



BASS 350 USER GUIDE



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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 product heat.



SWR BASS 350 USER GUIDE

INTRODUCTION

The SWR Bass 350 Bass Amplifier was designed for the player who prefers a simple and straightforward preamp combined with a power amp capable of delivering enough power and headroom for most live applications. The Bass 350 maintains the same quality components and materials found in all SWR products and is assembled by hand at our factory in California.

The two preamp gain stages utilize a specially-selected Groove Tubes 12AX7A. The tone controls incorporate ICs 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. The front panel of the Bass 350 is chromed steel, while aluminum is used for the main chassis because of its superior electrical and thermal characteristics and light weight. All primary electrical components are U.L. approved and SWR uses Belden Cable for all shielded wire.

Everyone 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!

Sincerely,
SWR Sound Corporation

SWR BASS 350 – SPECIFICATIONS

Note: All measurements were taken with a line voltage of 120VAC. All noise specifications are “unweighted.” All voltages and watts are “RMS.” All measurements were taken with tone controls set flat, Aural Enhancer at minimum.

POWER (minimum)

450 Watts @ 2 ohms
350 Watts @ 4 ohms
240 Watts @ 8 ohms

FREQUENCY RESPONSE (Power Amplifier)

-3dB @ 20 Hz and 40 kHz

SENSITIVITY (full output under clipping, 8 ohms load, 100 Hz)

Passive Input Jack: 38 millivolts
Active Input Jack: 60 millivolts
Power Amplifier (Effects Return Jack “in”): 5 volts

INPUT IMPEDANCE

Passive/Active Input: 800k Ohms
Active Input: 60k Ohms
Effects Return: 27k Ohms

OUTPUT IMPEDANCE

Effects Send: 100 Ohms
Tuner Send: 100 Ohms
Crossover Low and High Outs: 100 Ohms XLR
Balanced Out: .750 Ohms

SIGNAL TO NOISE RATIO: -72 dB (<10 millivolts typical)

EQUIVALENT INPUT NOISE: 9 microvolts

DIMENSIONS: 19" W x 3.5" H x 10.125" D

WEIGHT: 21 lbs.

BASS 350 – FRONT PANEL FEATURES

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. Additionally, instruments made by Pedulla, Tobias, Sadowsky, Modulus Graphite, 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 using the Active input does not correct any audible distortion, check the battery in your bass.

Note: If you want to overdrive the first TUBE stage, use 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 *greater than* 1 volt RMS. Some of these basses are the Kubicki X-Factor and some older Ovation electrics. Some really “hot” pickups installed in your instrument may sound better through the Active input. The best judge is your own ears.

If you’re 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, 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 (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 re-adjust 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.

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 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.

BASS CONTROL

The Bass Control employs a shelving type circuit and boosts or cuts the bass response ± 15 dB, from about 30 Hz to 100 Hz. Starting at mid-center click-position, turning the control counter clockwise cuts the bass response and turning the control clockwise boosts the bass response.

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 effect on the sound.*

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 effect.

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 at 800 Hz. The midrange area is especially useful in controlling fretless basses and their inherent qualities.

TREBLE CONTROL

The Treble Control employs a shelving type circuit and boosts or cuts the high frequencies and their octaves ± 15 dB from about 2kHz to 14kHz. Starting at mid-center click-position, turning the control counter clockwise cuts the treble response, while turning the control clockwise boosts the treble response.

EFFECTS BLEND

The Effects Blend Control “blends” the signal sent from your instrument with the signal coming from your effects unit. With the Effects Blend full counter clockwise (“dry”), no signal from your effects will be heard. As you turn this control clockwise, more of the effect can be heard in the overall sound. When the Blend knob is fully 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. To activate the limiter, push the control in.

MASTER VOLUME

The Master Volume adjusts the level being sent to the power amplifier in your Bass 350—it controls the overall volume of the unit. It does not affect the level of the record XLR output in the "line" position.

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

FAN & FAN DEFEAT SWITCH

The power amp is cooled by an extruded aluminum heatsink and 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 Bass 350 and the side of any rack case or enclosure you should happen to install your amp in. This will allow for the heat generated by internal components to escape.

Setting the Fan Defeat Switch to the "Fan" position activates the internal cooling fan's normal operating mode. Setting the Fan Defeat Switch to the "Defeat" position deactivates the cooling fan regardless of the internal temperature of the unit. For this reason, it is recommended that the Fan Defeat Switch be set to the "Fan" position for the majority of the time that the amplifier is in operation. Please note that it is normal for the cooling fan to be audible at low levels. We recommend deactivating the fan only in situations where the noise floor is so low that normal fan noise might be noticeable or distracting, such as recording situations where a microphone is used in close proximity to the unit.

POWER ON/OFF SWITCH

Setting the Power On/Off switch to the "On" position switches on the Bass 350. The power LED will light up. Setting the Power On/Off switch to the "Off" position switches off the unit.

LIMITER/COMPRESSOR CIRCUIT

The Limiter found in the Bass 350 is a soft knee type limiter. The Limiter 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. This can be helpful in preventing speaker damage when running your system at high volume. You may either activate or defeat the limiter via the Effects Blend Control. The "In" position activates the Limiter Circuit. The "Out" position defeats this feature.

LIMITER ACTIVE LED

When the threshold (starting point) of the Limiter Circuit is reached, the Limiter Active LED will light, indicating that the Limiter Circuit is active. The Limiter LED will be inactive when the Limiter is defeated or when playing at lower levels.

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 = - (minus) (American Standard)

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 DIs. You may want to inform the live soundperson or recording engineer of this.

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 an intermittent condition.

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 an 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 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 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. The Effects Loop is compatible with most individual or multi-effect effect units. It is designed as a “side chain” function and works exactly like those found on studio consoles. Many effects on the market have input level adjustments. For instance, some units have a switch that you can set for either -10 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 Bass 350's 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. The output impedance of the Effects Send Jack is 100 ohms. This jack can be used as a line level output for use in conjunction with a slave power amp such as SWR's Power 750. It may also be used as an unbalanced record out.

RECEIVE

Run a shielded patch cord from the Bass 350 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 Bass 350 (as with any amplifier) can induce hum in the cables and is not recommended.

A 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. 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 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.*

SPEAKER JACKS

Two 1/4" phone jacks and two Speakon® Jacks (wired in parallel) are provided for connection of the Bass 350 to your speaker system. The minimum load (or impedance) that can be used with the Bass 350 is 2 ohms total. In other words, you can connect two 4 ohm, four 8 ohm or eight 16 ohm enclosures to the Bass 350. That said, we recommend a total load of 4 ohms for best performance.

Whenever possible, use the Speakon jacks. Speakon jacks and connectors offer the best possible connection and are far superior to banana or 1/4" phone jacks in that they not only lock in place (preventing accidental disconnection), but also offer a greater and more stable connection surface. This solid connection provides a more effective transfer of power to your speakers.

Only SPEAKER CABLE of 18 gauge or heavier (the heavier the cable, the lower the gauge) should be used to connect your Bass 350 to your speaker system. Do not use shielded instrument cable to connect your amplifier to your speaker enclosure, 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 for any purpose.

Note: *Unlike most amplifiers on the market, the Bass 350 can be used for recording purposes without speakers attached to the speaker jacks (using only the XLR Output).*

Recommended single SWR Speaker enclosures for use with the Bass 350 include:

- Big Bertha
- Henry the 8x8
- Triad
- Goliath III
- Goliath Junior III

Recommended SWR Speaker combinations for use with the Bass 350 include:

- (2) Goliath IIIs
- (2) Goliath Junior IIIs (8 ohm version)
- (2) Son Of Berthas
- (1) Goliath Junior III & (1) Son Of Bertha
- (1) Goliath Junior III & (1) Big Ben
- (1) Goliath III & (1) Goliath Junior III

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, 10 amp, fast blow. 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 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 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:

Japan: 8 amp slo-blo

United States: 7 amp slo-blo

Europe (240V): 4 amp slo-blo

A/C CORD RECEPTACLE

Accepts a standard A/C power cable (supplied with the Bass 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, a replacement cable can be purchased at almost any music or computer store.

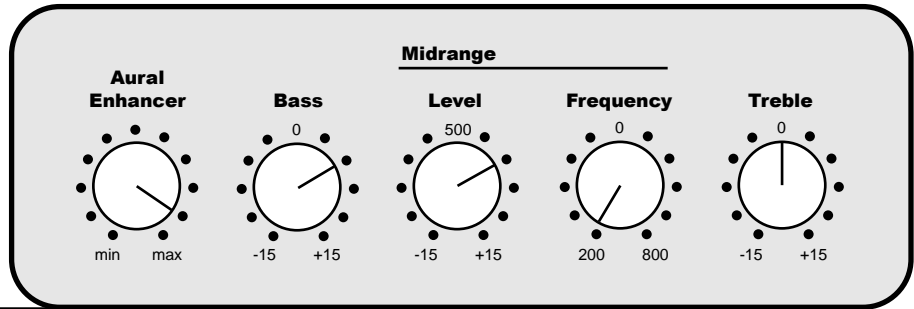
Note: *The rating for this cable is 3 conductor, 10 amperes minimum. Look for this rating on the cable. Make sure the cable is plugged in all the way in both the amp and the wall socket.*

SUGGESTED SETTINGS

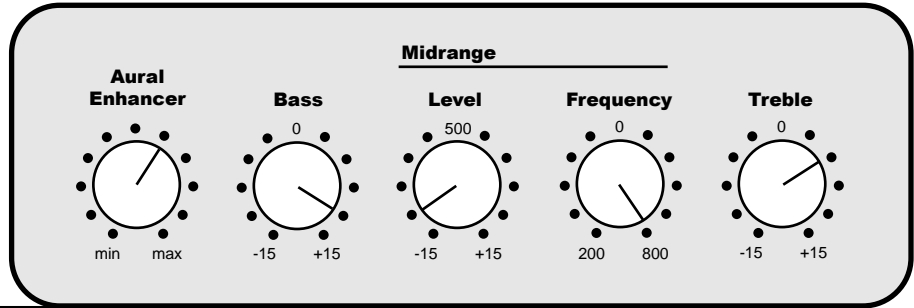
The following page includes examples of tone control options for various styles of music. These settings are intended for use as a starting point for dialing in your own individual sound, so feel free to make adjustments based on your own playing style, instrument, and speaker

SWR BASS 350 – SUGGESTED SETTINGS

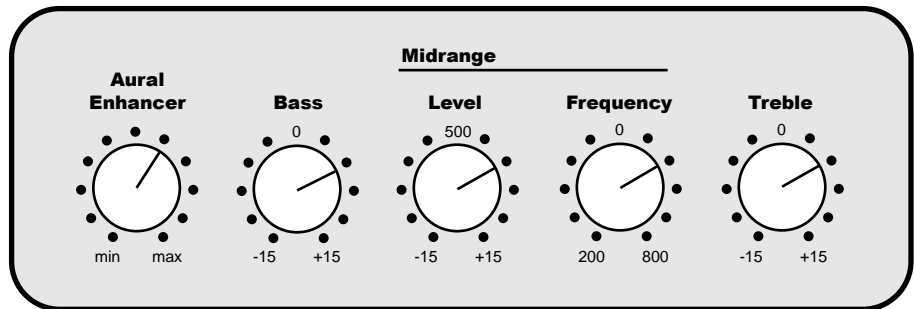
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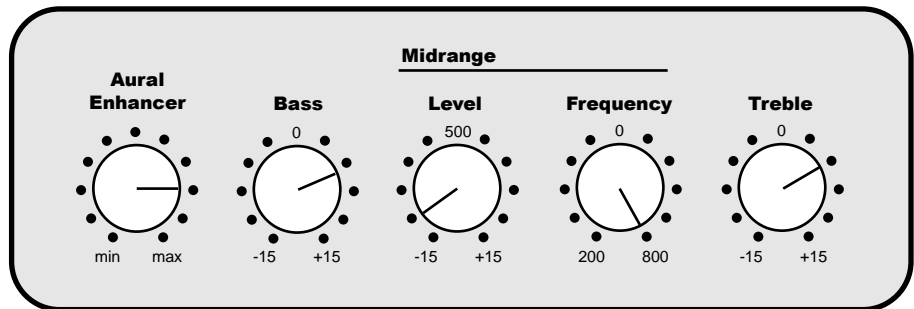
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JAZZ _____



SLAP _____



STUDIO _____

