to practice along with drum machines.

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

NOTE: Inserting a plug into the 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, tie the ring and the ground together.

## **SPEAKER JACKS**

Two 1/4" phone jacks wired in parallel are provided for hooking up your speaker system(s). Minimum load or impedance that can be used with the Basic 350 is 2 OHMS. For instance, you could use two 4 ohm, four 8 ohm or eight 16 ohm enclosures.

It should be noted that the Bass 350's preamp section can be used for recording purposes only using the XLR out.

Therefore, it can be run with no speakers attached to the speaker jacks. This is unlike most amps on the market.

**ALWAYS USE SPEAKER CABLE MADE OF 18 GAUGE WIRE OR HEAVIER (THE HEAVIER THE WIRE, THE LOWER THE GAUGE). NEVER USE SHIELDED CABLE OR CABLE INTENDED FOR USE WITH YOUR INSTRUMENT TO HOOK UP YOUR CABINETS.**

## **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 10 amp, fast blow. Do not defeat the purpose of this feature by using a higher rated fuse as it could void your warranty and further damage your amp.

The fuse can open as a result of a fault in the 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.

## **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 FUSE OF A HIGHER VALUE. IT WILL ONLY VOID YOUR WARRANTY!**

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

Japan: 8 amp slo-blo

United States: 7 amp slo-blo

Europe (240V): 4 amp slo-blo

## **AC CORD RECEPTACLE**

Accepts a standard A/C power cable (supplied with the Basic 350 in the United States) used with almost all current musical, professional and household electronic devices. We recommend great care when packing up. If your unit is not in a rack case, put the cable in your instrument or accessory case or leave it attached and looped around one of the rack handles. If it does become misplaced, replacement will be easy at almost any appliance store, super market or the like.

**PLEASE 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.