

REAR PANEL SECTION

1. LINE OUT JACK

The LINE OUT jack is a post EQ output jack for pre amp output access. This output is the same signal that is being fed to the internal power amplifier that drives the speaker. The jack is an unbalanced line level signal. Uses of this jack are for direct to PA mixer feed or as a recording output to a tape deck.



LINE OUT



SEND



RETURN

EFFECTS



HEADPHONE



PIEZO IN
OUT



EXTERNAL
SPEAKER

2. EFFECTS SEND JACK

The EFFECTS SEND jack is the output send jack for the effects loop. The SEND jack is meant to be plugged into the input of an external effects processor. The SEND jack can also be used as a separately controlled line out if needed.

3. EFFECTS RETURN JACK

The EFFECTS RETURN jack is the input return jack that completes the effects loop. The RETURN jack is meant to be plugged into the output of an external effects processor. When something is plugged into this jack the internal reverb tank is disconnected and the RETURN REV/EFF volume control on the front panel only controls the return volume of what is plugged into this jack. If another input channel is needed, this jack along with the effects return volume control on the front panel can be used as another input, but remember the reverb tank will be disconnected if this is done.

4. HEADPHONE JACK

The HEADPHONE jack is a dual mono headphone connection tapped of the internal main amplifier, so the same sound is heard in both the left and right headphone speakers. This is a stereo jack **ONLY A STEREO 1/4" PLUG SHOULD BE USED IN THIS JACK.** When headphones are plugged into this jack, the internal and any external speakers are disconnected from the amplifier.

5. PIEZO (TWEETER) IN/OUT SWITCH

The PIEZO IN/OUT switch when pushed in connects the piezo tweeter to the amplifier to give crisp clear highs the larger speaker can not produce. When playing excessively loud and distortion is heard (especially with hard hitting guitar playing), disconnect the piezo tweeter by pushing this switch to the out position. Commonly, heavy guitar playing distorts the guitar amplifier and the tweeter pronounces this distortion, where as, most guitar amplifiers do not have tweeters so this distortion not heard.

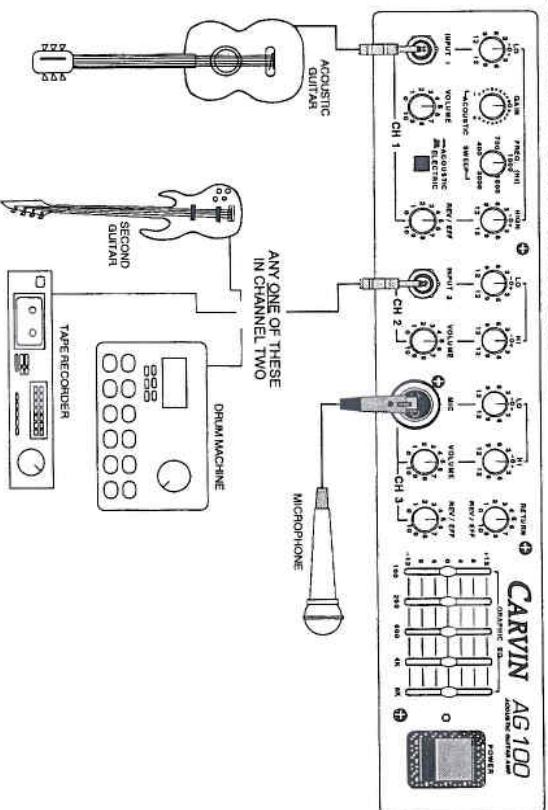
6. EXTERNAL SPEAKER JACK

The EXTERNAL SPEAKER jack is for connecting external speaker cabinets. The jack is configured so that when an external speaker cabinet is connected to it is in series with the AG100's internal speaker. It is not recommended to connect above 8 ohms because this will lower the total power output substantially. Recommended external speaker impedances are 4 or 8 ohm cabinets for the best matching of the internal speaker to an external speaker.

THE AG100 SOUND SYSTEM

There are many ways to use the versatile AG100, here are a few possible setups.

FRONT PLUG IN POSSIBILITIES:



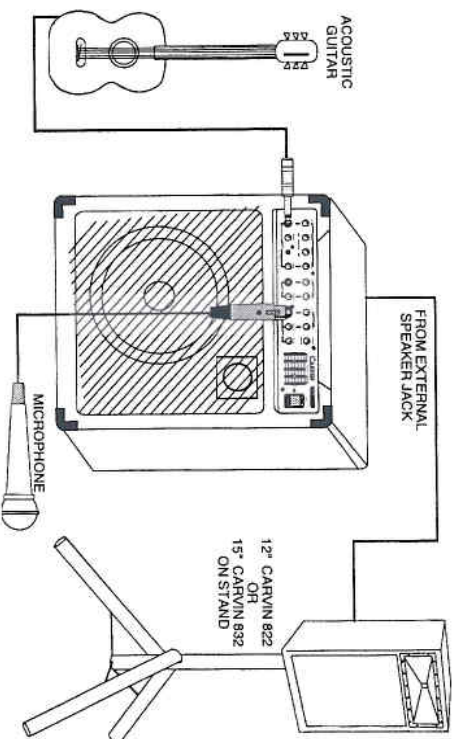
Channel 1: Acoustic or Electric Guitar.

Channel 2: Second guitar, Tape deck, or a Drum machine.

Channel 3: Microphone.

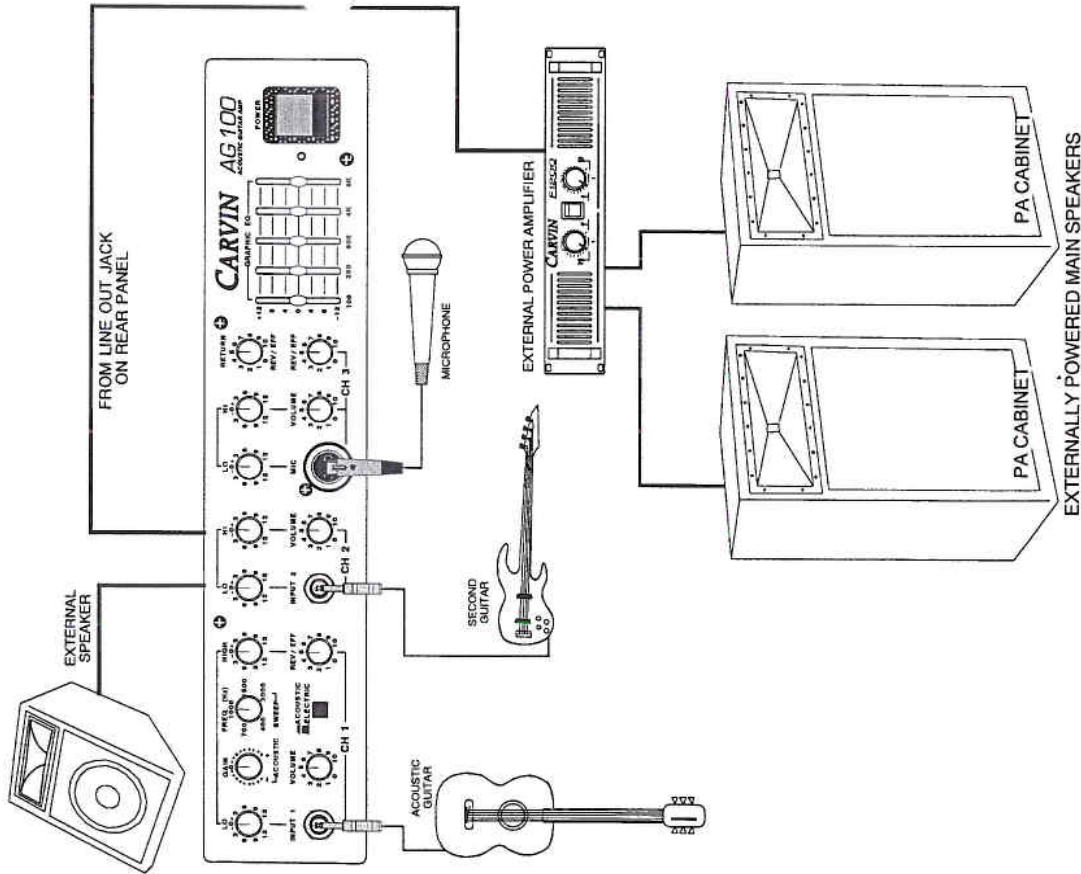
EXTERNAL SPEAKER ON STAND:

Here is a setup using an external speaker on a stand for added volume and projection in a larger venue. With this arrangement the system will cover a larger area with out the need for an external power amplifier.

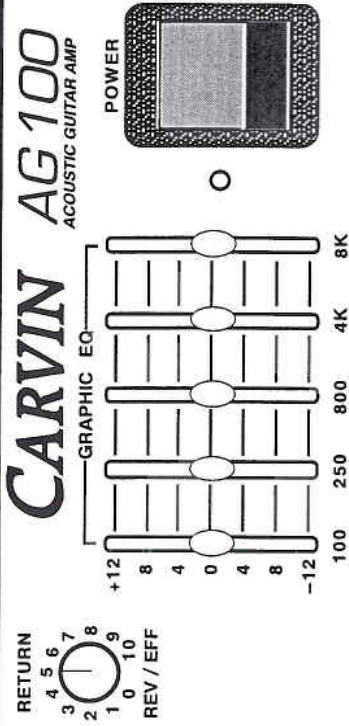


MONO HIGH POWERED PA SYSTEM SETUP:

Here the AG100 is used as a system mixer with the internal speaker as a stage monitor and an external high powered amplifier driving two main speakers for the audience. Also an external speaker is shown added for a possible second stage monitor.



GRAPHIC EQ, EFFECTS RETURN, AND POWER



1. REV/EFF RETURN CONTROL

The REV/EFF return level control is the volume control for the internal reverb tank. If the effects loop is being used, this is the effects return volume control. The volume controls the amount of reverb heard in the amplifiers speaker, headphones, and the line out. Use this volume to increase the loudness and in effect the decay of the internal reverb tank.

2. THE 5 BAND GRAPHIC EQUALIZER

The 5 band Graphic EQ provides an added degree of tonal flexibility to the over all sound of all three channels.

The Frequencies:

Here are some tonal reference ranges for the individual sliders to help relate the frequencies in hertz to perceived tonal changes.

In order from left to right:

- the 100 and 250 Hz are for low bass and low mid adjustments.
- the 800Hz is for high mid adjustments.
- the 4KHz and 8KHz are for treble and high treble adjustments.

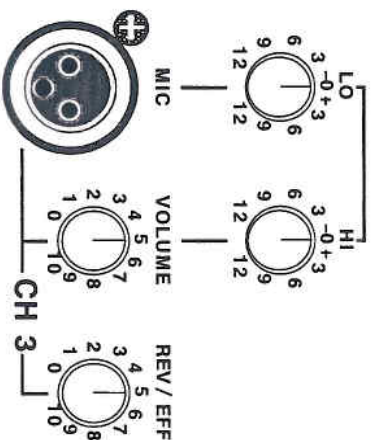
Adjusting:

To properly use the Graphic EQ, set all sliders to their center detent position. When the sliders are in this position, they do no effect the audio signal. When a slider is raised or lowered about the center position, it boost and cuts, respectively, the level of a narrow frequency band assigned to that particular slider. Typically low frequency feedback is in the 125 and 250 Hz range while high frequency feedback is in the 4kHz range. Occasionally one frequency (slider) of the equalizer will have to be pulled down to -12dB to help stop feedback. If many of the sliders have to be pulled down to stop feedback move the microphone or acoustic guitar away from the amplifier and try adjusting the EQ again. As much as possible try not to let the microphone front face the speaker. The graphic EQ affects all three channels, so making adjustments for one channel may not work for the other two. For example adjustments for a guitar may make the microphone feedback. Don't be afraid to use the Graphic Equalizer, but take care to listen to any changes made on all three channels.

3. POWER LED

The power LED indicates when the AG100's power is on.

CHANNEL THREE'S FEATURES



1. XLR MICROPHONE INPUT JACK

The MIC input is designed for balanced low impedance (microphone) input signals. The "Balance" means the input differential amplifier will reduce the common noise picked up on the microphone cables. The XLR connector is wired as per the industry standard, pin 1 is ground, pin 2 is non-inverting (positive), and pin 3 is inverting (negative).

Phantom power is available on the XLR input jack. This allows condenser microphones to be run directly without the need for batteries or other external phantom power supplies.

2. VOLUME CONTROL

The VOLUME control adjusts the volume of the channel heard in the speaker, the line out jack, and the headphone jack.

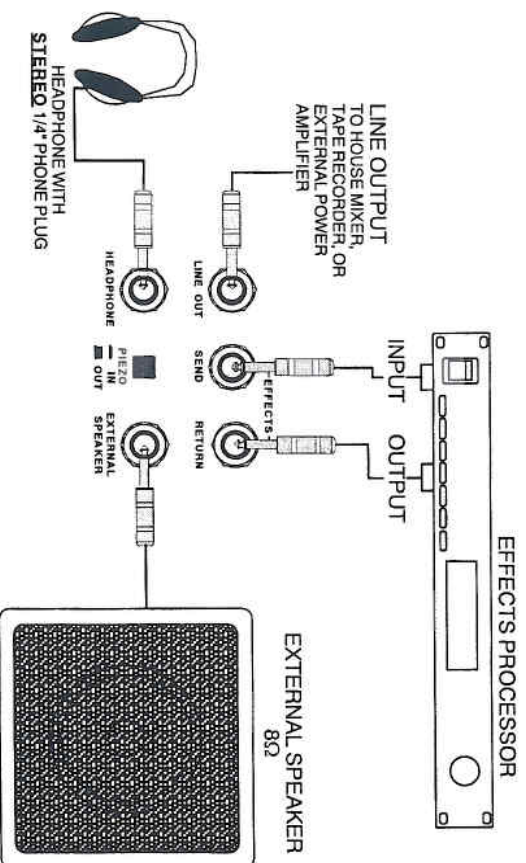
3. REV/EFF CONTROL

The REV/EFF control adjusts the level of the channel going to the internal reverb tank. Use this volume to not only increase the loudness of the reverb on this channel, but to also increase the brilliance and attack of the reverb sound. If the effects loop is being used, then this level controls the volume going to the effects send jack. The REV/EFF control is post (or after) the volume control. This means, adjustments in the channel's tone controls or volume controls will effect the level of this channel going to the internal reverb or effects send.

4. LO AND HI TONE CONTROLS

The LO and HI tone controls are used to shape the bass and treble sound of the input signal. It is suggested that the tone controls start out in their center positions where they do not effect the signal. Then, if needed, turn the tone controls (turn to the right to boost, or turn to the left to cut) to change the sound. These controls are of the shelving type with corner frequencies at 100Hz and 10KHz.

REAR PANEL CONNECTIONS



HEADPHONES:

Only use a stereo 1/4" phone plug in this jack. The headphone output is the same signal as the line out, but after the power amplifier. So, if a mono 1/4" phone connection is needed, use the line out.

LINE OUT:

The LINE OUT jack is a good way to plug the AG100 into an external power amplifier, tape recorder, or P.A. system.

EFFECTS LOOP:

Here the send is plugged into the input of an external effects processor and the return is plugged into the output of the effects processor.

NOTE: When anything is plugged into the EFFECTS RETURN jack the internal reverb tank is disconnected from the amplifier.

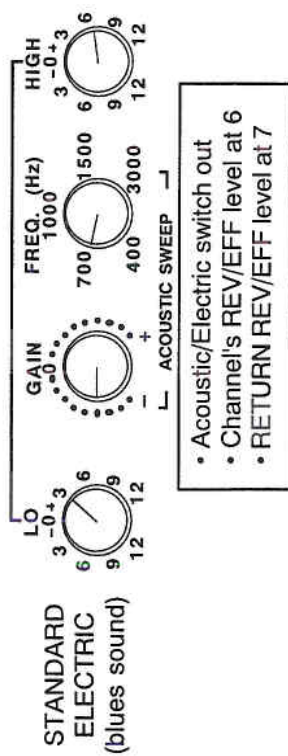
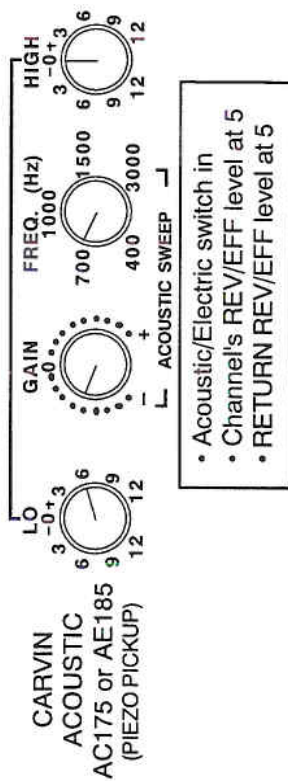
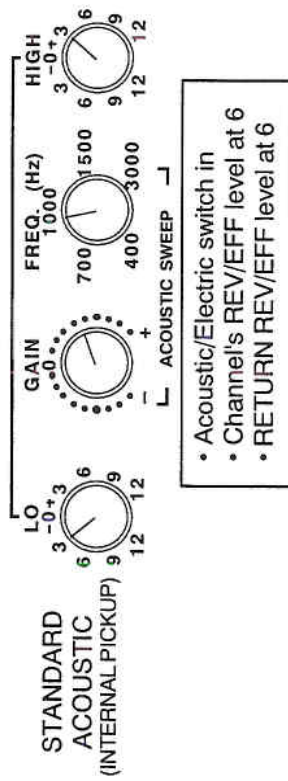
EXTERNAL SPEAKER:

Any 2 ohm to 8 ohm speaker system (recommended 100 Watts minimum) can be plugged directly into this jack. For equal volume with the AG100's internal speaker an 8 ohm external speaker is best.

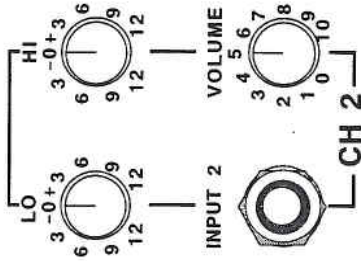
CHANNEL ONE SUGGESTED SETTINGS

The following are suggested settings for channel one. These settings provide a good starting point to get familiar with the AG100's controls. Don't be afraid to make adjustments and experiment with the controls to find your particular sound.

The volume is not shown or expressed, because it is adjusted to your desired listening level and situation.



CHANNEL TWO'S FEATURES



1. INPUT 2 JACK

The INPUT phone jack is designed for unbalanced instrument or line level inputs such as a drum machine, tape deck, another guitar or bass guitar, a keyboard, an unbalanced mic, etc..

2. VOLUME CONTROL

The VOLUME control adjusts the level of the channel heard in the speaker, the line out jack, and the headphone jack. The gain structure of this channel is designed to handle both instrument and line level inputs. The result is some instruments, such as a single coil electric guitar, may need the VOLUME control turned up to 7 or higher on the dial to match the other channels. Also, for the same reason some line level inputs, such as a CD player, may need the VOLUME control less than 1 to match the other channels.

3. LO AND HI TONE CONTROLS

The LO and HI tone controls are used to shape the bass and treble sound of the input signal. It is suggested that the tone controls start out in their center positions where they do not effect the signal. Then, if needed, turn the tone controls (turn to the right to boost, or turn to the left to cut) to change the sound. These controls are of the shelving type with corner frequencies at 100Hz and 10KHz.

QUICK START UP

If you're like most new owners, you're probably in a hurry to plug your AG100 in and use it. Here are some brief instructions to get you going quickly. With the AG100 unplugged, turn the unit off and complete the following procedures:

- 1. CONNECTING AC POWER TO YOUR AG100**
 - Check the rear panel to make sure the AG100 received uses the proper AC Line Voltage. (USA 120VAC, Europe 240 VAC ...etc.)
 - Use only a grounded (3 prong) power outlet to prevent a shock hazard. This also gives the quietest grounding for the amplifier
- 3. CONNECTING INPUTS TO YOUR AG100**
 - Channel one is specially designed for acoustic and electric guitars, but any unbalanced device such as tape a recorder or keyboard can be plugged in using a 1/4" phone plug shielded cable.
 - Channel two is an instrument/ line input. Any unbalanced device such as another guitar, tape recorders, drum machine, or keyboard can be plugged in using a 1/4" phone plug shielded cable.
 - Channel three is a microphone input. Plug a microphone into the balanced XLR MIC input using an XLR shielded microphone cable.
- 4. TURNING ON YOUR AG100**
 - Adjust all three channel volume controls to their off position (full counter clockwise).
 - Adjust all "EQ" tone controls— channel one's Lo, Acoustic Sweep Gain, and High, and channels two and three's Hi and Lo to their center detent position.
 - Adjust channel one and three's effects send and the effects return (top right of channel three) to their off position.
 - Turn the AG100 on by the power switch on the front panel and watch for the power LED to come on.
 - Plug in your instruments and microphone into the appropriate channels, and adjust the volume controls to the desired playing level. (For detail on the individual channel tone controls and the graphic equalizer, see the appropriate sections in this manual.)

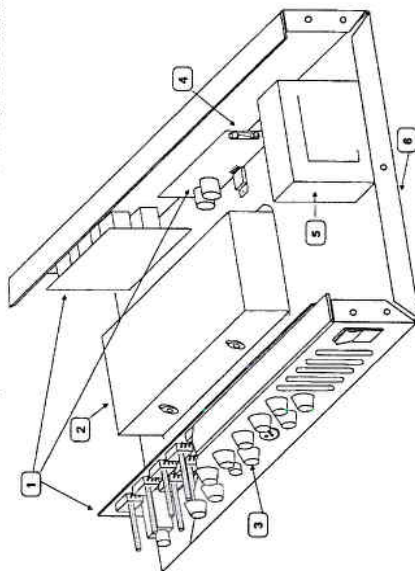
Your AG100 is ready to use.

MAINTENANCE

To bring back the new look, your AG100 can be washed with mild detergent and/ or a warm damp soft cloth. This will remove normal dust and oil from the front and back panels. Never spray cleaners or detergents directly at the unit. The AG100 virtually sealed from outside dust and dirt, but it is recommended to keep the AG100 free from dust, dirt, and moisture as much as possible.

R74	Res 2.2K Ohm .25W 5%	50-22035	Res 4.7K Ohm .25W 5%	50-47035
R75	Res 150K Ohm .25W 5%	50-15055	Res 6.8K Ohm .25W 5%	50-68035
R76	Res 2.2K Ohm .25W 5%	50-22035	Res 6.8K Ohm .25W 5%	50-68035
R77	Res 110K Ohm .25W 5%	50-11055	Res 10K Ohm .25W 5%	50-10045
R78	Res 2.2K Ohm .25W 5%	50-22035	Res 10K Ohm .25W 5%	50-10045
R79	Res 110K Ohm .25W 5%	50-11055	Res 5.62K Ohm .25W 1% Metal	50-56231
R80	Res 10K Ohm .25W 5%	50-10045	Res 5.62K Ohm .25W 1% Metal	50-56231
R81	Res 150K Ohm .25W 5%	50-15055	Res 470 Ohm .25W 5%	50-47025
R82	Res 100 Ohm .25W 5%	50-10025	Res 150K Ohm .25W 5%	50-15045
R83	Res 470K Ohm .25W 5%	50-47055	Res 10K Ohm .25W 5%	50-10045
R101	Res 22K Ohm .25W 5%	50-22045	Res 220K Ohm .25W 5%	50-22055
R102	Res 220K Ohm .25W 5%	50-22055	Res 220K Ohm .25W 5%	50-22055
R104	Res 10K Ohm .25W 5%	50-10045	Res 10K Ohm .25W 5%	50-10045
R106	Res 10K Ohm .25W 5%	50-10045	Res 10K Ohm .25W 5%	50-10045
R107	Res 0 Ohm .35" x .20" Jumper	50-00035	Res 15K Ohm .25W 5%	50-15045
R108	Res 6.8K Ohm .25W 5%	50-68035	Res 6.8K Ohm .25W 5%	50-68035
R109	Res 10K Ohm .25W 5%	50-10045	Res 10K Ohm .25W 5%	50-10045
R110	Res 6.8K .25W 5%	50-68035	Res 10K Ohm .25W 5%	50-10045
R111	Res 47K .25W 5%	50-47045	Res 100K Ohm .25W 5%	50-10055
R112	Res 47K .25W 5%	50-47045	Res 0 Ohm .35" x .20" Jumper	50-00035
R113	Res 12K Ohm .25W 5%	50-12045	Res 22K Ohm .25W 5%	50-22045
R114	Res 10K Ohm .25W 5%	50-10045	Res 13K Ohm .25W 5%	50-13045
R115	Res 10K Ohm .25W 5%	50-10045	Res 33K Ohm .25W 5%	50-33045
R116	Res 15K Ohm .25W 5%	50-15045	Res 47K Ohm .25W 5%	50-47055
R117	Res 15K Ohm .25W 5%	50-15045	Res 47K Ohm .25W 5%	50-47055
R120	Res 6.8K Ohm .25W 5%	50-68035	Res 10K Ohm .25W 5%	50-10045
R121	Res 100K Ohm .25W 5%	50-10055	Res 10K Ohm .25W 5%	50-10045
R122	Res 470 Ohm .25W 5%	50-47025	Res 100 Ohm .25W 5%	50-10025
R123	Res 470 Ohm .25W 5%	50-47025	Res 100K Ohm .25W 5%	50-10055
R201	Res 150K Ohm .25W 5%	50-15055	Switch DPDT Push PC MTG	25-02201
R202	Res 100K Ohm .25W 5%	50-10055	Switch DPDT Push PC MTG	25-02201
R204	Res 100K Ohm .25W 5%	50-10055	100V-100W DMOS Audio Amp	60-72940
R206	Res 0 Ohm .35" x .20" Jumper	50-00035		

All reference designators starting with a "B" are 0 ohm jumpers.



# in picture	Description	CARVIN #	QTY
1.	3 in 1, AG100 PCB ASSEMBLY	80-01009	1
2.	Accutronics™ REVERB TANK	70-00821	1
3.	KNOB 11 D SHAFT DRK GREY	07-12028	14
4.	SLOW BLOW AGC FUSE	see fuse chart	1
5.	100WATT PWR TRANSFORMER	15-10072	1
6.	AG100 CHASSIS	10-01009	1
	AG100-10 CABINET, 10" PLUS PIEZO	87-00150	1
	AG100-12 CABINET, 12" PLUS PIEZO	87-00155	1
	NOT SHOWN		
	NOT SHOWN		

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AG100 Specifications

Frequency Response:	Mic or Line Inputs: 20Hz-20KHz ±2dB
Total Harmonic Distortion:	Less than .08% @ Half power
Output Power:	100 Watts RMS @ 8ohms
Phantom Power:	Channel 3 only
Channel 1:	3 band active LOW: 100Hz ±12dB ACOUSTIC SWEEP: 400-3KHz ±12dB HI: 10KHz ±12dB
Channel 2&3:	2 band active, LOW: 100Hz ±12dB HI: 10KHz ±12dB
Graphic EQ.:	5 Band: 100Hz, 250Hz, 800Hz, 4kHz, and 8kHz ±12dB
Mic Input ch. 3:	Balanced XLR input
Input ch. 1&2:	Unbalanced 1/4" Phone Jack
Power Consumption:	150VA @ 120/240VAC
Size:	AG100-10: 33lbs. (16Wx12Dx18H) AG100-12: 40lbs. (17.5Wx12Dx22H)

FUSE SELECTION

There are two versions of each of the AG100 -10 and -12. A 120 Volt AC version using the North American three prong plug and a 240 Volt AC version using the European CEE-7 plug. The following chart shows what fuse values to use for each model.

Fuse Selector Chart for 120 VAC Models

Model	Fuse Value	Carvin #	Size
AG100-10	1A, 250V, Slow Blow	70-22010	3AG, 1/4 x 1 1/2" (6.35 x 32mm)
AG100-12	1A, 250V, Slow Blow	70-22010	3AG, 1/4 x 1 1/2" (6.35 x 32mm)

Fuse Selector Chart for 240 VAC EXPORT Models

Model	Fuse Value	Carvin #	Size
AG100-10	0.5A, 250V, Slow Blow	70-22005	3AG, 1/4 x 1 1/2" (6.35 x 32mm)
AG100-12	0.5A, 250V, Slow Blow	70-22005	3AG, 1/4 x 1 1/2" (6.35 x 32mm)

WARRANTY AND SERVICE INFORMATION

Call Toll-Free 800-854-2235 if you need help with your CARVIN product. If you need to return it for service, our service dept. will issue a Service Number so that we can expect your shipment. Write the Service Number on the carton and be sure to include a full description of every problem. Pack in its original carton using all its packing material. Return by UPS pre-paid. Units returned with physical damage, missing parts, or damage from improper service are not serviceable.

REPAIRS UNDER WARRANTY (1Year)

There is no charge for service under warranty. However, shipping is to be paid both ways by the customer.

REPAIRS OUT OF WARRANTY

If your warranty has expired, call us for the current flat rate service charge which includes parts, labor and testing to bring your unit up to factory specifications.

SERVICING IN YOUR AREA

You may select your own service center or have your own qualified technician work on the unit at your own expense. This will not void the warranty unless damage was done because of improper servicing. Under the ONE YEAR WARRANTY, Carvin will ship parts pre-paid to you or your technician providing that the defective part(s) are first returned for our inspection. If you do not have a qualified service person, we ask that you do not involve yourself in servicing the unit.

EXTENDED WARRANTY

An extended warranty is available beyond the normal one year period. Please call 1-800-854-2235 for more information.

LIMITED WARRANTY

Your Carvin Professional Series Product is guaranteed against failure for ONE YEAR. Carvin will service the unit and supply all parts at no charge to the customer providing the unit is under warranty. CARVIN DOES NOT PAY FOR PARTS OR SERVICING OTHER THAN OUR OWN. This warranty is extended to the original purchaser only and is not transferable. THIS WARRANTY DOES NOT INCLUDE FAILURES CAUSED BY INCORRECT USE, INADEQUATE CARE OF THE UNIT, OR NATURAL DISASTERS. A COPY OF THE ORIGINAL INVOICE IS REQUIRED TO VERIFY YOUR WARRANTY. Carvin takes no responsibility for any horn driver or speaker damaged by this unit. This warranty is in lieu of all other warranties, expressed or implied. No representative or person is authorized to represent or assume for Carvin any liability in connection with the sale or servicing of Carvin products. No liability is assumed for damage due to accident, abuse, lack of reasonable care, loss of parts, or failure to follow Carvin's directions. CARVIN SHALL NOT BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES.

In the interest of creating new products and improving existing ones, Carvin is continually researching the latest state of the art audio design methods, and modern packaging and production techniques. Thus, Carvin reserves the right to make changes in its products and specifications without notice or obligation.

CARVIN

1-800-854-2235
(619) 487-1600 M-F 8 to 4:30

RECEIVING INSPECTION

INSPECT YOUR AG100 FOR ANY DAMAGE which may have occurred during shipping. If any damage is found, notify the shipping company and call CARVIN immediately.

SAVE THE CARTON & ALL PACKING MATERIALS. In the event you have to reship your AG100, always use the original carton and packing material. This will provide the best possible protection for the AG100 during shipment. CARVIN and the shipping company are not liable for any damage caused by improper packing.

SAVE YOUR INVOICE. It will be required for warranty servicing of your unit. Always check the invoice against the items you have received.

SHIPMENT SHORTAGE. If you find some items missing, it may be that they were shipped separately. Please allow several days for the rest of your order to arrive before inquiring. If you determine (after allowing an appropriate amount of time) you have not received all the items you ordered, please call CARVIN.

FOR THE NEW OWNER

Congratulations on your selection of CARVIN products: "The Professional's Choice." Your new AG100 Acoustic Guitar amplifier demonstrates CARVIN's commitment to producing the highest quality & most sophisticated engineering in the audio industry today. Its wide acceptance and use by industry professionals illustrates the basis for CARVIN's recognition as "The Professional's Choice."

The AG100 was designed as the ideal amplifier for any acoustic/electric situation. The three specially designed channels allow you to have a guitar (acoustic or electric) in channel one, another guitar, bass, tape deck, or drum machine in channel two, and a balanced XLR microphone in channel three all at the same time.

The AG100 features a 100 Watt amplifier and either a 10" or 12" speaker plus a piezo tweeter. All this is packed into a 3/4" poplar plywood cabinet, covered with Duratuff™, making it the ideal, all in one, sound system for small venues or coffee houses.

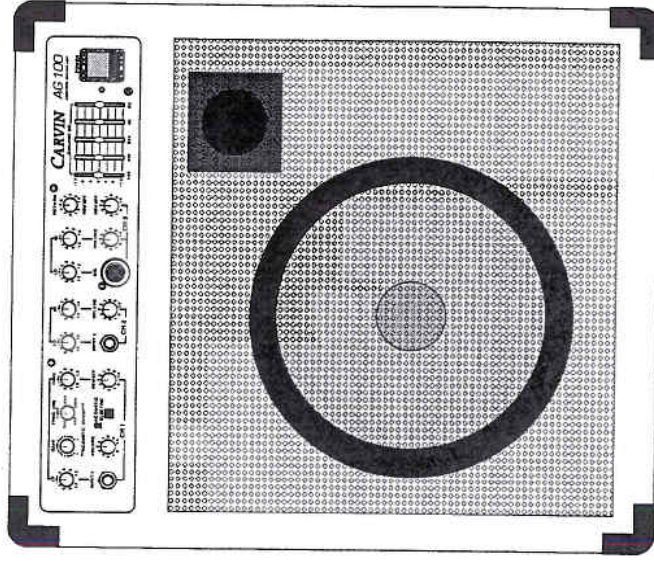
If you would like to comment on features or the performance of your new AG100, please feel free to contact us. Comments from our customers have helped us to improve and further develop our products and our business.

May you enjoy many years of success and fun with your new CARVIN AG100!

Carvin's toll free number: 800-854-2235

CARVIN

AG100 -10 and -12



OPERATION MANUAL

Manual No. 76-01009
Revision 1.0

Made in USA

CARVIN

1-800-854-2235

HELPLINE

1-800-854-2235

8:30 To 4:30 Monday-Friday
Pacific Standard Time
USA

CARVIN

12340 World Trade Drive
San Diego, CA 92128
619-487-1600

Record the serial number of your AG100 in the space provided below:

Serial No. _____ Invoice Date _____