

# SUGDEN

## A28II INTEGRATED STEREO AMPLIFIER

### INSTRUCTION BOOK

Your Sugden Amplifier is individually constructed from carefully selected materials and components.

With normal use and a little care, it will bring you many years of sound enjoyment.

To obtain the best from the Amplifier's many features, please read this booklet carefully and if you have any queries, your dealer will be only too pleased to advise.

J. E. SUGDEN & CO. LTD.

VALLEY WORKS  
STATION LANE  
HECKMONDWIKE  
WEST YORKSHIRE WF16 0NF

## UNPACKING

Your amplifier should reach you in a substantial, protective carton. On unpacking, please examine the unit carefully for signs of damage or prior use. Check that all the front panel controls function mechanically.

The following items should also be in the carton:-

- a) 4 loudspeaker plugs - 2 red 2 black
- b) 2 gold plated disc sensitivity links.
- c) 1 pre-paid owner's Registration Card, the lower half of which should be completed and returned to ourselves.

May we suggest that you retain the protective carton in the unlikely event of the Amplifier having to be returned to ourselves.

## INSTALLATION

This is a class A/AB Amplifier and, therefore, the heatsinks will become quite warm when the Amplifier is in operation. A free air-flow around the heatsinks is essential if the Amplifier is not to overheat.

Do not site the Amplifier in direct sunlight.

Do not box in unless adequate ventilation is provided.

Do not cover the heatsink.

## CONNECTING TO THE MAINS SUPPLY

Please check that the voltage rating on the back of the Amplifier is correct for your supply. Connection to the mains varies for the country for which the amplifier is supplied. In some countries the mains lead is terminated by a captive moulded mains plug. These plugs will be two pin or three pin plugs to suit local conditions and regulations.

Where the mains cable is not terminated with a captive moulded mains plug these must be correctly connected to a two or three pin plug to ensure complete safety.

The mains cable is colour coded as follows:-

3 PIN	BROWN	LIVE
	BLUE	NEUTRAL
	GREEN/YELLOW	EARTH
2 PIN	BROWN OR BLACK	LIVE
	BLUE	NEUTRAL

It is essential that the above colour codes are observed and that the voltage and frequency of supply conforms to the markings on the amplifier.

## OUTPUT CONNECTIONS

### LOUDSPEAKERS

The loudspeaker connections are via the red and black binding posts at the right-hand rear of the Amplifier. These binding posts will accept spade connectors soldered bare wire and in some countries 4mm jack plugs.

Connection of the loudspeaker leads to the plugs is made by soldering and care should be taken to ensure that the connection is properly made i.e., no loose strands or dry joints. The use of special interwoven or co-axial cables is not recommended. The outputs are suitable for driving most types of loudspeaker of 8 ohms nominal impedance or greater.

### SIGNAL INPUT CONNECTIONS

All input connections are via standard phono sockets on the rear left of the Amplifier.

The majority of signal source equipment is provided with leads terminating in phono plugs, but if interconnection difficulties are experienced your dealer can advise.

## **INPUTS FROM ANCILLARY EQUIPMENT - EARTHING**

One of the most common problems with high performance audio equipment is an audible hum through the loudspeakers.

This can frequently be traced to the connections of ancillary equipment which is separately earthed via its own mains supply causing a 'hum-loop'.

Whilst we cannot recommend that the earth connections be removed from ancillary equipment power plugs, it may be the only solution in order to remove the 'hum-loop'.

Ancillary equipment is, however, earthed via its input lead screen, through the Amplifier but only whilst the ancillary equipment remains connected to the Amplifier.

Should you remove the earth connections in ancillary equipment mains plugs, remember:-

- 1) LEAVE THE EQUIPMENT PERMANENTLY CONNECTED TO THE AMPLIFIER INPUTS. IF THE EQUIPMENT IS TO BE REMOVED FOR ANOTHER USE, IT MUST BE UNPLUGGED FROM THE MAINS POWER BEFORE REMOVING THE PHONO INPUTS.
- 2) REMEMBER TO RE-CONNECT THE EARTH WIRE IN THE POWER PLUG.
- 3) UNDER NO CIRCUMSTANCES SHOULD THE EARTH CONNECTION IN THE AMPLIFIER BE REMOVED AT ANY TIME.

## **PHONO INPUTS - EARTHING**

Many record decks and tone arms are provided with separate earth wire connections in conjunction with the phono input leads. This should be connected to the functional earth screw terminal on the Amplifier which is located at the rear left-hand side, adjacent to the input sockets.

## **PHONO INPUT**

The disc input circuit has a two level variable gain feature, which can be adjusted internally in the Amplifier to allow a wide range of cartridges to be accommodated.

When your Amplifier leaves the factory it is set at the lower sensitivity level which is suitable for the medium to high output magnetic cartridges.

If a low output magnetic or high output moving coil cartridge is to be used, after gaining access to the Amplifier as detailed later, then the disc input sensitivity can be adjusted by fitting the two disc sensitivity links. (Please refer to diagram toward rear of book for position of links).

For maximum power output with the volume control fully advanced the sensitivities are:-

LOW - 3.5 mV No link required  
HIGH - 1.7 mV Fit sensitivity link

## **MOVING COIL HEAD AMPLIFIER**

The disc input circuit is preceded by a Head Amplifier i.e. moving coil step up device. This facility is for use with low output moving coil cartridges. Amplifiers leave the factory in a normal moving magnet cartridge mode. To activate the moving coil Head Amplifier four gold plated links should be positioned as shown at the rear of this booklet.

The Head Amplifier is novel in its concept in that it adapts itself to the impedance of the cartridge being used. It therefore can be used directly with any moving coil cartridge without impedance or capacitance matching.

## **CD INPUT**

The C.D. Input is tailored to be suitable for most C.D. players.

## **TUNER INPUT**

The Tuner input is suitable for most good quality FM and AM Tuners with output levels of up to 500 mV. Input impedance is 180 K ohms.

## AUXILIARY INPUTS 1 & 2

The input impedance and level requirement for these inputs are identical to that of both Tuner and Tape input. They will, therefore, lend themselves, to use with either an additional Tuner or second Tape Deck.

## TAPE INPUT

The Tape input is designed to suit most reel, and Cassette Recorders and via the 'Tape' monitor button on the front panel, post tape monitoring on 3 head machines, can be achieved.

Input impedance is 180 K.

## TAPE OUTPUT

The outputs for recording can be taken from either DISC, C.D., TUNER or AUX, depending upon which is selected. Please note that the Amplifier controls (excepting the input selection switches) do not affect any of the recording signals.

## PRE-AMP OUTPUT

The pre-amp output phono sockets can be used for three different functions.

- 1 To use the amplifiers pre-amp section to serve a separate power amplifier.
- 2 To drive an active sub woofer preferably one which includes an attenuator (level control device).
- 3 When the amplifier has been switched to operate in the MONO/BRIDGED MODE (SEE UNDER MONO/BRIDGED HEADING).

## MONO/BRIDGED OPERATION

The A28II integrated amplifier is provided with an internal bridge switch. The amplifier is despatched from the factory with this switch in the stereo position as a standard stereo integrated amplifier.

The amplifier can be converted to a mono amplifier by moving the switch to the bridged position (see later illustration). When the switch is in the bridged position the output signal appears across the two red (positive) speaker terminals. This is a double amplitude signal, being the sum of the two output channels. The signal appearing is the left hand channel signal which is passed directly through the LHC power amplifier stage and inverted and passed through the RHC power amplifier stage.

The right hand channel signal is directed to the pre-amp out phono socket. This signal can be used to feed a bridged version of the SUGDEN P28 which will then form the RHC of a dual mono stereo amplifier system. To preserve correct phasing the bridged amplifiers must be connected as illustrated later in this Instruction manual.

It is imperative that neither red sockets are connected to earth or damage could ensue.

**See rear of booklet for bridge mode diagram of A28II/P28**

## FRONT PANEL CONTROLS

### INPUT SELECTION

The rotary selector switch located on the left of the front panel selects the relevant input signal i.e. PHONO, C.D., TUNER, AUX1, AUX2 and is associated with the signal input/output sockets on the rear panel.

### PHONO

This will allow the signal from a Record Deck connected to the Disc inputs to be played through the Amplifier to the loudspeakers.

The signal will also appear at the Tape out sockets for recording purposes.

## **C.D.**

As above.

## **TUNER**

As above.

## **AUX 1 & 2**

As above.

## **TAPE**

This is a push button control and can be used for two purposes.

- 1) **TAPE PLAYBACK:** The playback of recorded tapes is enabled by pushing in the tape push button. This overrides all other input signals.
- 2) **MONITOR:** On three head machines with the push button pressed in as above and whilst recording, monitoring of the post tape signal can be achieved i.e. Monitoring of the Phono, Tuner etc. which you wish to record can be listened to. Selection:- PHONO - on main selector 'TAPE push button in' will give you monitoring of the phono signal recorded.

## **VOLUME**

The volume control continuously adjusts the power delivered to the loudspeakers and hence the listening level. Minimum output is in the fully anti-clockwise position with the pointer at '6 o'clock'. Attenuation in this position is -90dB with an initial step of -60dB. Interchannel matching is better than  $\pm 1$  dB at all levels.

## **BALANCE**

The balance control will move the stereo image left or right depending upon the setting. Equal channel balance is in the central detent position. Rotation provides up to 6 dB variation left or right channel.

## **MONO**

This button will mix both left and right stereo inputs applying the resulting signal equally to both halves of the Amplifier.

## **MUTE**

This button when pressed cuts off the signal completely.

## **PHONES**

The A28 is capable of driving most headphones from 4 to 2000 ohms impedance via the headphone jack socket. The headphone socket is fitted to the front panel of the Amplifier and is activated at all times.

## **LOUDSPEAKER OUTPUTS**

As mentioned previously these are two red and two black binding posts. The output circuit for the loudspeakers contains a speaker push button switch. To activate the loudspeaker outputs the switch (located on the rear panel on the right-hand side) must be 'pressed in'.

This switch is a useful aid if comparisons of speakers are to be carried out. By releasing the switch the amplifier is disconnected from the outputs and the speakers can be connected or disconnected without risk to the unit even when the Amplifier itself is switched on.

## **POWER**

Pressing the power button will turn the Amplifier on or off, at the same time illuminating the power on L.E.D.

## **FUSES**

Should a fuse blow, this is usually an indication of a fault of some form.

It is essential that the fault be located and corrected before any new fuse is inserted. If you are in any doubt, please consult with your dealer or the factory.

## **LOUDSPEAKER FUSES**

These are 2 fast blow fuses 20mm x 5mm dia. marked with their correct value. They must only be replaced with a fuse of identical type. It is possible for these fuses to blow under prolonged high level music conditions and they will also blow if the loudspeaker leads are short circuited.

If, after replacing a fuse, the new one blows immediately after turn on, do not attempt further replacements. Please seek advice from your dealer or the factory.

## **MAINS POWER FUSE**

This is a 20mm x 5mm dia. slow blow fuse rated according to its marking which must only be replaced with a fuse of the correct rating.

## **MAINS VOLTAGE RATING**

The mains voltage for which your Amplifier is set is shown on the rating label of your Amplifier.

Whilst a 240 V set Amplifier will operate over the range 210/240 V 50/Hz without alteration, only by altering the transformer tapings can full output power be achieved.

It is **not permissible** to operate a lower voltage set Amplifier on a higher mains output voltage - eg: **DO NOT** operate 220V Amplifiers on 240V.

## **ACCESS TO AMPLIFIER**

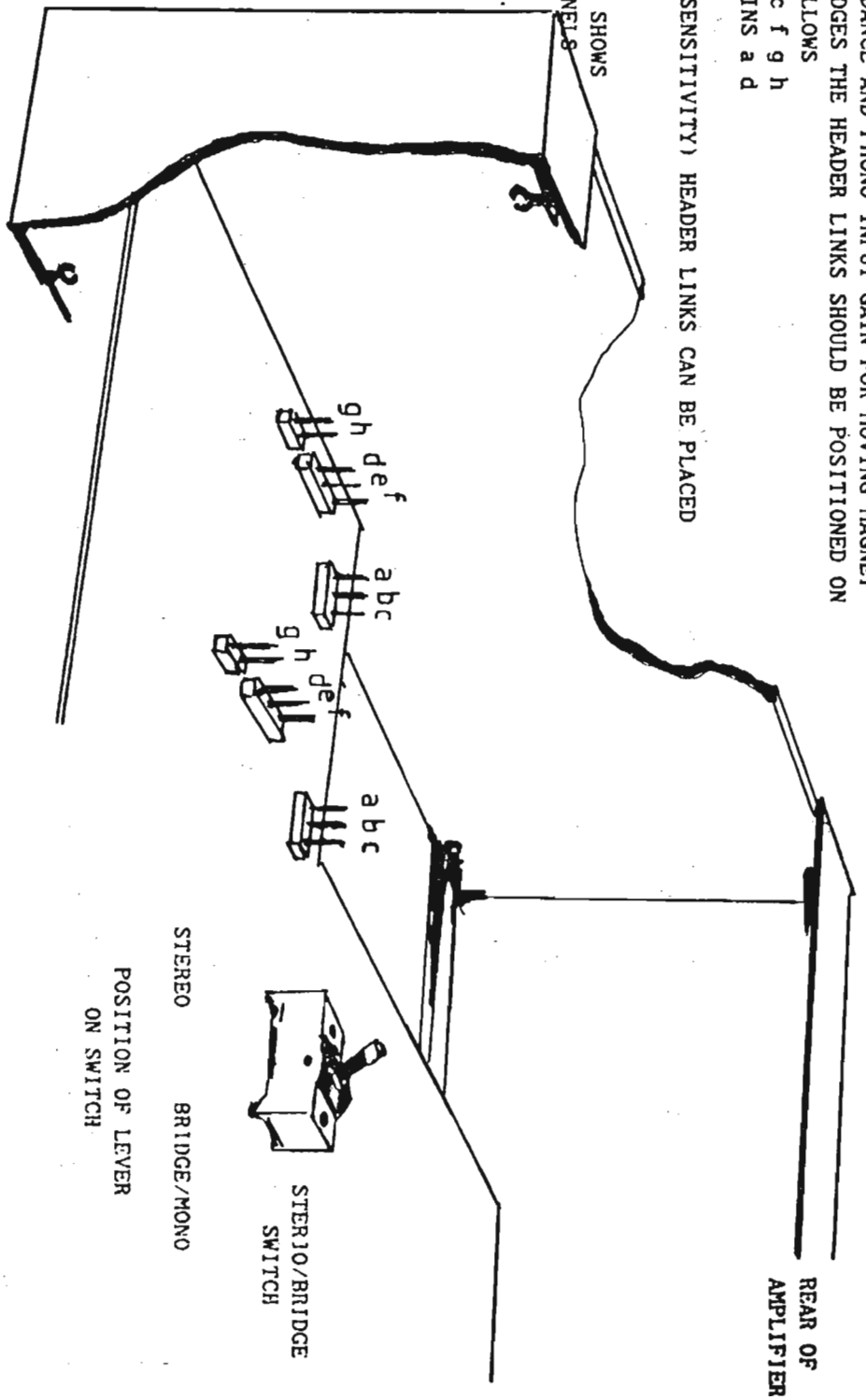
Access for service, fuses, adjustment of sensitivity, adjustment of mains supply tapings may be obtained as follows:-

- 1) **DISCONNECT ALL POWER LEADS AND INPUT LEADS. CAUTION: THIS IS ESSENTIAL FOR SAFETY.**
- 2) **WITH A POZIDRIV SCREWDRIVER REMOVE THE 4 RETAINING SCREWS IN THE RIGHT-HAND SIDE PLATE AND REMOVE THE SIDE PLATE.**
- 3) **GENTLY SLIDE THE TOP COVER OUT OF ITS LOCATING GROOVE. YOU NOW HAVE ACCESS TO FUSES, SENSITIVITY AND MAINS VOLTAGE ADJUSTMENTS.**
- 4) **BY REMOVING THE LARGE LEFT-HAND SECTION OF THE BASE PLATE UNDER THE AMPLIFIER WITH A POZIDRIV SCREWDRIVER, COMPLETE ACCESS FOR SERVICE MAY BE OBTAINED WHILST STILL RETAINING A LARGE AMOUNT OF MECHANICAL STABILITY.**

TO SET THE INPUT IMPEDANCE AND PHONO INPUT GAIN FOR MOVING MAGNET OR MOVING COIL CARTRIDGES THE HEADER LINKS SHOULD BE POSITIONED ON THE HEADER PINS AS FOLLOWS  
 MM ab, de, FREE PINS c f g h  
 MC bc, ef, gh, FREE PINS a d

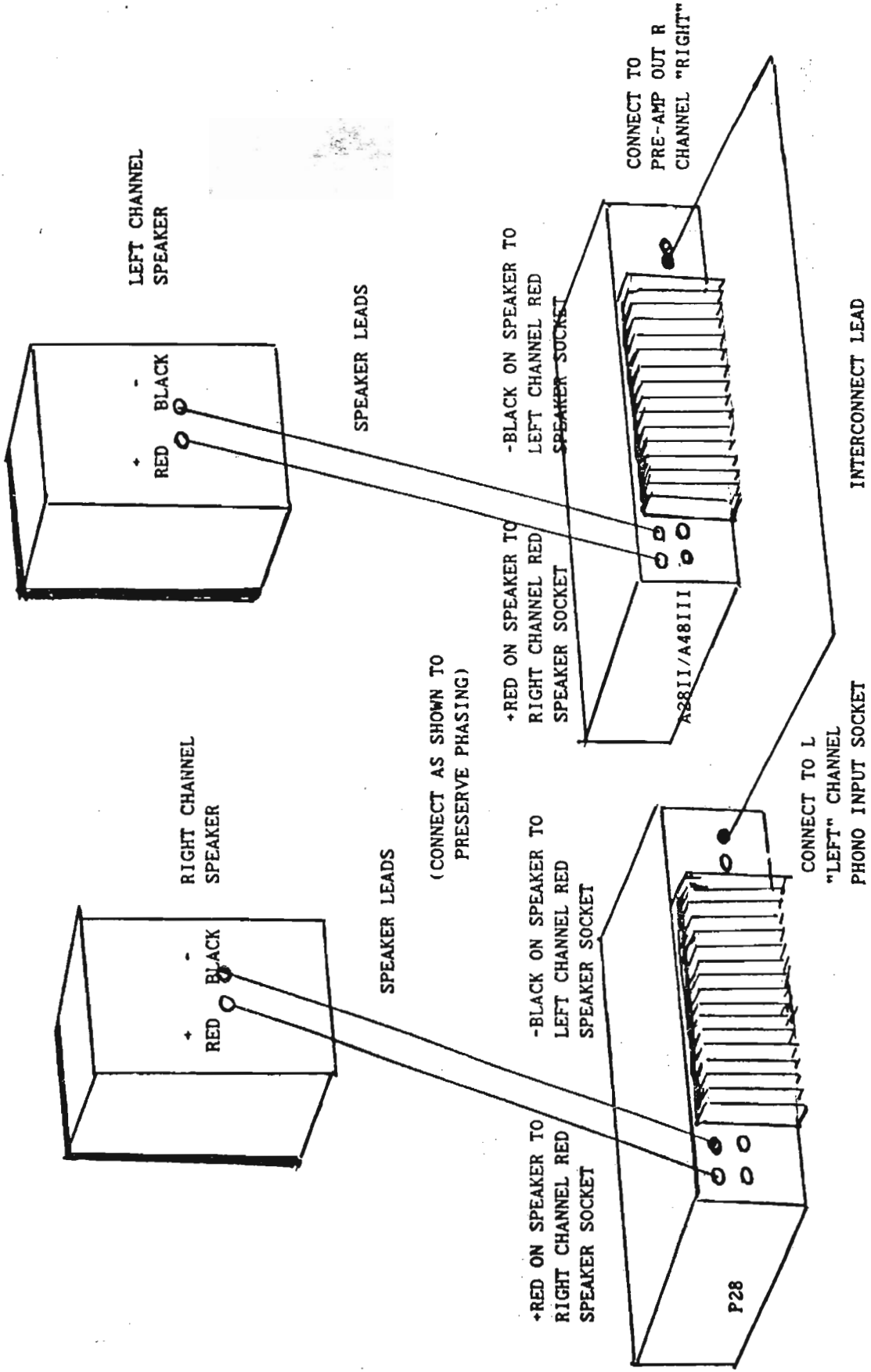
FOR ADDITIONAL GAIN (SENSITIVITY) HEADER LINKS CAN BE PLACED ON HEADER PINS g h.

NOTE THE ILLUSTRATION SHOWS HEADERS FOR BOTH CHANNELS. EACH CHANNEL MUST BE CONNECTED IDENTICALLY.



AMPLIFIER FRONT PANEL

A 2811 INTEGRATED STEREO AMPLIFIER



INTERCONNECTION OF BRIDGED INTEGRATED AMPLIFIER & BRIDGED POWER AMPLIFIER  
A2811/P28 OR A48111/P28



# SUGDEN

## **A28 II INTEGRATED STEREO AMPLIFIER**

FROM SERIAL No. 3477 ONWARD

### INSTRUCTION BOOK

Your Sugden Amplifier is individually constructed from carefully selected materials and components.

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## UNPACKING

Your Amplifier should reach you in a substantial, protective carton. On unpacking, please examine the unit carefully for signs of damage or prior use. Check that all the front panel controls function mechanically.

The following items should also be in the carton:—

- a) 4 phono plugs - 2 red and 2 black (or yellow)
- b) 4 loudspeaker plugs - 2 red and 2 black
- c) 2 gold plated disc sensitivity links
- d) 1 pre-paid owner's Registration Card, the lower half of which should be completed and returned to ourselves.

May we suggest that you retain the protective carton in the unlikely event of the Amplifier having to be returned to ourselves.

## INSTALLATION

This is a class 'A' Amplifier and, therefore, the heatsinks will become quite warm when the Amplifier is in operation. A free air-flow around the heatsinks is essential if the Amplifier is not to overheat.

**Do not** site the Amplifier in direct sunlight.

**Do not** box in unless adequate ventilation is provided.

**Do not** cover the heatsink.

## CONNECTING TO THE MAINS SUPPLY

Please check that the voltage rating marked on the back of the Amplifier is correct for your supply. Connection to the mains is via a 3 metre length of 3 core mains cable to IEC standards and is colour coded as follows:—

**BROWN - LIVE**

**BLUE - NEUTRAL**

**GREEN/YELLOW - EARTH**

These must be correctly connected to a 3 pin plug to ensure complete safety.

**EXPORT MODELS** SOME COUNTRIES ARE SUPPLIED WITH MAINS CABLES TERMINATING IN A CAPTIVE PRE MOULDED PLUG.

IN CERTAIN COUNTRIES, 2 CORE MAINS CABLE IS SUPPLIED WHERE COLOUR CODED **BROWN OR BLACK - LIVE, BLUE - NEUTRAL**, WHERE NOT COLOUR CODED, CONNECTION IMMATERIAL.

IT IS ESSENTIAL, HOWEVER, THAT THE VOLTAGE AND FREQUENCY OF THE SUPPLY CONFORMS TO THE PLATE MARKINGS ON THE BACK OF THE AMPLIFIER.

## OUTPUT CONNECTIONS

### LOUDSPEAKERS

The loudspeaker connections are via the red and black 4mm sockets at the right-hand rear of the Amplifier.

Connection of the loudspeaker leads to the plugs is made by soldering and care should be taken to ensure that the connection is properly made. Any type of heavy stranded cable may be used. The use of special interwoven or co-axial cables is **not** recommended.

The outputs are suitable for driving most types of loudspeaker of 8 ohms nominal impedance or greater. Loudspeakers of impedances down to 4 ohms can be driven, but the peak output in the class 'A' mode will be reduced.

Note the loudspeaker outlets are disabled when the Headphones are selected.

## SIGNAL INPUT CONNECTIONS

All input connections are via standard phono sockets on the rear left of the Amplifier. 4 phono plugs are supplied. Further supplies should be readily obtainable if required, but if difficulty is experienced, they can be obtained from the factory.

The majority of signal source equipment is provided with leads terminating in phono plugs, but if interconnection difficulties are experienced your dealer can advise.

## INPUTS FROM ANCILLARY EQUIPMENT - EARTHING

One of the most common problems with high performance audio equipment is an audible hum through the loudspeakers.

This can frequently be traced to the connections of ancillary equipment which is separately earthed via its own mains supply causing a "hum-loop".

Whilst we cannot recommend that the earth connections be removed from ancillary equipment power plugs, it may be the only solution in order to remove the "hum-loop".

Ancillary equipment is, however, earthed via its input lead screen, through the Amplifier **but only whilst the ancillary equipment remains connected to the Amplifier.**

Should you remove the earth connections in ancillary equipment mains plugs, remember:—

- 1) LEAVE THE EQUIPMENT PERMANENTLY CONNECTED TO THE AMPLIFIER INPUTS. IF THE EQUIPMENT IS TO BE REMOVED FOR ANOTHER USE, IT MUST BE UNPLUGGED FROM THE MAINS POWER BEFORE REMOVING THE PHONO INPUTS.
- 2) REMEMBER TO RE-CONNECT THE EARTH WIRE IN THE POWER PLUG.
- 3) UNDER NO CIRCUMSTANCES SHOULD THE EARTH CONNECTION IN THE AMPLIFIER BE REMOVED AT ANY TIME.

## PHONO INPUTS - EARTHING

Many record decks and tone arms are provided with separate earth wire connections in conjunction with the phono input leads. This should be connected to the earth screw terminal on the Amplifier which is located at the rear left-hand side, adjacent to the input sockets.

## PHONO INPUT

The disc input circuit has a two level variable gain feature, which can be adjusted internally in the Amplifier to allow a wide range of cartridges to be accommodated. When your Amplifier leaves the factory it is set at the lower sensitivity level which is suitable for the medium to high output magnetic cartridges.

If a low output magnetic or **high** output moving coil cartridge is to be used, after gaining access to the Amplifier as detailed later, then the disc input sensitivity can be adjusted by fitting the two disc sensitivity links. (Please refer to diagram toward rear of book for position of links).

For maximum power output with the volume control fully advanced the sensitivities are:—

LOW - 3.5 mV No link required  
HIGH - 1.7 mV Fit sensitivity link

## **MOVING COIL HEAD AMPLIFIER**

The disc input circuit is preceded by a Head Amplifier i.e. moving coil step up device. This facility is for use with low output moving coil cartridges. Amplifiers leave the factory in a normal moving magnet cartridge mode. To activate the moving coil Head Amplifier four gold plated links should be positioned as shown at the rear of this booklet.

The Head Amplifier is novel in its concept in that it adapts itself to the impedance of the cartridge being used. It therefore can be used directly with any moving coil cartridge without impedance or capacitance matching.

## **CD INPUT**

The C.D. Input is tailored to be suitable for most C.D. players.

## **TUNER INPUT**

The Tuner input is suitable for most good quality FM or AM Tuners with output levels of up to 500 mV. Input impedance is 180 K ohms.

## **AUXILIARY INPUT**

The input impedance and level requirement for this input are identical to that of both Tuner and Tape input. It will, therefore, lend itself to use with either an additional Tuner or second Tape Deck.

## **TAPE INPUT**

The Tape input is designed to suit most reel, and Cassette Recorders and via the 'Tape' monitor button on the front panel, post tape monitoring on 3 head machines, can be achieved.

Input impedance is 180 K.

## **TAPE OUTPUT**

The outputs for recording can be taken from either DISC, C.D., TUNER or AUX, depending upon which is selected. Please note that the Amplifier controls (excepting the input selection switches) do not affect any of the recording signals.

## **PRE-AMP OUTPUT**

The pre-amp out phono sockets can be used to supply an output signal to a Power Amplifier.

The pre-amp out could also be used to drive a 'Sub Woofer' which included an attenuator (level control).

## **BRIDGE PHONO OUTPUT**

With the internal bridge switch in the mono position both power halves of the A28II are fed with the left input but it is phase inverted before being connected to the half normally accepting the right input. The right hand signal from the pre amp section is fed to the bridge phono output socket. This signal can be used to drive a bridged P28 Power Amplifier which acts as the right hand channel.

A double amplitude signal appears across the two red output sockets of the A28II and P28. It is imperative that neither red sockets be connected to earth or damage could ensue.

See rear of booklet for bridge mode diagram of A28II/P28.

## **FRONT PANEL CONTROLS**

### **INPUT SELECTION**

The rotary selector switch located on the left of the front panel selects the relevant input signal i.e. PHONO, C.D., TUNER, TAPE, AUX, and is associated with the signal input/output sockets on the rear panel.

### **PHONO**

This will allow the signal from a Record Deck connected to the Disc inputs to be played through the Amplifier to the loudspeaker.

The signal will also appear at the Tape out sockets for recording purposes.

### **C.D.**

As above.

### **TUNER**

As above.

### **TAPE**

As above.

### **AUX**

As above.

### **VOLUME**

The volume control continuously adjusts the power delivered to the loudspeakers and hence the listening level. Minimum output is in the fully anti-clockwise position with the pointer at '6 o'clock'. Attenuation in this position is -90 dB with an initial step of -60 dB. Interchannel matching is better than  $\pm 1$  dB at all levels.

### **BALANCE**

The balance control will move the stereo image left or right depending upon the setting. Equal channel balance is in the central detent position. Rotation provides up to 6dB variation left or right channel.

## **MONITOR**

When recording from PHONO, TUNER, C.D. or AUX on a 3 head tape recorder post tape record monitoring is achieved by pressing in the monitor button. The signal heard is that actually on the tape immediately after recording.

## **MONO**

This button will mix both left and right stereo inputs applying the resulting signal equally to both halves of the Amplifier.

## **MUTE**

This button when pressed cut off the signal completely.

## **PHONES**

The A28 is capable of driving most headphones from 4 to 2000 ohms impedance via the headphone jack socket. The headphone socket is fitted to the front panel of the Amplifier and is activated by a rocker switch on the rear panel the rocker switch is located on the right of the rear panel. Depressing the bottom of the switch selects headphones. Depressing the top reselects loudspeakers.

The facilities are singular selection of one disables the other.

## **POWER**

Pressing the power button will turn the Amplifier on or off, at the same time applying power to the Auxiliary power output socket and illuminating the power on L.E.D.

## **FUSES**

Should a fuse blow, this is usually an indication of a fault of some form.

It is essential that the fault be located and corrected before any new fuse is inserted.

If you are in any doubt, please consult with your dealer or the factory.

## **LOUDSPEAKER FUSES**

These are 2 amp fast blow fuses  $1\frac{1}{4} \times \frac{1}{4}$  dia. They must only be replaced with a fuse of identical type. It is possible for these fuses to blow under high level music conditions into low loudspeaker impedances, (eg: 4 ohms or less).

They will also blow if the loudspeaker leads are short circuit.

If, after replacing a fuse, the new one blows immediately after turn on, do not attempt further replacements. Please seek advice from your dealer or the factory.

## **MAINS POWER FUSE**

This is a  $1\frac{1}{4} \times \frac{1}{4}$  dia slow blow fuse of 1 amp rating for 220/240 V and 2 amp rating for 110/120 V and **must only be replaced with a fuse of the correct type.**

## MAINS VOLTAGE RATING

The mains voltage for which your Amplifier is set is shown on the rating label on the underside of your Amplifier.

Whilst a 240 V set Amplifier will operate over the range 210/240 V 50/60 Hz without alteration, only by altering the transformer tapings can full output power be achieved.

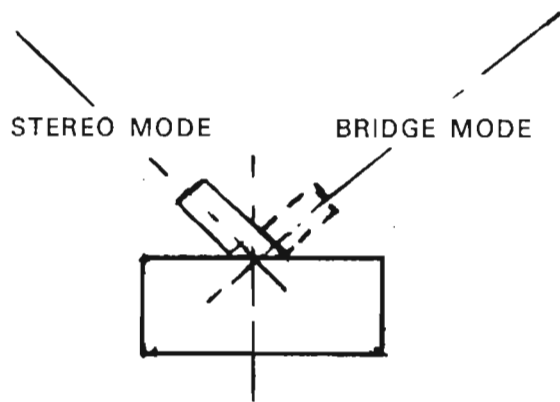
It is **not permissible** to operate a lower voltage set Amplifier on a higher mains output voltage - eg: DO NOT operate 220 V Amplifiers on 240V.

To change the voltage rating, a replacement transformer is required.

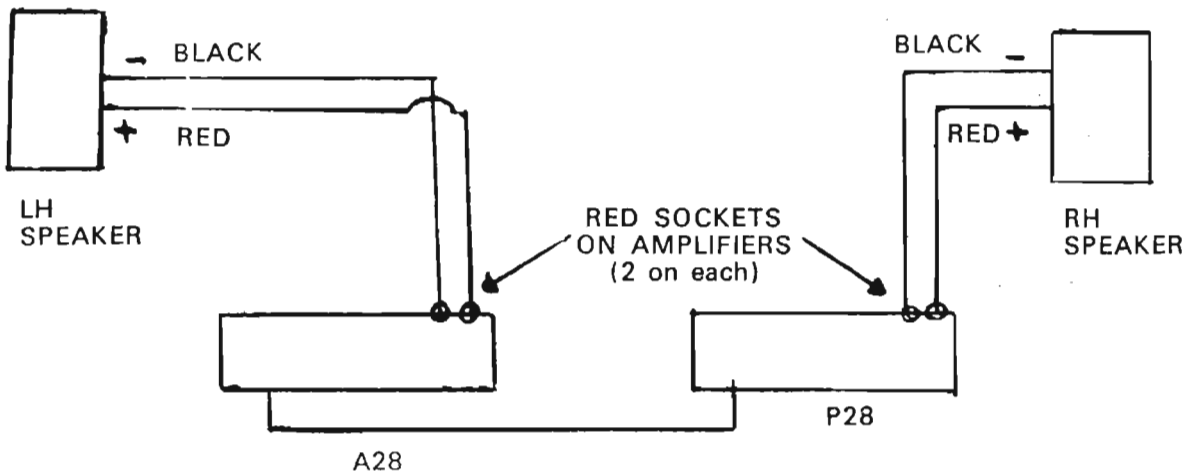
## ACCESS TO AMPLIFIER

Access for service, fuses, adjustment of sensitivity, adjustment of mains supply tapings may be obtained as follows:—

- 1) **Disconnect all power leads** and input leads.
- 2) With a medium sized screwdriver remove the 4 retaining screws in the **right-hand side plate** and remove the side plate.
- 3) Gently slide the top cover out of its locating groove. You now have access to fuses, sensitivity and mains voltage adjustments.
- 4) By removing the large left-hand section of the base plate under the Amplifier with a Pozidriv screwdriver, complete access for service may be obtained whilst still retaining a large amount of mechanical stability.

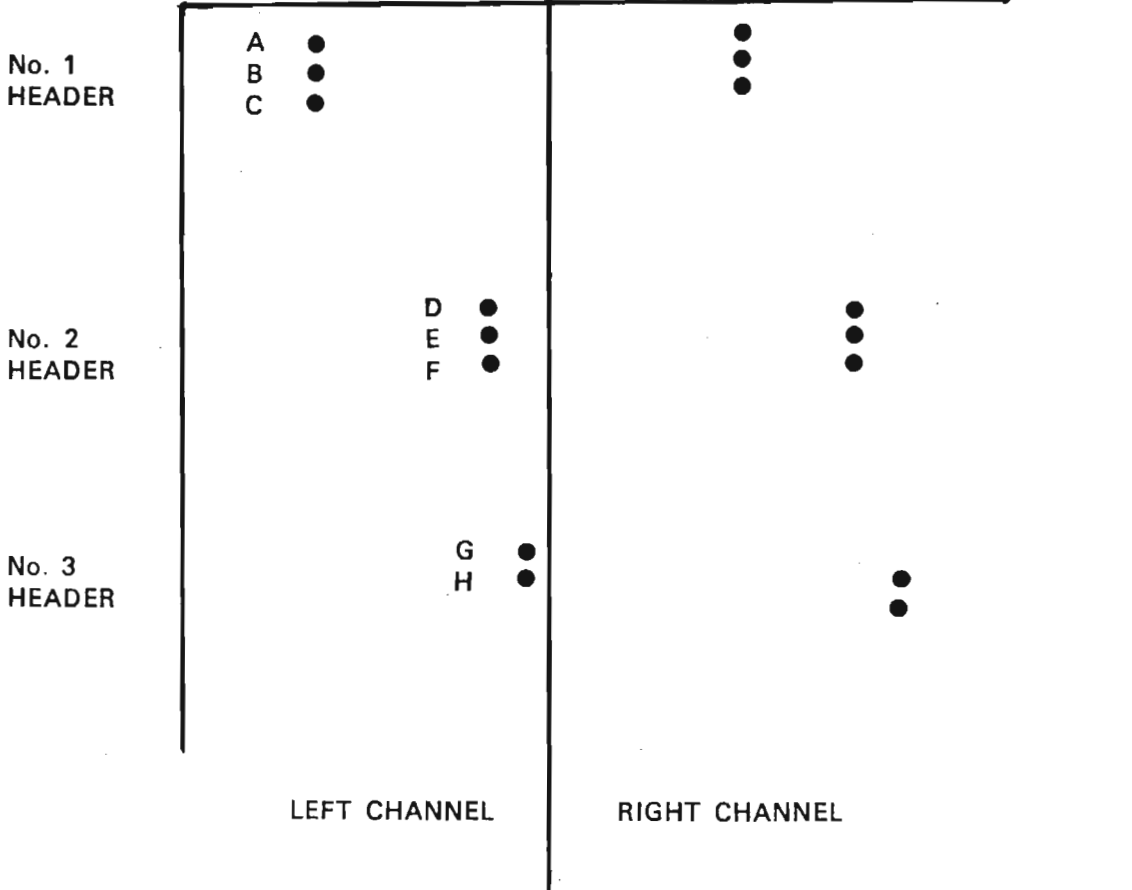


BRIDGE MODE SELECTOR SWITCH  
VIEWED FROM FRONT OF AMPLIFIER



**DISC INPUT SELECTION  
MOVING MAGNET/MOVING COIL  
& SENSITIVITY SELECTION**

**VIEW OF CIRCUIT BOARD  
LEFT REAR SECTION**



**MOVING MAGNET  
GOLD PLATED LINK  
POSITION**

A } LINKED  
B }  
C FREE  
D FREE  
E } LINKED  
F }

**MOVING COIL  
GOLD PLATED LINK  
POSITION**

A FREE  
B } LINKED  
C }  
D } LINKED  
E }  
F FREE

**SENSITIVITY  
M.M.**

LOW 3.5mV  
G } FREE  
H }  
HIGH 1.7mV  
G } LINKED  
H }