

McGregor Amplification General Instructions

MAINS LEAD

A mains lead is supplied with a fused moulded plug for immediate use. Connections are as follows Brown = Live, Blue = Neutral, Green / Yellow = Earth. Under no circumstances operate without a mains earth. Supply voltage is 230 V +/-10% 50-60Hz.

MAINS INLET

A standard I.E.C. mains inlet is fitted to all models. The inlet draw contains an inline fuse and a spare. Only use the correct mains voltage and fuse rating as indicated on the amplifier by the mains inlet. The mains lead connects between the inlet and a mains outlet.

CONNECTIONS

If you are not technical we suggest you purchase pre made leads for all your amplifier connections. Microphone leads must be screened and can be either balanced (stereo 6.35mm jack) or unbalanced (mono 6.35mm jack), alternatively an XLR plug can be used balanced or unbalanced (see chart below for connection details). Auxiliary inputs are at line level (0dB/0.775mV). Auxiliary inputs are used for Tape, CD, Mini Disk, etc. Screened leads must be used and connections should be made with either a 6.3mm jack or RCA phono plugs, subject to the amplifier model. Check your amplifier aux line input socket type. Speaker connections mostly use Speakon plugs but occasionally on lower power amplifiers a 6.35mm mono jack may be fitted. Speaker leads do not require screening but should use twin insulated conductors with an overall protective covering. Use 0.75mm or 1.0mm cable. Check your amplifier speaker socket type and keep leads as short as possible to minimise cable losses.

VENTILATION

If your amplifier is fan cooled ensure that the air inlet and exit vents are unrestricted. Restricted airflow can result in an automatic switch off in some models if the internal temperature rise is too high. Do not install your amplifier in a non ventilated cupboard. Fan cooled amplifiers are fitted with a proportional speed fan, i.e. fan speed will increase in proportion to the audio demand. Convection cooled amplifiers must have air circulation round the heat sink. Do not obstruct air vents. Internal heat sink temperatures can reach 70 - 90 degrees centigrade under heavy duty use.

SWITCH ON/OFF

Power on status is indicated by a green L.E.D. Some models also have a mains neon indicator within the mains switch. Ensure all leads are connected and volume controls are turned down prior to switching on or off.

INPUT LEVELS

Inputs can be overdriven by excessive signal levels. This will cause distortion and can damage loudspeakers. Peak programme indicators (P.P.I.s) are fitted to most amplifiers, these will illuminate to indicate an overdrive condition. If overdriving occurs corrective action must be taken, either select a lower sensitivity input if available, or lower the channel gain and then increase the master volume control to retain the required output level. If neither of these options are possible, then the input signal level must be attenuated externally. Avoid PPI illumination which occurs at -3dB below maximum headroom.

TONE CONTROLS

When setting up for the first time place all the tone controls to the flat (mid way position). Set the volume to approximately three quarters of the desired level and adjust the tone controls for the best sound. Increase the volume to the required operating level and make any minor adjustments to the tone settings that are necessary. Since room acoustics differ and their characteristics change as they become crowded it is sensible to check tone settings frequently. Adjusting tone controls whilst behind the speakers produces inadequate results.

FEEDBACK

Acoustic feedback will occur if the microphone gain is too high relative to the placement of the loudspeakers. Loudspeakers can be easily damaged if feedback is allowed to continue and all precautions should be taken to prevent feedback. Ensure microphones are used as far away and if possible behind loudspeaker positions. Reducing tone control or graphic equaliser boost at the feedback frequency will enable higher volumes to be used without feedback.

LIMITERS

McGregor PA amplifiers are all fitted with clip limiters to protect speakers and reduce clipping distortion. It is advisable to keep the limiter engaged at all times. Limiters can be internally disabled but this is not recommended. LED's marked A.C.L. (Active Clip Limiter) illuminate when the operator is driving the amplifier passed the clip point. The LED illuminating indicates the limiter circuit is taking corrective action by reducing the amplifier input gain. Not all amplifiers are fitted with LED indicators.

REMOTE VOLUME CONTROL

Some specialist install amplifiers are fitted with remote volume control facilities. The back panel shows all the connection information required to connect the 100K Lin control potentiometer required for this facility. A fire alarm music mute is also possible on this socket. Contact your supplier for remote volume control panels or additional advice if required.

SPEAKERS

Always use speakers with a high enough power rating for your amplifier. Full power is achieved into a 4 ohm speaker load.

DO NOT load the amplifier with less than 4 ohms. Two 8 ohm speakers connected in parallel constitute a 4 ohm load. An 8 ohm load will only produce about 70 percent of the maximum amplifier power in a Class AB amplifier.

Class D amplifiers normally use a switch mode power supply and will only produce approx 55% into 8 ohm loads. If in doubt consult your dealer for advice regarding correct speaker rating and impedance matching.

AUXILIARY SEND & RETURN SOCKETS

Auxiliary send and return sockets enable an external effects unit or sound processor to be incorporated into the signal path.

If aux push switches or aux level controls are fitted to the amplifier then they must be pressed in / turned up on the relevant channel to drive the external effect. McGregor P.A. amplifiers always use a mono aux drive but the return is usually stereo.

FOOTSWITCH (F/S) SOCKETS

These will only be found on McGregor amplifiers fitted with an internal effect. A footswitch plugged into this socket will enable the effect to be remotely muted by footswitch operation. Footswitch pedals, which are optional extras, can be latching (most popular) or non-latching type.

SLAVE / LINE OUT AND LINK SOCKETS

These sockets enable a line level output signal (0dB/0.775mV) to be taken from the amplifier to drive an additional power amplifier. They are fitted pre master volume control so all tone controls remain effective. Sockets are mono on mono amplifiers and stereo on stereo amplifiers.

DIGITAL EFFECTS PROCESSOR

Some PA amplifiers are fitted with a DSP (digital effects processor). These 24 bit processors are used to introduce a pre-set effect into a microphone channel i.e. reverb, delay, spring line, etc.

The selected effect can be altered by adjusting the delay control.

The delay control is equivalent to ten preset effects with different decay times.

The level control enables effect mixing with the original sound and must be turned up to hear the effect.

The 6.35mm jack socket marked F/S is for a remote footswitch if required.

McGregor PA amplifiers are presently fitted with four or twelve user selectable effects.

Selection for the four effect option is via the four permutations of two push switches.

The twelve effect option is via the twelve permutations of three push switches as desired.

Visual indication of the selected effect is by an LED.

The mic signal must be routed to the DSP on the active channel.

This is achieved by pressing the switch marked rev or on some models turn up the pre set control marked rev.

Press the switch marked rev on the selected channel. Adjust the level control for the amount of delay sound you require.

INPUT CONNECTORS

All the input plugs listed require soldering. Alternatively pre assembled leads are available from your dealer.

CONNECTOR TYPE	GROUND (screen)	HOT (+)	NEGATIVE (-)
Mono jack plug (unbalanced)	Sleeve	Tip	N/A
Stereo jack plug (balanced)	Sleeve	Tip	Ring
XLR input (unbalanced)	Pin 1 & Pin 3 (linked)	Pin 2	N/A
XLR input (balanced)	Pin 1	Pin 2	Pin 3
XLR output (link)	Pin 1	Pin 2	Pin 3

OUTPUT CONNECTORS

Speakon plugs must be inserted and twisted clockwise to lock and ensure a good connection.

Four pole speakons have four terminals, two pole speakons have two terminals.

Amplifiers and speakers have the correct connections indicated on the back panels

Consult your dealer if you are not familiar with these connectors.

CONNECTOR TYPE	GROUND (-)	HOT (+)
Mono jack plug	Sleeve	Tip
Speakon	-1	+1
Speakon (100v line)	-2	+2

Your amplifier has been thoroughly tested before leaving the factory, however if after following the above instructions your amplifier fails to function correctly then please contact your local dealer.

All servicing must only be carried out by a qualified technician.