

Acoustic Image®

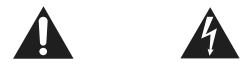
Uniquely musical.

Owner's Manual



Amp Heads
Cabinets
Combos

PAY ATTENTION TO THESE SYMBOLS:



The exclamation point triangle is used to alert the user to important operating or maintenance instructions. The lightning bolt triangle is used to alert the user to the risk of electric shock.

IMPORTANT SAFETY INSTRUCTIONS

- 1) Read these instructions.
- 2) Keep these instructions.
- 3) Heed all warnings.
- 4) Follow all instructions.
- 5) Do not use this apparatus near water, do not expose to dripping or splashing water, do not place objects filled with liquid on apparatus.
- 6) **WARNING:** to reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture.
- 7) Clean only with a dry cloth.
- 8) Do not block any ventilation openings. Install in accordance with manufacturer's instructions.
- 9) Do not install near any heat sources such as radiators, heat registers, stoves or other apparatus (including amplifiers) that produce heat.
- 10) This apparatus shall be connected to a mains outlet socket with a positive grounding connection. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
- 11) Protect the power cord from being walked on pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
- 12) Use only attachments/accessories specified by the manufacturer.
- 13) Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus.
- 14) Unplug this apparatus during lightning storms or when unused for long periods of time.
- 15) Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally or has been dropped.



To prevent electric shock, do not remove the top cover. No user serviceable parts inside. Refer servicing to qualified service personnel.



To completely disconnect this equipment from the AC mains, disconnect the power supply cord from the AC receptacle.

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Welcome to Acoustic Image!

You have purchased a state-of-the-art musical instrument amplifier system, combining purity, power and portability in a package that sets a new standard in high fidelity amplification.

Each of our designs is engineered to accurately reproduce the sound of acoustic and electric instruments, delivering flat frequency response across the entire musical spectrum; extended, tight, well-controlled bass; and complete clarity of sound reproduction.

This manual provides operating information for all of our current product line: amp heads, speaker cabinets and combo amps.

The Basics

Amp Heads

The Clarus SL, Clarus SL-R, Clarus SL-2 and Clarus integrated amps use our 600W (4 ohms) class-D power amplifier, and a sophisticated, sensitive one-channel preamplifier with effects (SL-R) or no effects (SL) or two-channel preamp with effects (Clarus) or without effects (SL-2)

The preamp in each unit has a four-band EQ section and sweepable low cut filter in each channel. There is a direct out with ground lift, pre/post EQ and switchable 10 dB pad. A master level control with mute switch controls the output stage. The SL and SL-R are one channel, instrument only amps, The SL-2 and Clarus have two channels each with mic or instrument inputs. The SL-R and Clarus have switchable digital effects.

The power amp is a high efficiency design that requires no external heat sinks or cooling fans and is capable of driving loads as low as 2 ohms. AC power and output speaker jacks are located on the rear of the enclosure. A standard, three-prong detachable AC power cord is used to provide power to the unit, while an automatic AC voltage selection switch allows the unit to operate from 100V to 240V (50/60 Hz).

Cabinets

There are three cabinets in our product line: Coda, UpShot and DoubleShot. The UpShot (300W, 8 ohm) is an upfiring 1x10 system, the Coda (300W, 8 ohm) adds a 5 inch midrange to the UpShot configuration and the DoubleShot (600W, 4 ohm) adds another 10-inch driver to the Coda configuration. All of our cabinets are small and lightweight, each being the smallest and lightest of its type.

Combos

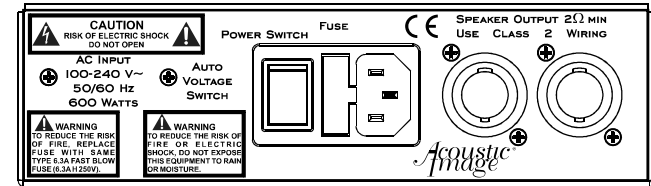
The various combinations of our four amp heads and three cabinets results in twelve combos in our product line. In the Coda and UpShot combos, the head is mounted to the cabinet using a bracket that can be tilted for best viewing angle and allows the head to be removed for standalone use in other musical situations. The DoubleShot cabinet has rubber stops that allow the amp head to securely sit on the cabinet. Padded gig bags can be purchased for easy transport and storage of the combos.

The operating details and specs of each product are given in the following pages.

Amp Heads

Operation (SL Class Heads)

Power



Clarus SL, SL-R and SL-2 Rear Panel

Plug the detachable AC power cord into the receptacle on the back of the amp and into a wall receptacle. A power switch next to the AC input turns on power to the pre- and power amps, illuminating a “power on” indicator on the front panel of the amp. **A 6.3-amp fast blow fuse is mounted in the drawer marked with the fuse symbol that is part of the AC receptacle. To replace the fuse, turn off the amp, remove the AC cord and use a small screwdriver to pry the drawer out of the receptacle. Remove and replace the fuse.** Note that a spare fuse is mounted inside the drawer.

The Clarus SL, SL-R, SL-2 and Clarus operate with AC voltages between 100V and 240V, 50/60 Hz. An internal switch automatically selects the correct mode of operation for that voltage range. No user action is required to set the unit to operate with different AC voltages. Note that the correct AC power cord must be used for connection to the appropriate wall plug. If you do not have the right cord, you can buy one from an electronics or computer store.

Note that when the power switch is off and the power indicator is off, power is not completely removed from the amp. To completely remove power, disconnect the power cord. Always leave the power cord accessible so that you can easily disconnect power from the unit.

Note that there is a 5 to 10 second delay after the power has been turned before the amp becomes operational. This is done so that “start up” noises are not heard.

Preamp

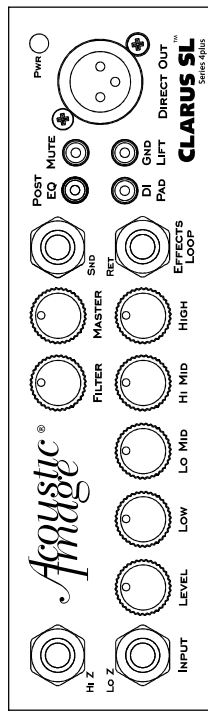
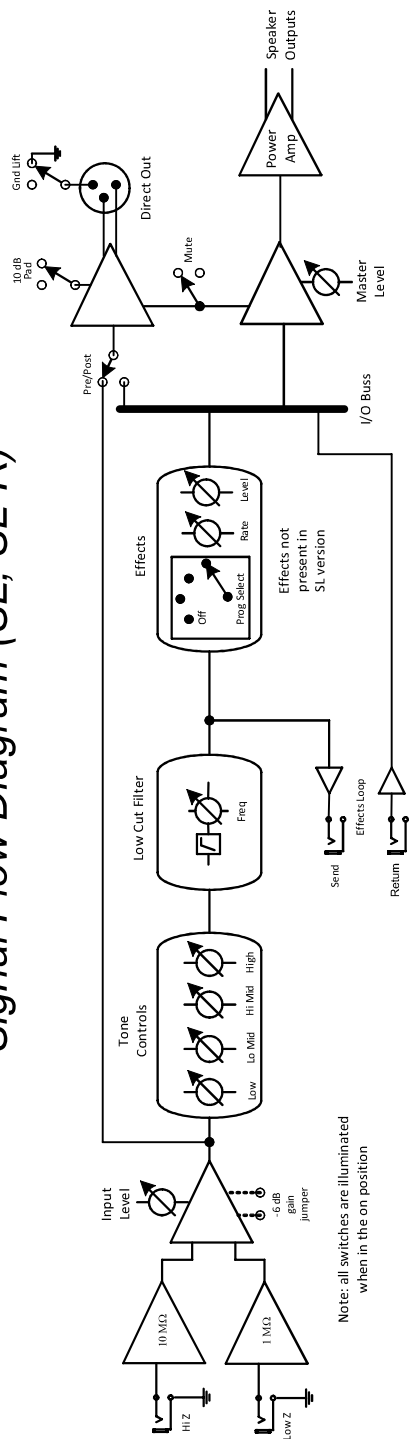
Refer to the signal flow and the control panel diagrams (page 4, 6).

Note that all of the push button switches illuminate when they are in the “on” position. So, a quick glance at the preamp will tell you which functions have been engaged.

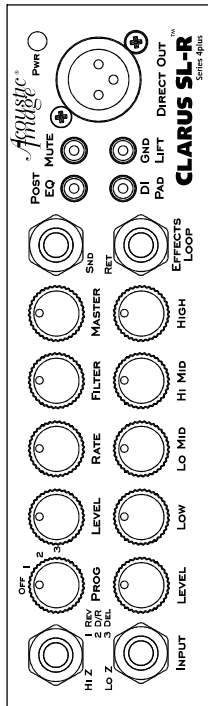
Inputs (SL and SL-R)

The preamp is a single channel unit that has two 1/4 inch input jacks. Each has a different input impedance to allow the user to select the optimum impedance for the pickup being used. One input is “Hi Z” and is 10 MΩ, the other is labeled “Lo Z” and is 1MΩ. The Lo Z input is preferred for magnetic pickups and for most piezo pickups. There are a few piezo pickups that sound better with the Hi Z input. Experiment with your particular pickup to see which input sounds best.

Signal Flow Diagram (SL, SL-R)



Clarus SL Control Panel



Clarus SL-R Control Panel

If you have an instrument with a particularly “hot” output such as an active bass guitar and you find that the front end of the preamp is clipping or being overdriven, a 6 dB gain reduction option is available via a jumper on the preamp control printed circuit board. To access the jumper, you must remove the top of the amp. That is done by removing 4 screws on the top and 2 screws on each side. The jumper is on the rear panel of the circuit board installed in the front panel. Call Acoustic Image if you have questions about this procedure.

Inputs (SL-2)

The SL-2 preamp has a 1/4 inch Tip-Ring-Sleeve (TRS) input for each channel. An internal circuit detects whether the input is a mic or instrument and connects the signal to the proper internal gain stage. The instrument input has an impedance of 1 MΩ. The same internal jumper option described above for adjusting the gain for the SL and SL-R is available for the SL-2 instrument input.

An XLR to TRS adapter is supplied with the amp so that a mic can be conveniently input to the preamp. Switchable 48V phantom power and 10 dB gain boost are available for each input.

! Note: mute the amp or turn the input level all the way down to avoid hearing a loud pop when turning on phantom power. !

Controls (SL, SL-R, SL-2)

The preamp has the following controls: input level, Low, Lo Mid, Hi Mid and High. In addition, there is a variable frequency low cut filter and a master level control. The preamp also has four switches: pre/post EQ, DI pad, ground lift and mute.

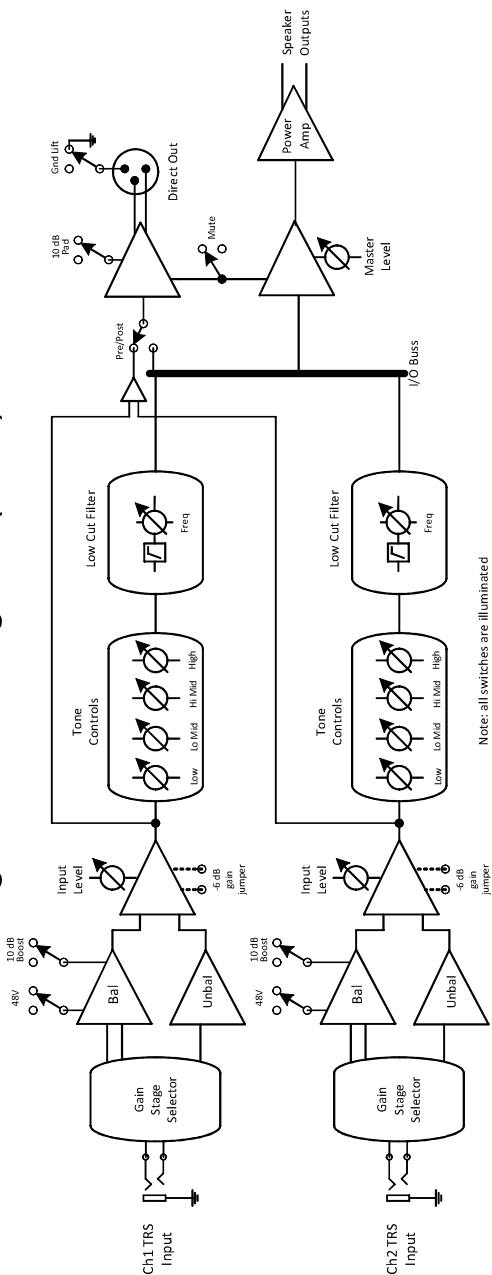
Level

! The input level controls the level of the signal at the input stage of the preamp. The master volume controls the level of the signal at the output of the preamp (at the input of the power amp). Set the master control at “12 o’clock” and the input level at zero. The input level should then be used to control the overall output of the unit. The two controls are provided to allow independent control of “house” volume and “stage” volume when the unit is used as a stage monitor with a connection to a house PA. See the discussion under “Direct Out” below. !

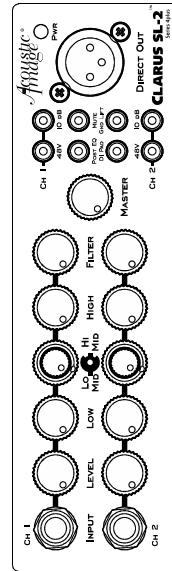
Tone

Each tone control has a center detent at the flat position. Experiment with settings to achieve the frequency balance that sounds best to you. In general, small values of boost and cut are best. The preamp is designed with flat frequency response so only minor corrections should be required to compensate for room effects or “peaky” pickups in order to maintain the balanced response desired for acoustic instrument amplification. To minimize electronic noise, avoid operating all controls simultaneously at their maximum settings. The Low control is a shelving-type that affects frequencies below 150 Hz and with a maximum boost/cut of 12 dB. The Lo Mid control affects frequencies between 70 Hz and 700 Hz (peak at 250 Hz) and has maximum boost/cut of 12 dB. The Hi Mid control affects frequencies between 700 Hz and 3000 Hz (peak at 1200 Hz) with a maximum boost/cut of 12 dB. The Hi control is also a shelving-type that affects frequencies above 3500 Hz with a maximum boost/cut of 15 dB.

Signal Flow Diagram (SL-2)



Note: all switches are illuminated when in the on position.



Clarus SL-2 Control Panel



Note that the Low Mid and Hi Mid controls on the SL-2 are concentric. The Lo Mid control is the inner knob, the Hi Mid is the outer knob.



Low Cut Filter (SL, SL-R, SL-2)

The low cut filter is a fixed amplitude, variable frequency type that inserts either a 12 dB per octave rolloff at frequencies between 30 and 180 Hz, depending on the position of the control. The low cut filter is used to reduce the bass output in cases where room location or instrument/pickup combination results in “boomy” sound. The low cut filter is always in the signal path, so keep the control turned all the way counterclockwise to minimize its effect. If the signal is too boomy, start with the control fully counterclockwise and gradually turn it clockwise until the desired effect is achieved. Experiment with the position of the control to give you the sound you like best.

Effects Loop (SL and SL-R only)

The Clarus SL and SL-R preamps have output (“Send”) and input (“Return”) capability to allow you to use effects boxes. The send output is affected by the input volume and tone controls and can also be used as a preamp output for driving other power amplifiers. The Return input can be used to directly connect an external preamp to the unit’s power amp. Because the effects loop is a parallel type, plugging something into the send output does not interrupt the signal path. So, a tuner can be plugged into the send output without affecting the signal going through the amp.

The return input can also be used as an auxiliary input for connecting other line level signals such as a CD player.

Direct Out (SL, SL-R, SL-2)

An XLR jack is provided for a Direct Out connection that allows the system’s output to be fed to mixing boards of house PA systems or recording studios. As a result, the instrument amplified by the unit can be recorded or further amplified by the house PA system. A switch is provided to allow you to select whether the output from the Direct Out jack is affected by the tone controls (post EQ) or not (pre EQ).

With the switch in either the pre or post EQ position, the input level control affects the level of the Direct Out signal, the master level does not. This allows independent adjustment of the “stage” volume (the volume coming from the combo amp) and the “house” volume (the volume in the house PA system) when the unit is used as a stage monitor. Once the level has been set for the house, if more volume is needed on stage, the master level can be increased. This will increase the stage volume but not the volume in the house PA.



A ground lift switch is available to “lift” the ground from the output of the direct out—reducing noise should a ground loop create hum when the unit is connected to a mixing board.



If the direct out signal is overdriving the mixing board, switch in the 10 dB pad to reduce the signal output level.

Mute Switch (SL, SL-R, SL-2)

A switch is provided to allow you to mute the output of the amplifier without having to turn the amp off. This will allow you to tune your instrument on stage without being heard. The amp output and direct out signals are both muted by the switch. **If you are not getting any sound out of the amp, check to make sure that the mute switch is off.**

Effects (SL-R only)

The Clarus SL-R preamp has a high-quality, 24 bit digital effects processor. Three variable effects are available: a reverb with variable decay time, a reverb/delay with variable delay, and a delay with variable delay time. A four position switch selects the program (Off, Reverb, Delay/Reverb and Delay). The level control affects the amount of effect that is heard in the signal (the “wet/dry” mix) and the rate control affects the rate of the effect (reverb decay time or delay time). For example, the rate control has enough range that the Reverb program can be varied from a large hall to a small room. You should experiment with both the program selection and the level and rate controls to find the sound that you prefer. When you don’t want to use effects, put the program switch in the off position and the level control should be turned fully counterclockwise.

Power Amp (all models)

Connecting a Speaker

Speakers are connected via Neutrik Speakon connectors (“twist lock” type) located on the rear panel. These connectors are used because of their low contact resistance and non-shorting operation. The output of each Speakon connector is wired to pole “1”. Make sure the cables you use to connect a speaker (and the speakers themselves) are similarly wired. **Use Class 2 wiring for the speaker cables.**

The power amplifier is capable of driving speaker loads as low as 2 ohms. Use a high quality speaker system in order to get the maximum performance from the amp. The Acoustic Image Coda, UpShot or DoubleShot are excellent choices. As mentioned above, the power amp is short circuit protected. If a short is connected to a speaker jack, the output signal will be interrupted until the short is removed. Note that when using a 1/4 inch type speaker plug, there is a momentary short that occurs when the plug is put into the jack. That short can cause a problem for the amp. **To be on the safe side, you should shut off the power to the amp before connecting or disconnecting speakers from the unit.**

Operation Without a Speaker Connected

There may be times when you want to operate the amp without a speaker connected to it. For example, you may want to record using the Direct Out and don’t want the output of the amp to be heard through a speaker. In that case, set the master level to zero. By setting the master level to zero, the signal to the power amp is turned off and it is not driven without a speaker load which can damage the amp. **Be sure to set the master level to zero when a speaker load is not connected to the amp.** **Operating the amp with no load and the master level turned up can damage the amp.**

Care

The Clarus SL chassis is powder coated aluminum. Use a clean dry cloth to wipe it free of dust and to clean it.

Warranty and Repair

We stand behind our products with a full warranty of five years from the date of purchase. Speaker components are warranted for one year. Should a problem arise, please call us before returning your amplifier or enclosure. Naturally, our warranty does not cover products that have been damaged through misuse. Be sure to check our web site regularly, we have an FAQ section and we post helpful information for getting the most out of your Acoustic Image product.

Warranty Information

Serial Number _____

Acoustic Image
5820 Triangle Drive
Raleigh, NC 27617

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FCC COMPLIANCE NOTICE

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

CAUTION: Changes or modifications not expressly approved by the party responsible for compliance could void the user’s authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.



Specifications (SL, SL-R, SL-2)

System

Frequency Response	30 Hz - 20 kHz, ± 3 dB
Signal to Noise Ratio	>110 dB at direct out
AC Power	100V to 240V, 50/60 Hz, automatically switched
Size	2.1" H x 7.2" W x 7.4" D
Weight	2 lbs, 10 oz

Preamp

Instrument Input	1 M Ω or 10 M Ω , 1/4 inch jack
Instrument Input (SL-2)	1 M Ω , 1/4 inch TRS jack
Mic Input (SL-2)	600 ohm balanced, 1/4 inch TRS jack, switchable 10 dB gain
Phantom Power (SL-2)	48 volts, on/off switch w/LED indicator
Direct Out	+4 dB, balanced, XLR connector, ground lift, pre/post EQ selector, 10 dB pad
Effects Loop	Parallel type (not present in SL-2)
Low Control	Shelving type, ± 12 dB at 30 Hz,
Lo Mid Control	± 12 dB at 250 Hz
High Mid Control	± 12 dB at 1200 Hz
High Control	Shelving type, ± 15 dB at 10 kHz
Low Cut Filter	-12 dB/oct sweepable from 30 to 180 Hz

Effects (SL-R only)

Type	24 bit digital with 3 programs
Programs	Reverb with variable decay time, Delay/Reverb with variable delay time Delay with variable delay time All have variable wet/dry mix

Power Amp

Topology	Class D (PWM)
Switching Frequency	500 kHz
Output Power 8 Ω	300W rms continuous, 350W rms music (40% duty cycle), 500W peak transient
Output Power 4 Ω	500W rms continuous, 650W rms music (40% duty cycle), 1000W peak transient
External Speaker Output	Speakon type (pole 1), 2 Ω min load

Mounting Options

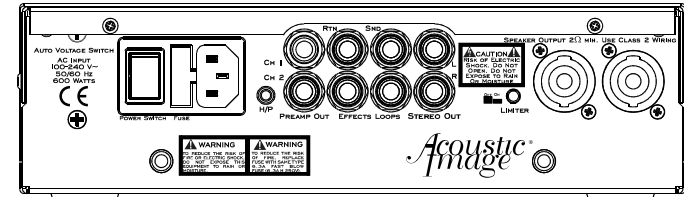
1/4-20 nut on bottom of chassis

Supplied Accessories

Gig bag, XLR to TRS adaptor (SL-2)

Operation (Clarus Head)

Power



Clarus Rear Panel

Plug the detachable AC power cord into the receptacle on the back of the amp and into a wall receptacle. A power switch next to the AC input turns on power to the pre- and power amps, illuminating a “power on” indicator on the front panel of the amp. **A 6.3-amp fast blow fuse is mounted in the drawer marked with the fuse symbol that is part of the AC receptacle. To replace the fuse, turn off the amp, remove the AC cord and use a small screwdriver to pry the drawer out of the receptacle. Remove and replace the fuse.** Note that a spare fuse is mounted inside the drawer.

Our amps all operate with AC voltages between 100V and 240V, 50/60 Hz. An internal switch automatically selects the correct mode of operation for that voltage range. No user action is required to set the unit to operate with different AC voltages. Note that the correct AC power cord must be used for connection to the appropriate wall plug. If you do not have the right cord, you can buy one from an electronics or computer store.

Note that when the power switch is off and the power indicator is off, power is not completely removed from the amp. To completely remove power, disconnect the power cord. Always leave the power cord accessible so that you can easily disconnect power from the unit.

Note that there is a 5 to 10 second delay after the power has been turned before the amp becomes operational. This is done so that “start up” noises are not heard.

Preamp

Refer to the signal flow and the control panel diagrams (page 13).

Note that all of the push button switches illuminate when they are in the “on” position. So, a quick glance at the preamp will tell you which functions have been engaged.

Also note that there are a few internal jumper options that can be accessed when the front panel is removed. These options are intended for the advanced user. They are available to add additional functionality and are referenced in the description below. The jumper locations are shown on page 18 and are noted on the signal flow diagram.

Inputs

Separate 1/4 inch and XLR jacks are used for the inputs to each channel of the preamp. The 1/4 inch input has a 1 megohm input impedance that is optimized to get the best sound from piezo pickups. It will also work well with magnetic pickups. The XLR input is a low impedance balanced input with sufficient gain to allow microphones to be plugged into it. There is a switchable 10 dB gain to accommodate mics that need more gain. Phantom power is available through the connector for powering a mic or outboard preamp and can be activated using the push button switch located next to the connector. **To avoid an audible “pop”, set the input level control all the way off when switching on the phantom power.** The input jacks are separately buffered so both can be used at the same time. Each channel is identical and can be blended to mix two instruments, 2 microphones or a mic and an instrument thereby performing much like a small PA system.

Controls

The Clarus preamp has the following controls in each channel: input level, Low, Lo Mid, Hi Mid and High tone controls. In addition, there is a variable frequency low cut filter and a phase reverse switch in each channel and a master level control that affects both channels.

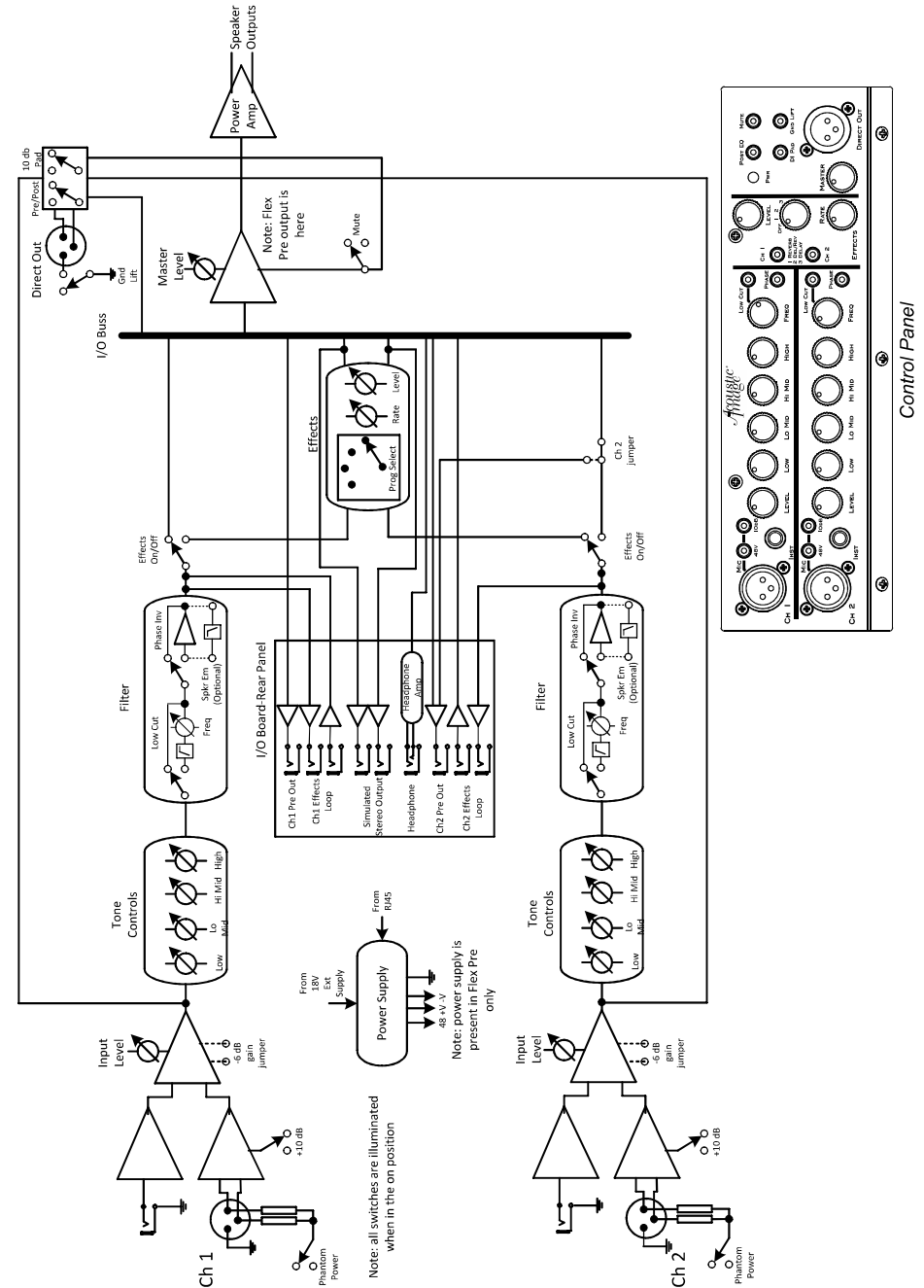
Level

The input level controls the level of the signal at the input stage of the preamp. The master volume controls the level of the signal at the output of the preamp (at the input of the power amp). Set the master control at “12 o’clock” and the input level at zero. The input level should then be used to control the overall output of the unit. The two controls are provided to allow independent control of “house” volume and “stage” volume when the unit is used as a stage monitor with a connection to a house PA. See the discussion under “Direct Out” below.

If you have an instrument with a particularly “hot” output such as an active bass guitar and you find that the front end of the preamp is clipping or being overdriven, a 6 dB gain reduction option is available via a jumper on the preamp control printed circuit board. How to access and utilize this option is described in “Jumper Options” section found on page 17.

Tone



Each tone control has a center detent at the flat position. Experiment with settings to achieve the frequency balance that sounds best to you. In general, small values of boost and cut are best. The Clarus preamp is designed with flat frequency response so only minor corrections should be required to compensate for room effects or “peaky” pickups in order to maintain the balanced response desired for acoustic instrument amplification. To minimize electronic noise, avoid operating all controls simultaneously at their maximum settings. The Low control is a shelving-type that affects frequencies below 150 Hz and with a maximum boost/cut of 12 dB. The Lo Mid control affects frequencies between 70 Hz and 700 Hz (peak at 250 Hz) and has a maximum boost/cut of 12 dB. The Hi Mid control affects frequencies between 700 Hz and 3000 Hz (peak at 1200 Hz) with a maximum boost/cut of 12 dB. The Hi control is also a shelving-type that affects frequencies above 3500 Hz with a maximum boost/cut of 15 dB.



Low Cut Filter/Phase Reverse/Speaker Emulation Filter

The Clarus preamp has a sweepable low cut filter and phase reverse switch in each channel. The low cut filter is a variable frequency type that inserts a 12 dB per octave rolloff at frequencies between 30 and 150 Hz, depending on the position of the control. The low cut filter is used to reduce the bass output in cases where room location or instrument/pickup combination results in “boomy” sound. Press the on/off switch to turn on the filter circuit. Start with the frequency control fully counterclockwise and gradually turn it clockwise until the desired effect is achieved. The frequency range of the control is limited in order to give you more control in the critical low frequency range. As a result, the effect you hear in normal circumstances may be subtle, but, you will hear the effect in a boomy bass situation. Experiment with the position of the control to give you the sound you like best.

The phase reverse switch is used to reduce feedback and to control phase interactions between the two channels. If you are using two pickups or a mic and a pickup, you will find the phase reverse switch to come in handy. Phase related interactions between a mic and a pickup or two pickups can be cleared up by reversing the phase of one of the channels. Mic feedback can be reduced by reversing the phase of the signal. You should experiment with the phase reverse switch to see if the effect is one that you like.

 If desired, the phase switch can be converted to a speaker emulation filter by moving a jumper on the rear of the preamp circuit board. How this is done is described in the section entitled “Jumper Options.” This can be done on either or both channels. 

The speaker emulation filter is a low pass filter that modifies the preamp output to sound like a single speaker guitar amp. It rolls the frequency off starting at a 4 kHz. If you are a guitar player, you may find this to be a desirable sound, it will allow you to get a more “classic” jazz guitar sound.

Effects Loop

The Clarus preamp has an output (“Send”) and input (“Return”) capability in each channel to allow you to use effects boxes. The effects loop for each channel is located on the rear panel of the unit. See page 11 for a diagram of the rear panel. The send output is affected by the input volume and tone controls and can also be used as a preamp output for driving other power amplifiers. Because the effects loop is a parallel type, plugging something into the send output does not interrupt the signal path. So, a tuner can be plugged into the send output without affecting the signal going through the amp.

The return input can also be used as an auxiliary input for connecting other line level signals such as a CD player.

Direct Out

An XLR jack is provided for a Direct Out connection that allows the preamp output to be fed to mixing boards of house PA systems or recording studios. As a result, the instrument(s) connected to the unit can be recorded or further amplified by the house PA system. The direct out jack is located on the front panel of the Clarus preamp. The Direct Out signal is the combined output of the two channels.

A switch is provided to allow you to select whether the output from the Direct Out jack is affected by the tone controls (post EQ) or not (pre EQ). With the switch in either the pre or post EQ position, the input level control affects the level of the Direct Out signal, the master level does not. This allows independent adjustment of the “stage” volume (the volume coming from the combo amp) and the “house” volume (the volume in the house PA system) when the unit is used as a stage monitor. Once the level has been set for the house, if more volume is needed on stage, the master level can be increased. This will increase the stage volume but not the volume in the house PA.

A ground lift switch is available to “lift” the ground from the output of the direct out--reducing noise should a ground loop create hum when the unit is connected to a mixing board.

If the direct out signal is overdriving the mixing board, switch in the 10 dB pad to reduce the signal output level.

Mute Switch



A switch is provided to allow you to mute the output of the Clarus without having to turn the amp off. This will allow you to tune your instrument on stage without being heard. The amp output and direct out signals are both muted by the switch. The mute switch is on the front panel and when it is on, the switch is illuminated. **If you are not getting any sound out of the amp, check to make sure that the mute switch is off.**

Preamp Output

There are 1/4 inch jacks labeled “Preamp Out” on the rear panel of the Clarus for accessing the output of the preamp.. When the Clarus preamp is in mono mode, the top jack, labeled “Ch 1” or “Mono” is the output to use.

Stereo Operation

An internal jumper option is available to allow the Clarus preamp to operate in true stereo mode. The output of channel 2 can be disconnected from the jack labeled “mono” on the rear panel and connected to the channel 2 output jack by changing the position of a jumper on the backside of the preamp control board (see the “Jumper Options” section on page 17 for details). When in the true stereo mode, the output of each channel is independently available from each preamp output jack.

 Note that when in the stereo mode, channel 2 is no longer connected to the internal power amp, so it will not be heard through a speaker connected to the Clarus. 

Effects

The Clarus preamp has a high-quality, 24 bit digital effects processor. Three variable effects are available: a reverb with variable decay time, a reverb/delay with variable delay, and a delay with variable delay time. A four position switch selects the program (Off, Reverb, Delay/Reverb and Delay). There are illuminated switches to select which of the two channels is processed by the effects unit. Either channel can be connected to the effects unit. If both switches are engaged, the selected program appears in both channels. A level control affects the amount of effect that is heard in the signal (the “wet/dry” mix) and another control affects the rate of the effect (reverb

decay time or delay time). For example, the rate control has enough range that the Reverb program can be varied from a large hall to a small room. You should experiment with both the program selection and the level and rate controls to find the sound that you prefer. When effects are not used (program switch in the off position), the switches for both channels should be off and the level control should be turned fully counterclockwise.

Headphone Output

There is headphone output on the rear panel of the Clarus. You can plug a standard 1/8 inch stereo plug into this output to connect a headphone for private listening. If your headphone has a 1/4 inch plug, you can buy an adapter to allow you to use the 1/8 inch output jack.

When you plug into the jack, the preamp output is muted. Sound will only be heard through the headphones. The headphone is connected to the output of the preamp so all of the controls on the preamp, including effects, will be heard through the headphone. When the headphone plug is removed from the jack, the amp will come back on. Anytime anything is plugged into the headphone output jack, the amp will be muted so make sure that nothing is plugged into the jack when you want to use the amp normally.

! The headphone output is to be used only for connecting a headphone unit, do not use it as line out or to drive a low impedance speaker. !

Limiter Switch

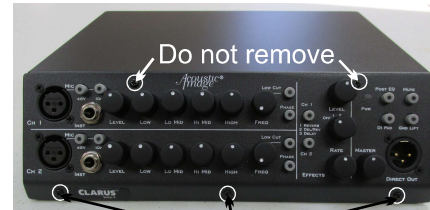
Under extreme playing conditions such as high volume or when driving a low impedance speaker load, the Clarus may be pushed beyond its limits. When that happens, you will hear high distortion and you may even cause the overcurrent protection circuit to operate resulting in an interruption of sound. The limiter switch, located on the rear panel of the amp head, is provided to allow the amp to operate under these conditions with lower distortion or without having the overcurrent circuit kick in. The limiter reduces the peak signal that is driving the power amp, thereby reducing its peak output with the result of lower distortion. If you find yourself having to play in extreme conditions that cause the amp to have too much distortion or even signal interruption, engage the limiter and see if that helps the situation.

! !

Internal Jumper Options

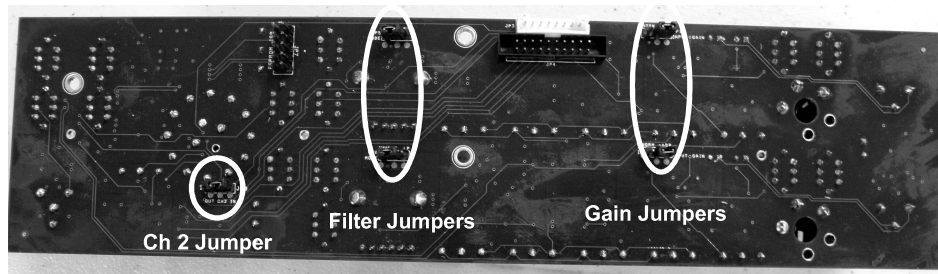
To access the internal jumper options, you must remove the top of the amp. The first step is to remove the screws holding the top cover and front panel in place. The screws to remove are shown in the photos below. Do **not** remove the two top screws in the front panel.

Once the screws are removed, the top can be lifted up to expose the back side of the preamp circuit in order to get access to the jumpers. See the photo below.



On the back side of the Clarus preamp control circuit board are several user-selectable options: one selects the gain level in the input stage, another selects between a phase reversal and a speaker emulation filter and the last disconnects channel 2 from the output buss and connects it to an output jack.

A photo of the back side of the circuit board is shown below:



Looking closely at the circuit board in the vicinity of the jumpers, you can see that each has a label that tells you the option that has been selected by the jumper. The Gain Jumper is labeled "Norm" or "-6 dB." If the shunt is under "Norm," the normal gain option is selected. The Filter Jumper is labeled "Invert" or "LP." If the shunt is under "LP," the low pass filter, or speaker emulator has been selected. As you can see, each channel has a jumper option, so you can select the same or a different option for each one. The Ch 2 Jumper is labeled "Out" or "In." If the "In" position is selected, channel 2 is disconnected from the output buss and is connected to the Ch 2 Preamp Out jack on the rear panel. (Hopefully that nomenclature is not too confusing.)

Once you have made the modifications you want, reverse the above process to reinstall the cover.

Power Amp

Connecting a Speaker

Speakers are connected via speakon connectors ("twist lock" type) located on the rear panel. These connectors are used because of their low contact resistance and non-shorting operation. The output of each Speakon connector is wired to pole "1". Make sure the cables you use to connect a speaker (and the speakers themselves) are similarly wired. **Use Class 2 wiring for speaker cables.**

The power amplifier is capable of driving speaker loads as low as 2 ohms. Use a high quality speaker system in order to get the maximum performance from the amp. The Acoustic Image Coda, UpShot and DoubleShot are excellent choices. As mentioned above, the power amp is short circuit protected. If a short is connected to a speaker jack, the output signal will be interrupted until the short is removed. Note that when using a 1/4 inch type speaker plug, there is a momentary short that occurs when the plug is put into the jack. That short can cause a problem for the amp. **To be on the safe side, you should shut off the power to the amp before connecting or disconnecting speakers from the unit.**

Operation Without a Speaker Connected

There may be times when you want to operate the amp without a speaker connected to it. For example, you may want to record using the Direct Out and don't want the output of the amp to be heard through a speaker. In that case, set the master level to zero. By setting the master level to zero, the signal to the power amp is turned off and it is not driven without a speaker load which can damage the amp. **Be sure to set the master level to zero when a speaker load is not connected to the amp. Operating the amp with no load and the master level turned up can damage the amp.**

Care

The Clarus chassis is powder coated aluminum. Use a clean dry cloth to wipe it free of dust and to clean it.

Warranty and Repair

We stand behind our products with a full warranty of five years from the date of purchase. Speaker components are warranted for one year. Should a problem arise, please call us before returning your amplifier or enclosure. Naturally, our warranty does not cover products that have been damaged through misuse. Be sure to check our web site regularly, we have an FAQ section and we post helpful information for getting the most out of your Acoustic Image product.

Warranty Information

Serial Number _____

Acoustic Image
5820 Triangle Drive
Raleigh, NC 27617

Phone: 919-785-1280
Fax: 919-785-1281
www.acousticimg.com

FCC COMPLIANCE NOTICE

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

CAUTION: Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.



Specifications (Clarus, Flex Pre)

System

Frequency Response	20 Hz - 20 kHz (±0.5 dB)
Signal to Noise Ratio	>110 dB at direct out
AC Power	100V to 240V, 50/60 Hz, automatically switched
Size	10"x8"x3.5"
Weight	4 lbs

Preamp

Controls and Inputs

Mic Input	600 ohm balanced, XLR connector, switchable 10 dB gain
Phantom Power	48 volts, on/off switch w/LED indicator
Instrument Input	1 MΩ impedance, 1/4 inch jack
Direct Out	+4 dB, balanced, XLR, ground lift, pre/post EQ selector, switchable 10 dB pad
Effects Loop	Parallel type
Low Control	Shelving type, ±12 dB at 50 Hz
Low Mid Control	±12 dB at 250 Hz
Hi Mid Control	±12 dB at 1200 Hz
Treble Control	Shelving type, ±15 dB at 8 kHz
Low Cut Filter	-12 dB/octave sweepable from 30 to 150 Hz
Phase Reverse	Switchable 180 degree phase reverse
Speaker Emulator	(if selected) -12 dB/octave at 4 kHz

Effects

Type	24 bit digital with 3 programs
Programs	Reverb with variable decay time, Delay/Reverb with variable delay time, Delay with variable delay time, All have variable wet/dry mix

Power Amp

Topology	Class D (PWM)
Switching Frequency	500 kHz
Output Power 8Ω	300W rms continuous, 350W rms music (40% duty cycle), 500W peak transient
Output Power 4Ω	500W rms continuous, 650W rms music (40% duty cycle), 1000W peak transient
External Speaker Output	Speakon type (pole 1), 2Ω min load

Mounting Options

Available 1/4-20 mounting nut adapter for chassis

Supplied Accessories

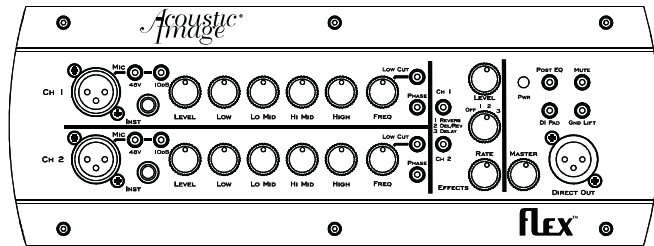
Gig bag

Operation (Flex Pre)

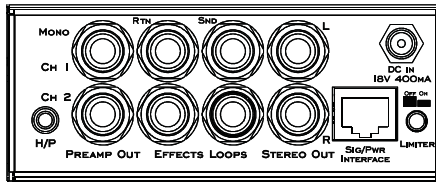
The Flex Pre is the preamp section from the Clarus amp described in the previous section. Refer to that information for details about the operation of the controls and interfaces of the preamp. This section describes the differences.

Interface Options

The front and rear panels of the Flex Pre are shown below.



Front Panel



Rear Panel

The interfaces are the same as the Clarus amp with one exception. There is a power and signal interface to the Flex Pre that is accessed through the RJ 45 jack on the rear panel. If you would like the details for how to use that interface, contact Acoustic Image. Otherwise, use the Preamp Out via the 1/4 inch jack.

Refer to the Clarus description and signal flow diagram on pages 11 to 19 for operational details on the Flex Pre.

Power Supply

The Flex Pre is powered using the 18V DC power supply that is provided with the unit. If necessary, a replacement power supply can be purchased from any electronics supplier such as DigiKey. Any 18V DC supply with at least 250 mA current capability and a tip positive 2.5x5.5mm plug will work. The CUI SMI-18-18-V-P6 is a good choice.

Mounting Options

The Flex Pre has a 1/4-20 mounting nut on the bottom of the chassis that allows mounting on a mic stand or the Acoustic Image combo mounting bracket described in the Combo Amp section of this manual. A 1/4-20 to mic stand adapter is included with the unit.

Speaker Cabinets

Coda Cabinet



The Coda cabinet is a compact, lightweight 1x10 plus 1x5 speaker system for acoustic and electric instruments. The system is unique with the woofer mounted in an upfiring configuration and the midrange firing forward. The system is compact (12in D x 11in H) and lightweight (13 lbs). The result is a highly portable, yet great sounding speaker system.

The Coda is an evolution of our earlier molded cabinet, downfiring woofer designs. The upfiring woofer creates a broad, omnidirectional sound stage. It is the smallest and lightest 1x10 system available. Its small size belies its outstanding full range sound.

Features

- Designed for acoustic and electric instruments including bass, guitar and keyboards
- Compact, highly portable, cylindrical shape fits in a drum case for transport
- 12 inches diameter, 11 inches high, 13 pounds, small enough to fit in airline overhead storage bin or under seat
- One 10-inch broad frequency range custom side-firing drivers
- One 5-inch forward firing midrange driver with level switch
- Two-way asymmetric crossover
- Omnidirectional sound fills the bandstand and venue
- Available mounting bracket cabinet to a combo with removable head
- Rated at 8 ohm, 300W

Specifications

Frequency Response:	40 Hz - 16 kHz
Impedance:	8 ohm
Max Continuous Power:	300W
Max SPL:	>115 dB at 1 m
Drivers:	1x10 inch up-firing custom 1x5 in forward-firing custom w/ level switch
Crossover:	Two-way second order asymmetric
Enclosure:	12 inches diameter, 11 inches high
Weight:	13 pounds
Input:	Neutrik Speakon wired to pole 1

Operation

Input

Connect a speaker cable with a Speakon connector to the input jack of the Coda. The 8 ohm, 300W input is compatible with most amplifiers.

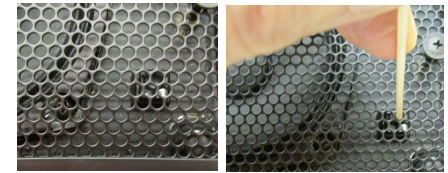
Placement

The Coda should be placed on the floor near and slightly behind the player. Place it so that the grill (and midrange driver) are pointed to the front. It's ok to have the back of the speaker against the wall. Feel free to experiment with placement to find the situation that sounds best to you. For instance, try placing it on a table or stand.

Midrange Level Switch

The midrange level switch is a push button switch mounted to the side of the midrange driver on the front baffle. It is behind the grill. Refer to the photo.

To operate the switch, use a small tool that fits through the grill holes to contact the switch. A toothpick would also work. See the photo. Try the switch in both positions and decide which you like best. In one position, the Coda has a more forward sound which may be pleasing to guitar players. In the other position, the Coda has a more pleasing sound.



Mounting an Amp

An optional bracket can be separately purchased and installed on the grill that allows any of our amp heads to be mounted to the cabinet for playing or transport. The photos show the cabinet with a bracket and amp installed.



Optional Gig Bag

A commercially available drum case can be used as a padded gig bag for the Coda. See Gig Bag Options table on page 33 of this manual.

Warranty Information

The Coda is covered by a limited lifetime warranty. However, note that since speakers can wear out over time and can be subject to abuse, the Coda's drivers are warranted for one year.

UpShot Cabinet



The UpShot uses a 10 inch upfiring driver to implement a compact, lightweight speaker system for acoustic instruments. The system is compact (11in x 6in) and lightweight (12 lbs). The result is a highly portable, yet great sounding speaker system.

The design of the UpShot was inspired by the great NYC bassist Harvie S. Not only did he suggest the initial concept but later participated in the development of the product by using it in actual gigging situations and providing real time feedback. As a result, the UpShot is the **Harvie S Signature Model**.

Features

- Designed for acoustic instruments including bass, guitar and keyboards
- Compact, highly portable, cylindrical shape fits in a backpack for transport
- 11 inches diameter, 6 inches tall, 12 pounds, small enough to fit in airline overhead storage bin
- 10 inch broad frequency range custom driver
- Driver fires upward
- Designed to be placed on floor near the player to create a personal monitor
- Omnidirectional sound fills the bandstand and venue
- Rated at 8 ohm, 300W

Specifications

Frequency Response:	40 Hz - 3.5 kHz
Impedance:	8 ohm
Max Continuous Power:	300W
Max SPL:	>112 dB at 1 m
Driver:	10 inch custom
Mounting:	Upfiring
Enclosure:	11 inches diameter, 6 inches tall
Weight:	12 pounds
Input:	Neutrik Speakon wired to pole 1

Operation

Input

Connect a speaker cable with a Speakon connector to the input jack of the UpShot. The 8 ohm, 300W input of the UpShot is compatible with most amplifiers.

Keep in mind that the 10 inch driver in the UpShot is limited in how loudly it can play. A 10 inch driver can only move so much air. If more volume is needed, consider using an extension cabinet. A second UpShot would be a perfect match.

Placement

The UpShot should be placed on the floor near the player. If you want a little more directional sound, it can be tilted up so the driver is more forward firing.

Mounting an Amp

An optional bracket can be separately purchased and installed on the grill that allows any of our amp heads to be mounted to the cabinet for playing or transport.

Optional Gig Bag

A commercially available drum case can be used as a padded gig bag for the Coda. See Gig Bag Options table on page 33 of this manual.

Warranty Information

UpShot is covered by a limited lifetime warranty. However, note that since speakers can wear out over time and can be subject to abuse, the UpShot's driver is warranted for one year.



Harvie S

DoubleShot Cabinet



The DoubleShot is a compact, lightweight 2x10 plus 1x5 speaker system for acoustic and electric instruments. The system is unique with the woofers mounted in a side-firing configuration and the midrange firing forward. The system is compact (12in D x 11in W) and lightweight (15 lbs). The result is a highly portable, yet great sounding speaker system.

The DoubleShot is an evolution of our UpShot speaker with a second 10-inch driver and 5-inch midrange added to the design. It is, by far, the smallest and lightest 2x10 system available. Its small size belies its outstanding full range sound.

Features

- Designed for acoustic and electric instruments including bass, guitar and keyboards
- Compact, highly portable, cylindrical shape fits in a drum case for transport
- 12 inches diameter, 11 inches wide, 15 pounds, small enough to fit in airline overhead storage bin or under seat
- Two 10-inch broad frequency range custom side-firing drivers
- One 5-inch forward firing midrange driver with level switch
- Two-way asymmetric crossover
- Omnidirectional sound fills the bandstand and venue
- Bumpers allow compact amp head to mount on cabinet
- Rated at 4 ohm, 600W

Specifications

Frequency Response:	40 Hz - 16 kHz
Impedance:	4 ohm
Max Continuous Power:	600W
Max SPL:	>118 dB at 1 m
Drivers:	2x10 inch side-firing custom 1x5 inch forward-firing custom w/ level switch
Crossover:	Two-way second order asymmetric
Enclosure:	12 inches diameter, 11 inches wide
Weight:	15 pounds
Input:	Neutrik Speakon wired to pole 1

Operation

Input

Connect a speaker cable with a Speakon connector to the input jack of the DoubleShot. The 4 ohm, 600W input is compatible with most amplifiers.

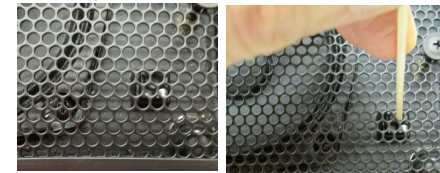
Placement

The DoubleShot should be placed on the floor near and slightly behind the player. Place it so that the grill (and midrange driver) are pointed to the front. Avoid placing it so that either of the 10-inch drivers are against a wall. It's ok to have the back of the speaker against the wall. Feel free to experiment with placement to find the situation that sounds best to you. For instance, try placing it on a table or stand.

Midrange Level Switch

The tweeter level switch is a push button switch mounted to the side of the midrange driver on the front baffle. It is behind the grill. Refer to the photo.

To operate the switch, use a small tool that fits through the grill holes to contact the switch. A toothpick would also work. See the photo. Try the switch in both positions and decide which you like best.



Mounting an Amp

Bumpers attached to the cabinet allow a compact amp head such as our SL-series amps to be placed on the cabinet without falling off the cylindrical shape. See the photos to the right.



Optional Gig Bag

A commercially available drum case can be used as a padded gig bag for the DoubleShot. See Gig Bag Options table on page 33 of this manual.

Warranty Information

The DoubleShot is covered by a limited lifetime warranty. However, note that since speakers can wear out over time and can be subject to abuse, the DoubleShot's drivers are warranted for one year.

Combo Amps

Combo Amps

The four amp heads and three cabinets can be combined to create 12 different combos. This allows the player to pick the combination that is best for his or her specific music situation. The various combinations are listed and described in the table below.

	Clarus SL	Clarus SL-R	Clarus SL-2	Clarus 2
Coda	<i>Coda 1 Combo</i> <ul style="list-style-type: none"> • Coda plus Clarus SL • Includes mounting bracket and speaker cable (padded gig bag optional) • 15 lbs 	<i>Coda 1R Combo</i> <ul style="list-style-type: none"> • Coda plus Clarus SL-R • Includes mounting bracket and speaker cable (padded gig bag optional) • 15 lbs 	<i>Coda 2 Combo</i> <ul style="list-style-type: none"> • Coda plus Clarus SL-2 • Includes mounting bracket and speaker cable (padded gig bag optional) • 15 lbs 	<i>Coda 2R Combo</i> <ul style="list-style-type: none"> • Coda plus Clarus • Includes mounting bracket and speaker cable (padded gig bag optional) • 17 lbs
UpShot	<i>U1 Combo</i> <ul style="list-style-type: none"> • UpShot plus Clarus SL • Includes mounting bracket and speaker cable (padded gig bag optional) • 14 lbs 	<i>U1R Combo</i> <ul style="list-style-type: none"> • UpShot plus Clarus SL-R • Includes mounting bracket and speaker cable (padded gig bag optional) • 14 lbs 	<i>U2 Combo</i> <ul style="list-style-type: none"> • UpShot plus Clarus SL-2 • Includes mounting bracket and speaker cable (padded gig bag optional) • 14 lbs 	<i>U2R Combo</i> <ul style="list-style-type: none"> • UpShot plus Clarus • Includes mounting bracket and speaker cable (padded gig bag optional) • 16 lbs
DoubleShot	<i>D1 Combo</i> <ul style="list-style-type: none"> • DoubleShot plus Clarus SL • Includes speaker cable (mounting bracket, padded gig bag optional) • 18 lbs 	<i>D1R Combo</i> <ul style="list-style-type: none"> • DoubleShot plus Clarus SL-R • Includes speaker cable (mounting bracket, padded gig bag optional) • 18 lbs 	<i>D2 Combo</i> <ul style="list-style-type: none"> • DoubleShot plus Clarus SL-2 • Includes speaker cable (mounting bracket, padded gig bag optional) • 18 lbs 	<i>D2R Combo</i> <ul style="list-style-type: none"> • DoubleShot plus Clarus • Includes speaker cable (mounting bracket, padded gig bag optional) • 20 lbs

A mounting bracket attached to the grill of the Coda and UpShot cabinets allows semi-permanent mounting of the amp head to the cabinet. The head is attached to the bracket via a 1/4-20 thumbscrew. The head can be tilted to optimize the viewing angle and it can be rotated into a docked position for transport of the cabinet and head together. The photos show the bracket and how the head is mounted and how it is docked for transport for the C2 combo. The other Coda and UpShot combos are similar.



The DoubleShot cabinet has rubber bumpers strategically mounted so that the amp heads sit securely on the cabinet. The photo shows the D2 combo with the head positioned on the cabinet. The D2R combo is also shown.



The detailed descriptions and operating instructions for the heads and cabinets are found in the previous sections. Use those instructions to get the optimum sound from your combo.

The mounting bracket is available from Acoustic Image and can be installed on an existing Coda or UpShot cabinet.

There are commercially available padded drum cases that can be used as gig bags for the various combo and cabinet units. We have tested a few of the available cases and have recommendations for which are best. Our web site has details for those recommendations. The following table summarizes the results. With the proper case, your combo is easily stored and transported for travel and gigging situations.

If you are interested, there are vendors that will make custom gig bags or backpacks for our products. Contact us for details.

Tom Tom Case	Cabinets That Fit	Combos That Fit	Notes
<p>Ahead Armor AR5129 (12x9 case)</p> <p>Available from: -Sweetwater or Drum Center of NH for \$52.19</p>	<p>- Coda - DoubleShot</p>	<p>-Coda C1, Coda C1R, Coda C2 -DoubleShot D1, DoubleShot D1R, DoubleShot D2</p>	<p>-For the Coda combo, the head is removed from the mounting bracket and stored in the extra space in the case. -For the DoubleShot combos, the head is stored in the extra space in the case. -See photos of Coda 2 in case, open and closed. https://www.drumcenternh.com/ahead-armor-12x9-standard-tom-case-ar5129</p>
<p>Ahead Armor AR4012 (12x10 case)</p> <p>Available from: -Sweetwater or Drum Center of NH for \$55.05</p>		<p>-Coda C1, Coda C1R, Coda C2, Coda C2R -DoubleShot D1, DoubleShot D1R, DoubleShot D2, DoubleShot D2R</p>	<p>-For the Coda combo, the head can remain mounted to the bracket in the docked position. -For the DoubleShot combos, the head is placed on top of the grill before the case is zipped closed. -See photos Coda 2 and DoubleShot D2R in case, open and closed. https://www.drumcenternh.com/ahead-armor-12x9-standard-tom-case-ar5129</p>
<p>Ahead Armor AR3008 (12x7 case)</p> <p>Available from Drum Center of NH for \$50.74</p>	<p>-UpShot</p>	<p>-UpShot U1, UpShot U1R, UpShot U2, UpShot U2R</p>	<p>-The head can remain mounted to the bracket in the docked position. -See photos of U2R in case, open and closed. https://www.drumcenternh.com/ahead-armor-12x7-stare-case-ar3008</p>
<p>Protector by Gator GP-1209 (12x9 case)</p> <p>Available from: -Sweetwater or Amazon for \$32.99</p>	<p>-Coda -DoubleShot</p>		<p>-See photos of Coda cabinet in case, open and closed. https://www.sweetwater.com/store/detail/GP1209-gator-gp-1209-protector-standard-tom-bag-12-inch-by-9-inch</p>
<p>Protector by Gator GP-1210 (12x10 case)</p> <p>Available from: -Sweetwater or Amazon for \$32.99</p>	<p>-Coda -DoubleShot</p>	<p>-Coda C1, Coda C1R, Coda C2 -DoubleShot D1, DoubleShot D1R, DoubleShot D2</p>	<p>-For the Coda combos, the head can remain mounted to the bracket in the docked position. -For the DoubleShot combos, the head is placed on top of the grill before the case is zipped closed. -The C2R, D2R combos do not fit in this case. -See photos of Coda 2 in case open and closed. https://www.sweetwater.com/store/detail/GP1210-gator-gp-1210-protector-standard-tom-bag-12-inch-by-10-inch</p>

Useful Information

Some Thoughts on Surge Suppression

Many of our customers use their amps in situations where the AC power is not optimal like an outdoor stage with a generator, an old club with suspect wiring or even in the comfort of their own home with an electrical storm raging outside. While your amp has built in protection for common line voltage issues, it can be damaged when there is an extraordinary power surge. Of particular concern are the problems that can be caused by a generator. So, to be on the safe side, we recommend that you use an external surge suppressor to give you added protection. There are many surge suppressors on the market so you have quite a few to choose from. To give you some guidance, we can recommend two units that will give you a good idea of what to use in a given situation, what the useful features are and what the cost should be.

Heavy Duty Surge Suppressor

A good surge suppressor for heavy duty applications such as playing on an outdoor stage with a generator is the Tripp Lite Isobar 4 Ultra shown below.



It has 4 outlets, a 6 foot cord, a 3330 joule rating and EMI filtering to reduce noise. It sells for around \$50 and is widely available.

Light Duty Surge Suppressor

A good unit for use in general situations is the Tripp Lite Super 7B shown below.



It has 7 outlets, a 7 foot cord, a 2160 joule rating and no noise filtering. It sells for around \$20 and is also widely available.

We recommend that you use one of the above units or something similar to get the best performance reliability out of your Acoustic Image amp.

Protection/Attenuation of the Direct Out Circuit

In some cases, the house PA system to which you might connect the Direct Out of your Acoustic Image amp has what is called "global" phantom power. Some PA's have phantom power that is individually switched for each input and some have one switch that puts phantom power on all inputs ("global"). In the latter case, that means that phantom power may be applied to the Direct Out circuit of your amp.

The Direct Out circuit of your Acoustic Image amp is protected against the presence of phantom power on the cable coming from the house PA system and against the possibility of static discharge or voltage surges. But, there are circumstances where that protection can fail, potentially causing the amp to fail.

If you often play in circumstances where you connect to a house PA system, we recommend that you use an isolation transformer to make sure that phantom power (or static discharge) won't damage your amp. There are two units on the market that we recommend. The ProCo IT-1 and Sescom XLR-ISO. Pictures of each are shown below. Either can be purchased from places like Sweetwater Sound and B&H Photo. The XLR-ISO costs about \$30 and the IT-1 costs about \$90. The latter is more versatile, hence the higher price.



If you find that the Direct Out signal is overdriving the PA system, use an in-line attenuator such as the ProCo MAX10 or MAX20 (shown above). Either is available from the same sources for \$20 to \$30.

If you have questions, please feel free to email or call.

Fill out the top part of this page, cut out the section, place it in an envelope and mail to Acoustic Image to register your product. Or, go to the website.

Warranty Registration Card

Name _____
Street _____
City _____ State/Country _____
Postal Code _____ Phone _____
Email Address _____
Model _____ Serial Number _____ Purchase Date _____
Name of Dealer _____
Comments _____

Thank you for purchasing an Acoustic Image product! We stand behind what we make.
To register your warranty quickly and easily, please visit acousticimg.com/warranty.html
Otherwise, please complete and return this card.



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Raleigh, NC 27617
919-785-1280
www.acousticimg.com

(cut here and return top half)

The warranty for Acoustic Image products is summarized below. Please return the above warranty registration card to Acoustic Image in order to register your product and facilitate warranty service, if needed. Please call Acoustic Image prior to returning the unit to obtain return authorization and shipping instructions.

Product Warranty

Acoustic Image Products are warranted to the original retail purchaser to be free from manufacturing defects in material and workmanship for a period of five (5) years from the date of purchase. In-warranty items will be repaired or replaced at the sole option of Acoustic Image without charge for materials or labor. Speakers are warranted for 6 months to the original owner.

To obtain repairs or replacement within the terms of this warranty, the Product must be delivered, transportation prepaid, to Acoustic Image or an Acoustic Image authorized repair facility. Use of the original product packaging is recommended. All repaired or replaced Products will be returned freight collect.

This warranty does not apply to Products which have been subjected to abuse, accident, modifications, improper handling or installation, or repairs made outside of factory authorization.

ANY IMPLIED WARRANTY IS LIMITED TO THE DURATION OF THIS WRITTEN WARRANTY. UNDER NO CIRCUMSTANCE SHALL ACOUSTIC IMAGE BE LIABLE FOR ANY LOSS OR DAMAGE, DIRECT OR CONSEQUENTIAL, ARISING OUT OF THE USE OR INABILITY TO USE THIS PRODUCT.

No person or representative is authorized to assume for Acoustic Image any liability other than expressed herein in connection with the sale these Products.

CLARUS SLTM
Series 4plus

Model 606 IA

CLARUS SL-RTM
Series 4plus

Model 607 IA

CLARUS SL-2TM
Series 4plus

Model 608 IA

CLARUSTM
Series 4

Model 601 IA

CODA.

Model 611 AA

UpShotTM

Model 680 EX

DoubleShotTM

Model 690 EX

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