The Allan Holdsworth

# HARNESS™

## POWER AMP TO LINE LEVEL INTERFACE *

**This unit has the FEEL FACTOR!**

# INSTRUCTION MANUAL

**READ THIS BEFORE USING THE UNIT**

# INDEX


Page 1. Description

Page 2. Front and rear panel layout

Page 3. SAFETY

Page 4. Hook-up #1 and #2 diagrams

Page 5. Hook-up #1 description - basic set up

Page 6. Hook-up #2 description - additional e.q.

Page 7. Hook-up #3 diagram

Page 8. Hook-up #3 description - multiple set ups

Page 9. Hook-up #4 diagram and description - recording

Page 10. Recording

Page 11. WARNING

Page 12. Frequently asked questions

Page 13. Guarantee and maintenance


* Patents applied for

# The Allan Holdsworth HARNESS™
# POWER AMP TO LINE LEVEL INTERFACE

## DESCRIPTION

The **Harness** is a unique* device designed for total control. Not only will it capture the sound of your tube amp head but also the feel. You will be able to get that fat loud tone SOFT or at any level, eq it, add reverb, stereo-ize it and tweeze it any way you like and then monitor it on standard guitar speaker enclosures and the power amp of your choice.

THIS UNIT IS NOT A SPEAKER SIMULATOR NOR POWER ATTENUATOR. IT HAS NO THROUGH CONNECTIONS. IT DOES NOT HAVE ANY SPEAKER CABINET EQ CURVES AND IS NOT INTENDED TO BE CONNECTED TO A MIXING CONSOLE OR TAPE MACHINE.

The idea behind the **Harness** is to take the speaker output of any guitar amplifier or amp head, which is being used to create a modern distorted guitar sound, capture and convert that sound into more controllable line level signals. This allows the signal to remain intact and uncolored between the guitar and the amp yet allows the addition of signal processing (e.q., delay, reverb etc.) after the amplifier's internal output stage. This is something which otherwise would be impossible to obtain from the normal send and return jacks found on today's conventional tube amplifiers. For example, if you were playing at a relatively loud level, using a little power amp distortion (a necessary ingredient in my opinion), any processor's output being returned to the amp's return jack would be undesirably distorted by the internal power section - an inadequate solution. Not only does the **Harness** address this shortcoming, but it also allows you to take advantage of the stereo imaging provided by most modern signal processors. Using the old send and return method forces you to throw away one HALF of the stereo signal; with the **Harness** you can make full use of the stereo imaging capabilities of your favorite signal processors.

### CAN'T A PREAMP DO THE SAME THING?

Although it is very easy to interface a pre-amp prior to any processing, and clean sounds from pre-amps can be excellent, the use of a pre-amp to derive a "distorted" guitar sound cannot produce the unique sound of a tube amplifier head (which is using it's internal power section). By comparison, a pre-amp will always sound fuzzier and less dynamic.

This unit is passive.

Frequency response: 10-40 khz.

Input impedance: 8 ohms.

Output impedance: 130k ohms.

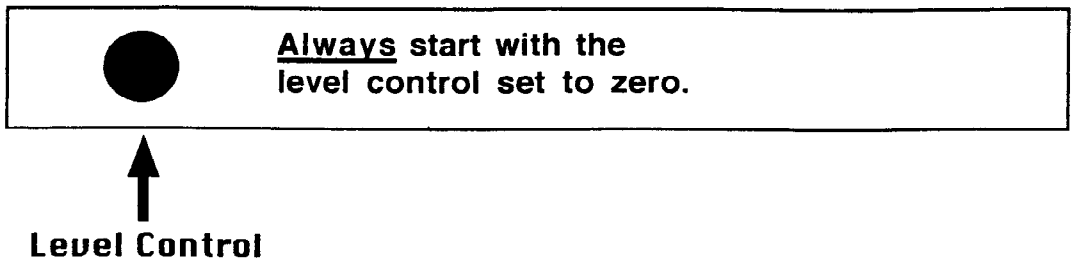
Power Handling: 100 watts

Each unit is hand made by Allan Holdsworth.

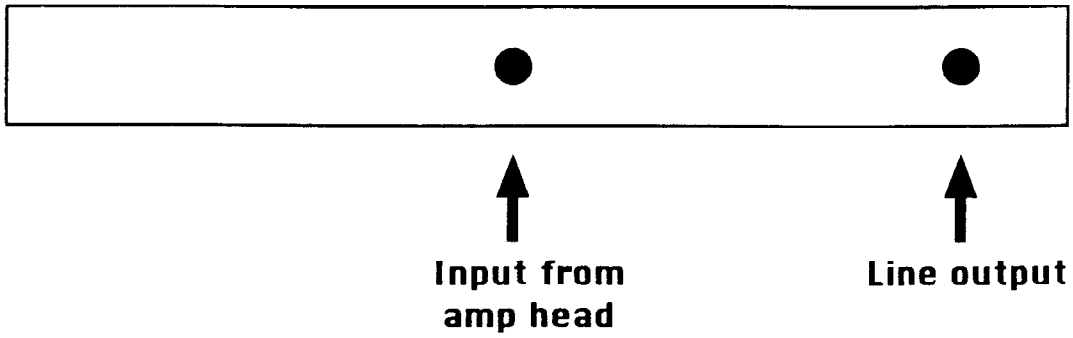
*Patents applied for.

# The Allan Holdsworth HARNESS

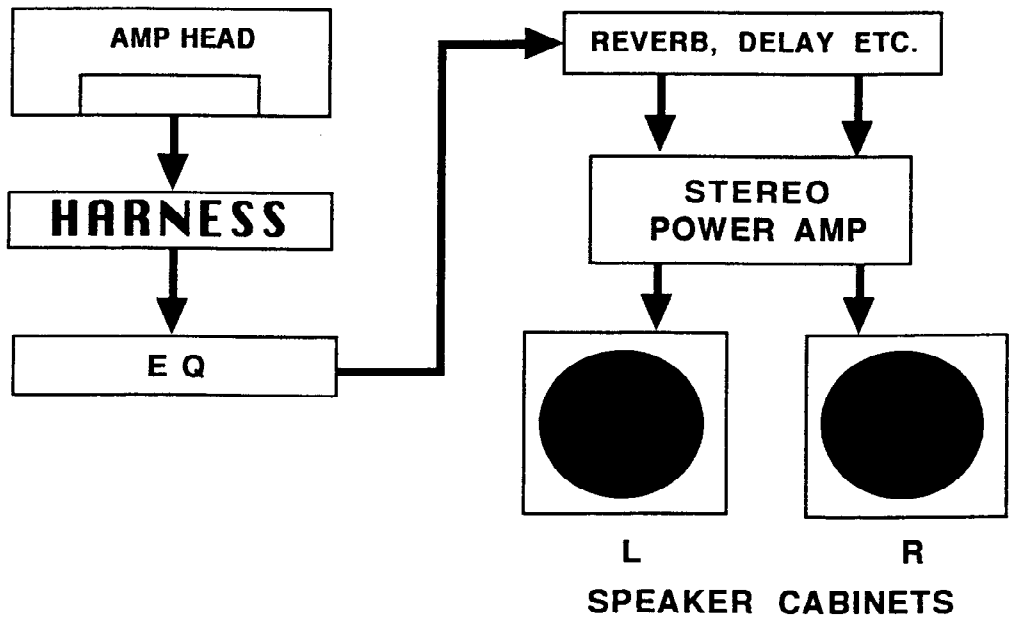
Front Panel




Rear Panel




Below is my favorite setup. It is simple and it sounds great.



# SAFETY

## The amplifier head being used should ALWAYS be grounded to avoid damage to associated equipment.

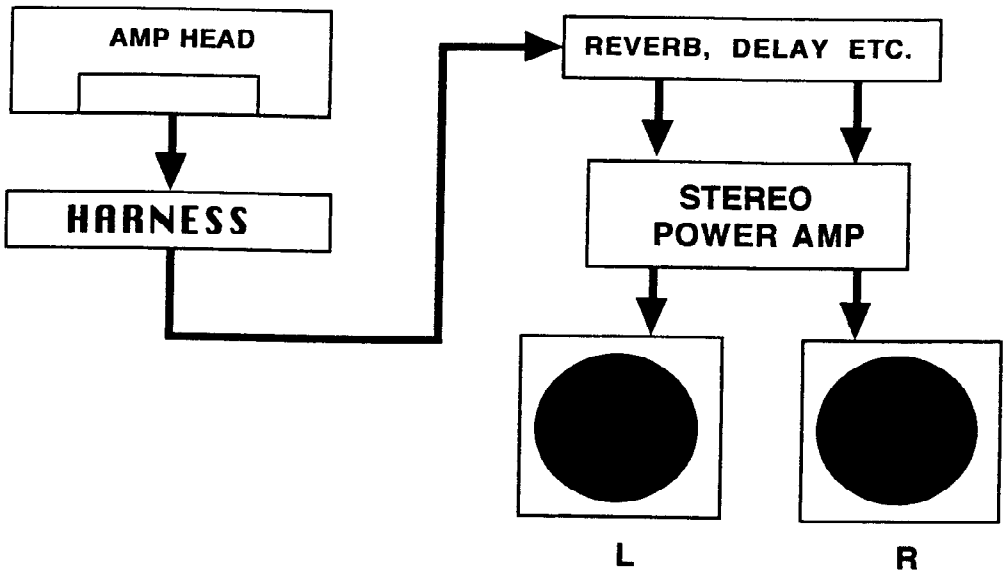
The HARNESS is passive, and therefore cannot itself create a hazardous condition. However a hazardous condition can arise if any associated equipment is used with improper a/c wiring e.g. ungrounded outlets, or lifting units off ground with a three-to-two wire adaptor.

The manufacturer cannot be responsible for problems caused by using the HARNESS or any associated equipment with improper a/c wiring.

Ground loops can be a major problem when dealing with audio equipment. Ground loop defeating is detailed and time-consuming, and cannot be discussed here.

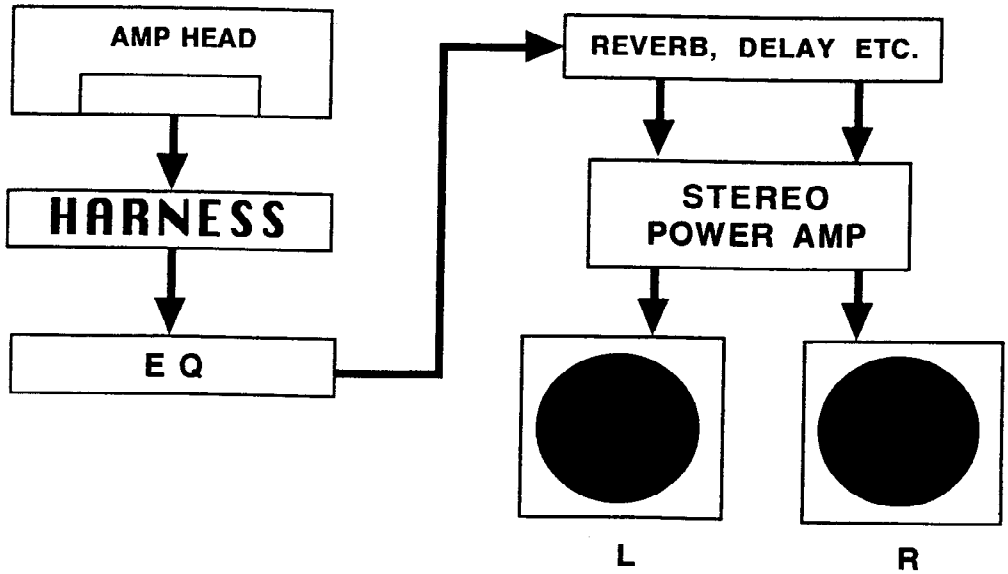
**Electric shock can occur through ground lifting practices.**

# HOOK UP #1




SPEAKER CABINETS

# HOOK UP #2




SPEAKER CABINETS

# HOOK-UP #1

Make all audio connections prior to A/C connection.

Connect amp head speaker output to (red jack socket) **Harness** input. MAKE SURE AMP HEAD IS GROUNDED.

Connect **Harness** (black jack socket) line output to input jack of processor being used.

Take output jacks of processor to input jacks on stereo power amp.

Make sure the speakers are connected to the monitoring power amp.

Turn the level control on the **Harness** to minimum, set amplifier head controls as you would normally, and monitoring power amp controls to desired level.

If you're amp head has a master volume, start with it low.

NOW connect A/C and turn everything on.

Gradually bring up the **Harness** level control until the desired level shows on the processor's input LEDs. Control the level to the power amp from the output control of the processor.

Tweak on the head as desired.

Consult the processor manufacturer's manual for input and output levels. Set unit input and output levels to +4 where possible.

# HOOK-UP #2

Make all audio connections prior to A/C connection.

Connect amp head speaker output to (red jack socket) **Harness** input. MAKE SURE AMP HEAD IS GROUNDED.

Connect **Harness** (black jack socket) line output to input jack of equalizer being used.

Take output jack of equalizer to input jack of processor.

Take output jacks of processor to input jacks on stereo power amp.

Make sure the speakers are connected to the monitoring power amp.

Turn the level control on the **Harness** to minimum, set amplifier head controls as you would normally, and monitoring power amp controls to desired level.

If you're amp head has a master volume, start with it low.

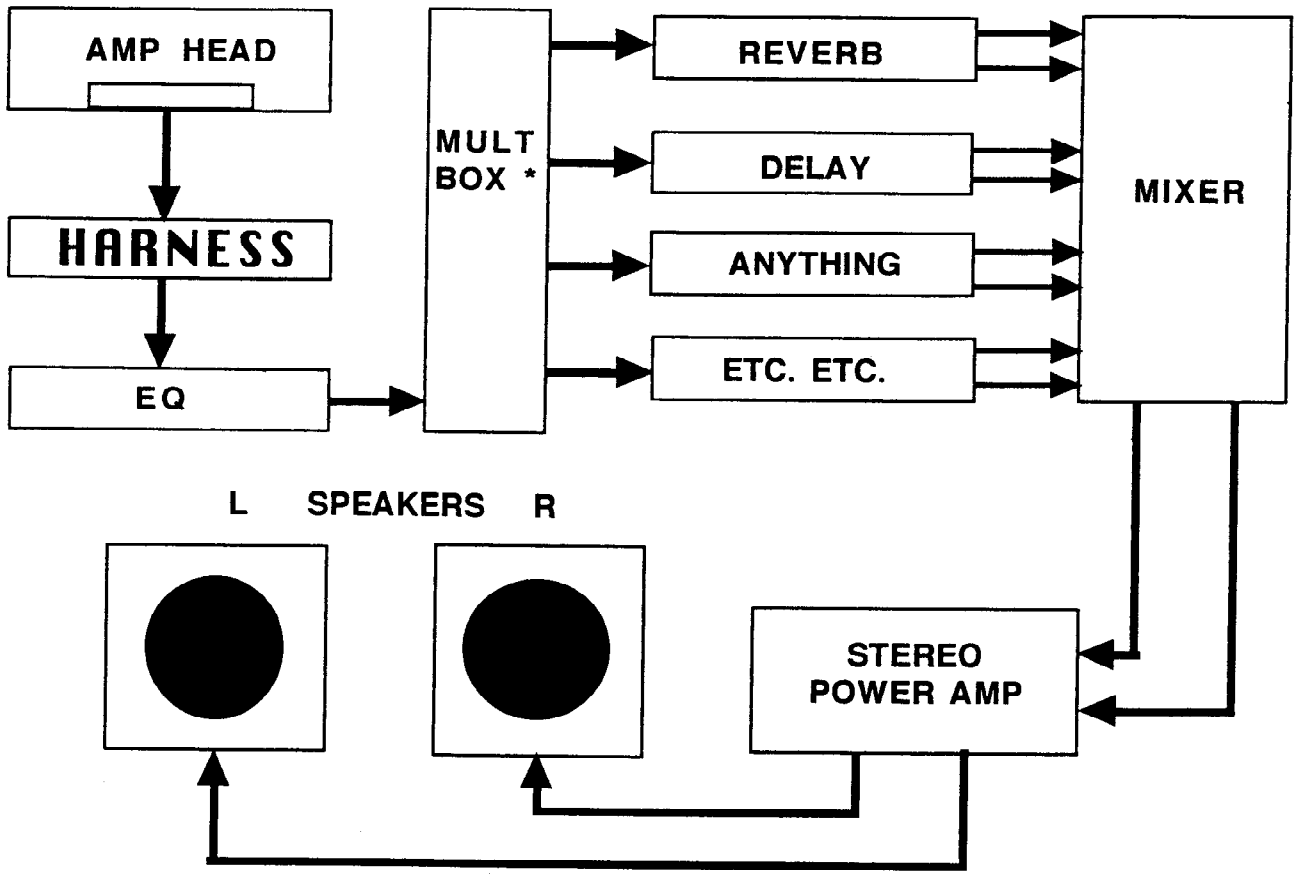
NOW connect A/C and turn everything on.

Gradually bring up the **Harness** level control until the desired level shows on the equalizer's input LEDs. Turn the equalizer output control until the desired level shows on the processor's input LEDs. Control the level to the power amp from the output control of the processor.

Tweak on the head as desired.

Consult the processor manufacturer's manual for input and output levels. Set unit input and output levels to +4 where possible.

# HOOK UP # 3




* Mult-boxes are necessary when using multiple processors simultaneously. A mult-box is simply multiple parallel connections. For example, six jack sockets all connected together tip to tip, sleeve to sleeve etc. etc.

** If the equalizer does not have level controls, use the level control on the Harness.

# HOOK-UP #3

Make all audio connections prior to A/C connection.

Connect amp head speaker output to (red jack socket) Harness input. MAKE SURE AMP HEAD IS GROUNDED.

Connect Harness (black jack socket) line output to input jack of equalizer being used.

Connect output of equalizer to a mult-box*.

Take separate outputs from the mult-box to the input jacks of each of the processors being used.

Take the stereo outputs of each processor and return them to the desired channels on the mixer.

Take the mixer stereo outputs and connect them to the power amp inputs.

Make sure the speakers are connected to the monitoring power amp.

Turn the level controls on the Harness to minimum, set amplifier head dials as you would normally, and monitoring power amp controls to desired level.

If you're amp head has a master volume, start with it low.

NOW connect A/C and turn it all on.

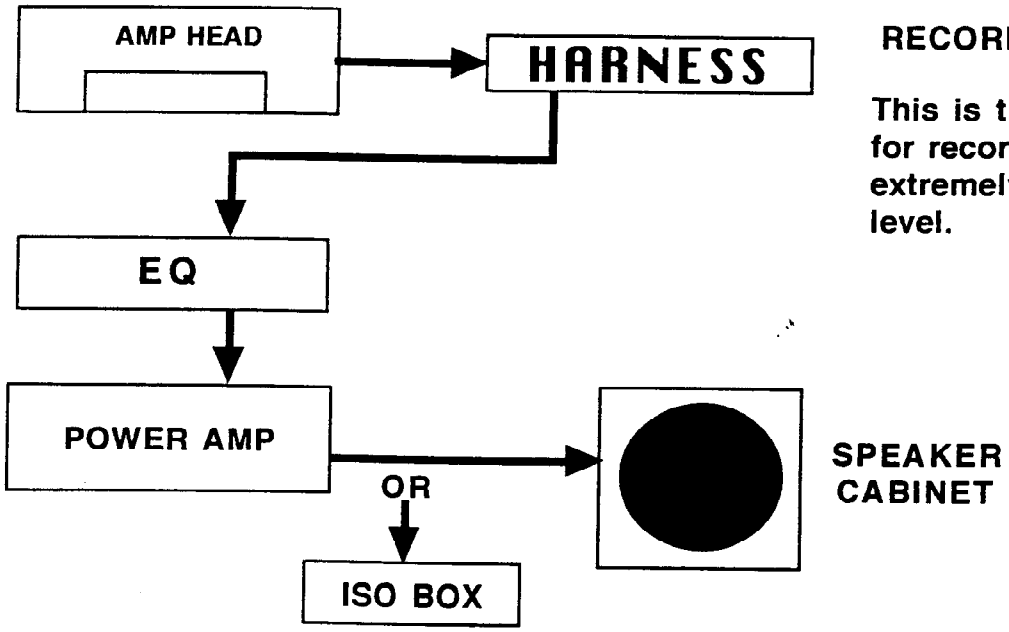
Gradually bring up the Harness level control until the desired input level of the equalizer being used is reached. Use the output level control of the equalizer** to drive all the processors being used.

Adjust individual input and output levels on the processors and mixer until suitable levels are reached.

Use the output controls of the mixer to adjust the volume sent to the power amp. Tweak on the head as desired.

Consult the processor manufacturer's manual for input and output levels. Set unit input and output levels to +4 where possible.

# HOOK UP #4




**RECORDING SET-UP**

This is the set-up I use for recording. It works extremely well at any level.

HOOK-UP #4

Make all audio connections prior to A/C connection.

Connect amp head speaker output to (red jack socket) **Harness** input.
MAKE SURE AMP HEAD IS GROUNDED.

Connect **Harness** (black jack socket) line output to input jack of equalizer being used.

Take the output jack of the equalizer being used to the input jack(s) on the power amp. If you wish to use both sides of the power amp, use a Y cord from the output of the equalizer to both inputs on the power amp.

Turn the level controls on the **Harness** to minimum. Set amplifier head controls as you would normally and monitoring power amp controls to desired levels.

If your amp head has a master volume, start with it low.

NOW connect A/C and turn everything on.

Gradually bring up the **Harness** level control until the desired level shows on the equalizer's input LED's. Use the equalizer output control in conjunction with the monitoring power amp controls to adjust overall volume.

Tweak on the head as desired.

# RECORDING

Mic'ing is, in my opinion, by far the best way to record "DISTORTED" guitar sounds. If you use just an eq curve (as most speaker simulators and some pre-amps do) you would be missing out on one of the most important features of electric guitar sound (the ambience of a particular speaker vibrating in free air). If you were to try and duplicate the eq curve of one loudspeaker in a given box, each time the microphone was moved a few centimeters left or right, up or down, close or far, or anything in between, a new eq curve would have to be charted. There would have to be as many eq curves as there are centimeters in a 10 meter square room - quite a few! "Distorted" guitar sounds are infinitely more complex than simple eq curves which are only a drop in the ocean.

If you wish to record guitar, don't have room and/or have serious noise restrictions, you can make yourself a simple isolation box (a totally enclosed speaker and mic set-up) which combined with the HARNESS will allow you to record excellent guitar sounds with no disturbance to others.

For plans and/or further information concerning the iso-box, contact:

Guitars West,
1099 San Marcos Blvd.
San Marcos, Ca. 92069
Ph: (619) 752-1099
Fax: (619) 752-1330

# WARNING

**Although I have used this device for many years and never had an amplifier failure,**

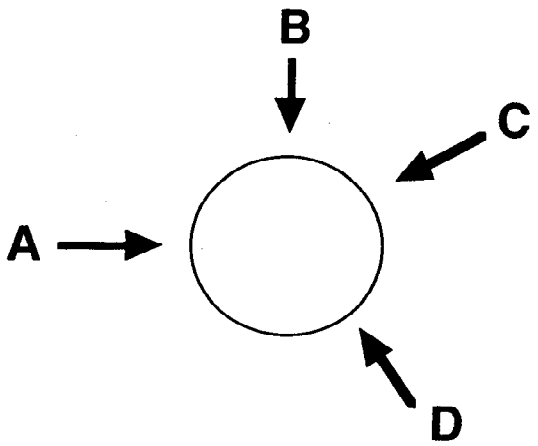
**IT IS POSSIBLE TO BLOW AMPLIFIERS THROUGH MIS-USE.**

**The amplifier should be set just the way you would use it normally (as if connected directly to the speakers). If you take an amp and turn all the knobs to eleven, you are likely to kill the amplifier with or without this device.**

**BE CAREFUL!**

**NEVER drive the amplifier at parameters outside the norm.**

**POWER HANDLING 100 WATTS**




**Amplifier head Master Volume**

It is my experience using amps with master volumes that setting the master volume between points A and B will give the best results. Turning the master volume even further between C and D does not generally improve the sound, and is very much harder on the amp.

Amplifiers with no master volume controls (e.g. old Marshalls) being run flat out are subject to failure.

**Because of the nature of this device, it is not possible for the manufacturer to accept responsibility for damage to amplifiers and associated equipment due to mis-use.**

# The Allan Holdsworth HARNESS

## Frequently Asked Questions

### CAN I PLUG THE HARNESS LINE OUTPUT DIRECTLY INTO A POWER AMP?

Yes, but the sound will be compromised because the Harness has a relatively high output impedance (chosen for sonic reasons) and power amps usually have a relatively low input impedance. As the Harness was designed to interface with signal processors I saw no reason to wish to do this. Inserting a high quality e.q. (TC 1140HS parametric e.q. for example) between the Harness and the power amp will give excellent results.

### CAN I PLUG A SPEAKER CABINET INTO MY AMP HEAD AS WELL AS THE HARNESS?

Yes (even though the Harness was designed to be used without direct amp head to speaker cabinet connection), but you will have to use an 8 ohm speaker cabinet and will experience some loss in volume. Also, the amplifier must have an impedance selector and be changed to 4 ohms. The Harness has no through jacks.

### CAN I PLUG THE HARNESS LINE OUTPUT DIRECTLY INTO A MIXING CONSOLE?

No, for a "distorted" sound. Yes, for a clean sound. The Harness has no simulated speaker e.q. curves built in. It was designed as a live and recording tool so the real speaker cabinets being used are doing the filtering. See RECORDING. As the Harness has relatively high output impedance, (chosen for sonic reasons) and recording consoles usually have fairly low input impedances. If you wished to do this you would need to use either a d.i. box, TC e.q. or similar device between the Harness and the console.

### CAN I PLUG THE HARNESS LINE OUTPUT DIRECTLY INTO A TAPE MACHINE?

No, not recommended, for the same reasons as above.

### CAN I USE THE HARNESS AS A BOAT ANCHOR?

Yes!! It will void your warranty but it will probably still work.

# GUARANTEE

Your **Harness** is guaranteed for one year against component failure.

# Maintenance

If a problem does occur, e.g. no sound at line output (black jack socket), turn the amp head off and check the load by using a D/C resistance meter connected to a jack connected to the red jack socket input. This should read between 8 and 16 ohms. If nothing reads at this jack socket, contact the manufacturer.

There are no user serviceable parts inside.