

Marshall

30th Anniversary

Amplifier

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*Whilst the information contained herein is correct at the time of publication,
due to our policy of constant improvement and development, Marshall
Amplification plc reserve the right to alter specifications without prior notice.*

Dec '98

Handbook

Introduction

The 30th Anniversary Amplifier is the most comprehensive valve amp ever built by Marshall. It's three separate channels each drive directly into the power amplifier, the same way as in early Marshalls, to provide the maximum amount of natural warmth from the valve powered core.

Every feature has been carefully considered to give you the greatest flexibility and a range of sounds unsurpassed in any valve amplifier. It is well worth getting to know these features as thoroughly as possible as many of the functions are interactive and even minor alterations can have a dramatic effect on the overall sound. The most exciting part of owning a new amplifier is exploring it's possibilities - so take plenty of time and learn to fully enjoy this work of Marshall art - you won't be disappointed.

Input Section

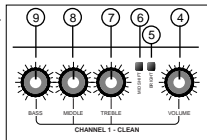
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| 1. Input jack socket | For connection from the guitar. |
| 2. High Compensation Switch | Reduces the high end "scratch" from single coil pick-ups. |
| 3. Low Compensation Switch | Reduces unwanted low end "rumble" from high powered pick-ups and tightens the bottom end of the sound. |

Operational Note A: input Compensation

The sound will vary from guitar to guitar. Try all combinations to find which best suits your style and tone.

Channel 1 Clean

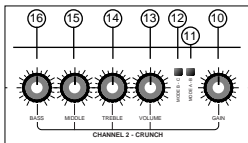
The most versatile clean Marshall channel yet produced. Every conceivable Marshall clean sound, from rich and mellow through to the "glassiest" JTM 45 and the fullest warm Super Lead can be found. The bright switch gives you extra top end and bite for ringing full chords or bell-like picking. Adding the mid-shift changes the character to give you hard clean edge for crisp picking and chord work.



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| 4. Volume Control | Volume level control for Channel 1 only. |
| 5. Bright Switch | Adds top end sparkle and "glassiness" to the sound. |
| 6. Mid Shift Push Switch | Changes the character of the mid-band by moving the frequency downwards. When selected this gives an excellent percussive picking sound ideal for country playing. |
| 7-9. Treble, Middle, Bass | Three band EQ for tonal variation and control. The controls inter-act and dramatic changes can be achieved by experimentation. |

Channel 2 Crunch

Crunch is an understatement when describing Channel 2. The three sound selections span across three generations of Marshall with full bodied tone and the unique character which only pure valve power can produce. The gain selections allow you to switch from fat creamy vintage blues, to driving hard rock and devastating metal rhythms. There is as much tonal and gain variation in this one channel as many amps have in total.



10. Gain Control

Controls the level of gain on all crunch selections. As with all gain controls the amount of distortion increases as the control is advanced.

11-12. Mode A-B-C Selector Switch

Three modes can be selected on Channel 2. Mode A is a low gain, natural valve overdrive reminiscent of an original JTM 45. Mode B is crunchier with the feel and drive of a 1959 Super Lead amp or early Master Volume. Mode C gives high gain drive similar to the JCM 900 master volume amps.

13. Volume Control

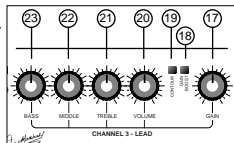
Controls the level of Channel 2.

14-16. Treble, Middle & Bass

3 band EQ network for tone shaping.

Channel 3 Lead

The ultimate lead channel! Marshall overdrive has always set the standard, constantly pushing back the barriers that constrain creativity. Superbly voiced EQ maintains real tone despite unbelievable levels of gain. By adding the gain boost and using the selectable contour, you can focus your lead sound through every extreme of rock guitar playing. This level of gain can't be described in words. When you play this channel you will feel what we mean!



17. Gain Control

Controls the gain level of the lead channel.

18. Gain Boost Switch

Boosts the pre-set gain level of the lead channel to push your lead sound far beyond any previous limits.

19. Contour Switch

Changes the middle control into a "contour" shaping control, giving instant mid band cut and boost where it is most effective.

20. Volume Control

Sets the level of the channel.

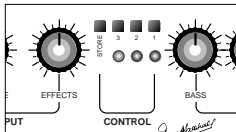
21-23. Treble, Middle & Bass

Three band EQ for lead channel tone shaping. These controls are interactive so experiment to find their full potential.

Control Section

- 24-26. Channel Selection switches Selection switches with LED indicators to show channel selected.
27. Store Switch Stores incoming MIDI information for channel selection when used in conjunction with external MIDI device. (See operational note B).

Operational Note B: MIDI Control



The MIDI section of your Anniversary amplifier is really very simple to use. It allows you to control your amp's channel switching (1, 2 or 3) via MIDI program change messages. The Anniversary amp has an internal memory and can store Channel 1, 2 or 3 selection in 128 MIDI addressable patches. These correspond to the 0 - 127 MIDI PROGRAM CHANGE message.

Note: The Anniversary amp is preset to receive MIDI messages on MIDI CHANNEL 1 only.

On pressing the store button, the amplifier channel selection will be stored in the PATCH number that was LAST received. If no patch message has been received then no store will be made. Try this example;

A. Send MIDI PROGRAM CHANGE to Anniversary amp (for example 24) **B.** Select ampchannel (for example 2) **C.** Press store until all three channel LED'S flash momentarily. Now, whenever the Anniversary amp receives MIDI PROGRAM number 24, it will automatically select Channel 2. The memory will be retained when the amp is switched off.

Note: The internal memory of your Anniversary unit can be reset (all patches Channel 1) by holding down the channel 1 button and the store button during switch on. Be sure you really want to reset the memory first!

Note: Ensure that compatible MIDI cables are used.

Master Output

28. Effects Control Gives control of the balance between effected and dry signal when using external processors (see operational note F).
29. Presence Control Boosts the upper frequencies to give extra crispness to the amplifiers output. Operates on low damp settings of power amp only.
30. Low Volume Compensation Switch When the master volume is kept low, high gain valve amplifiers can sound fizzy and unnatural. This switch filters out the unwanted "fizz", adds bottom and has great benefits for recording and rehearsal. The effectiveness of this control decreases as the master volume is increased.
31. Master Volume Controls the overall volume level of the amplifier.
32. Standby Switch In the off position the valve heaters remain on, ready for instant use without the signal circuit being active. With the standby switch off no sound will be produced from the pre-amp or power stage.
33. Power Switch On/Off switch for mains power to the amplifier.

Rear Panel Features

The rear panel of the Anniversary amplifier is the most comprehensive that we have ever produced. In addition to the connection and control facilities there are a number of major innovations that directly affect the sound and performance of the amplifier. As your sound is personal to you, it is important to try the different options for the most suitable settings for your style.

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| 34. Footswitch Socket | Accepts the connecting lead from the three way channel switching footswitch (which is included with your unit). |
| 35. MIDI-In Socket | For connection from an external MIDI device. |
| 36. Balanced Compensated XLR Output | Balanced output featuring Marshall line level Speaker Emulation for accurate sound reproduction directly through recording equipment or PA (see operational note C). |
| 37. Compensated Output Level Control | Provides volume level control of the signal from item (36). |

Operational Note C: Speaker Emulation

The Marshall speaker emulation circuit provides a signal for direct connection to PA or recording mixers, that retains the true character of the amp driving a cabinet. The quality of this emulation is so high that 'miking up' cabinets should no longer be necessary, saving you both time and money, and guaranteeing you a great direct guitar tone.

This output is active even when the power amp mute switch (item 39) is activated. Although this power amp muting allows the amp to be used without speaker cabinets as with all valve amplifiers, it is wise to keep the cabinet connected.

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| 38. Uncompensated Line Output | Line Out suitable for linking to further amplifiers to extend the system. |
| 39. Uncompensated Link Selection Switch | When pushed in, this switch mutes the internal power amp allowing operation as a pre-amp, switching in also activates the line input to the power amp. |
| 40. Line Input | Line level input jack to take an external pre-amp thus using just the power stage of your amplifier. |

Operational Note D: Series effects option

Items 38 & 40 can also be used as a 2nd series effects loop (See operational note F). The selection switch (Item 39) will switch the loop in or out of the circuit, but will not mute the power amp.

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| 41. Effects Send Trim Channel 1 | Provides -10 to +4db level control of the effects send from Channel 1 only. |
| 42. Effects Send Trim Channel 2 | Provides -10 to +4db level control of the effects send from Channel 2. |

Operational Note E: Effects level balancing

On 41 & 42 - When setting up the effects loop, the effects processor's level controls should be set up against the lead channel -3 and matched using switch (44), then channels 1 & 2 set up via the trim controls for an effects send balance. If desired, more or less sound level can be set for differing amounts of effected signal.

43. Series/Parallel Selection Switch Selects series or parallel effects loop operation. Series connection is most suitable for Graphic Equalizers, compressor limiters etc. Parallel connection suits delay, reverb and chorus effects. It is generally not advisable to link distortion effects through the loop.

Operational Note F: Effects Loop

The main effects loop on this amplifier can be configured either as a series or a parallel loop by using the series/parallel selection switch (item 43). The parallel loop (switch out) splits the pre-amp signal into two, retaining the direct signal within the amplifier itself, whilst sending a parallel signal out to the effects processor. By turning the direct signal within the processor to zero only an effects signal is returned to the amplifier where it will be mixed back in with the direct signal. This leaves the original direct signal uncoloured by any circuitry within the processor. By using the effects level control (item 28) your ideal mix of dry and effects signal can be easily set up.

The series loop (switch in) diverts the whole pre-amp signal through the effects loop and switches off the internal direct signal. The effects level control (28) now acts as an overall master level control.

In terms of application, units that are time based (eg Chorus, Delay, Reverb etc) are best suited to the parallel loop. Real time effects (eg. Graphic or Parametric EQ, Compressors etc.) suit series loop operation.

It is worth noting that the line in (40) and line out (38) circuit could be used as a series effects loop at 0 dBm, giving you the ability to use both types of loop simultaneously.

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| 44. Loop Level Selector Switch | Selects the general level of the effects loop (-10 or +4dB) to match processor linked to (45 & 46) |
| 45. Effects Send Jack | Output for connection to the input of an external effects processor. |
| 46. Effects Return Jack | Input for connection from the output of external processor. |
| 47. Damping Select Switch | Three position switch to select high, low or auto damping positions. (See operational note G). |

Operational Note G: Damping Control

This unique feature controls the power amp damping. Effectively this is the way that the amplifier drives the speaker.

High damping gives light speaker movement and is ideal for clean sounds, where a precise and defined response gives sweet clear picked notes and chords.

Low damping, with greater speaker movement, suits breathing heavy overdrive and full distortion. In the auto position the amp automatically selects high damping for clean selections and low damping for crunch and lead. It is probably best to leave the amplifier in auto mode for normal use.

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| 48. Power Selection Switch | Two position switch to select high power (all 4 valves working) or low power (2 valves working). The amplifier must be switched to standby before selection.(See operational note H). |
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Operational Note H: Power selection

This useful feature gives excellent flexibility for all playing situations. When switched to half power, with only 2 valves working, these two valves will be driven harder than normal and will therefore have a shorter working life. If a low power selection is required for long periods then it would be better to use the pentode/triode switch (Item 52). 'Triode' operation will give a slightly different tone to half power. 4 valves give 100 Watts in pentode - 50 Watts in triode. 2 valves give 50 Watts in pentode - 25 Watts in triode.

49. Output Fuses With LED Fail Indicators

In the event of valve failure the HT fuse will blow to protect the amplifier from damage. The LED will indicate which valve pair is faulty. The Marshall "Failsafe" circuit allows the amplifier to continue running on two valves (providing it is not switched to half power), to get you to the end of the gig.

50. Loudspeaker Outputs

Twin loudspeaker output jacks. It is important that the speakers used are correctly wired and that the impedance is correctly selected. Also ensure that the speakers are capable of handling the full power of the amplifier. The cabinet must be connected before switching on the standby switch.

51. Impedance Selector Switch

Selector to ensure correct match of cabinet impedance to the amplifier (see impedance chart on page.9).

52. Pentode/Triode Selection Switch

"Triode" operation gives half the rated power output (Triode operation also gives a smoother tone) and "Pentode" operation provides full rated output. (See operational note I).

Operational Note I: Pentode/triode

This feature is particularly useful when tailoring your system to suit different sized venues and recording applications. When switching this function the standby switch should always be switched off. The same also applies to items 39, 44, 47, 48 & 51.

53) Mains Input & Fuse

Socket for connection from the mains. Always ensure that the fuse matches the labelling on the amplifier's rear panel. If you have any doubts contact your dealer or a qualified technician.

Footswitch Operation

The three way footswitch provided with your Anniversary amplifier is for channel switching between the three channels. Connection should be made to the DIN connector on the rear panel of the amp. An LED above the switch corresponds to the channel which has been selected. Switching can also be achieved via MIDI. (See operational note B).

Speaker Connection

The type of cabinet and speakers has a fundamental effect on the quality of your sound. Also vitally important is the matching of speaker impedance to the amplifier. Incorrect matching will impair the performance and eventually damage the amplifier.

Impedance is usually marked on the cabinet input socket. If you have any doubts, have the speakers checked by a qualified technician. When using a single cabinet the amp and cabinet should be identical (e.g. 16 Ohm 4x12 cab = 16 Ohm amp selection). If two 16 Ohm cabinets are used, then the amplifier should be switched to 8 Ohms. Where two 8 ohm cabinets are employed the amp should be switched to 4 Ohms. A speaker load below 4 Ohms cannot be used. Following these simple rules should maintain long life and minimise amplifier servicing requirements. Unlike solid state amps, valve amplifiers don't increase in power as speaker impedance is lowered.

Operational Note J: Impedance switching

It should be noted that although the output transformer has 3 impedance connections, only two are switchable from outside the amplifier. These are 16 ohm and 8 Ohm on heads and 8 Ohm and 4 Ohm on combo's. If your particular application requires this to be different, the transformer connections can easily be altered by a qualified technician.

Marshall Cabinet Chart

Model No.	Power Rating		Impedance		Speaker Type
	Mono	Stereo	Mono	Stereo	
6912 (1x12)	200	N/A	8	N/A	G12-Gold Celestion ★
6960A (4x12)	300	150	4 or 16	8	G12T-75 Celestion
6960B (4x12)	300	150	4 or 16	8	G12T-75 Celestion
1922 (2x12)	150	75	8	16	G12T-75 Celestion
1936 (2x12)	150	75	8	16	G12T-75 Celestion
1912 (1x12)	150	N/A	8	N/A	G12B-150 Celestion

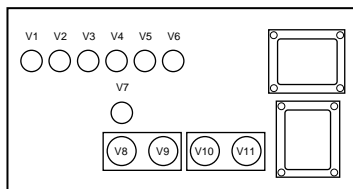
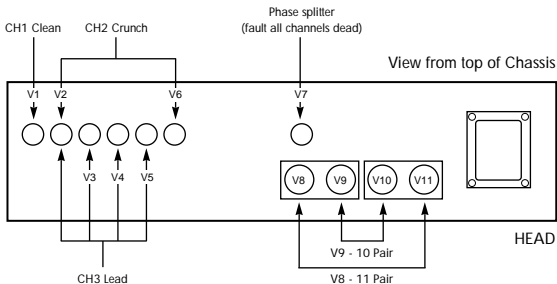
In some cabinets the speaker type may vary (refer to rating plate for correct impedance).

★ Except in US

Trouble Shooting Guide

If you have a problem with your amplifier, it is always best to let a fully qualified approved technician check it over. Regular servicing should prevent any major breakdowns and is an extremely beneficial long term precaution.

Often it is the simplest thing that needs attention and it may not be possible to get technical assistance. In this case you may be able to keep the amp running at least until the end of the show. The greatest care should be taken, before removing the back panel, that all mains power is disconnected. Also remember that even after short periods valves will become very hot.



In case of microphony
(high pitched whistle) on
CH2 suspect V2

In case of microphony
(high pitched whistle) on
CH3 suspect V2 and/or V3

COMBO

The following list outlines some of the most obvious problems and causes.

PROBLEM/SYMPTOM/CURE

Valves And Pilot Light On, But No Sound.

1. Check valve fuse fail lights to see if HT fuses are blown. If they are, replace them with the same value fuse. If they blow again replace all the power valves if possible.
2. Check standby switch.
3. Check that the series/parallel switch and power amp mute switch are both out, unless their operation is intended.

Constantly Blows HT Fuses.

Check the output valves; If they need replacement use matched sets and replace all power valves if possible. Have a service centre check the bias on the output valves. If it's too low the amp will not clean up. If it's too high it will stay too clean no matter how loudly you play.

High Pitched Whistle At Hi Gain Settings

Most likely this is a microphonic pre-amp valve. Replace if necessary.

Rattling Noise From Head Or Chassis

99% of the time this is caused by the spring output valve retainers jangling against the valve. Gently bend the spring holders out a fraction.

No Sound, Lights, Hum, Etc.

1. Check mains fuse, but never with the amp plugged in.
2. Make sure the amp is plugged in.

Quick Hint

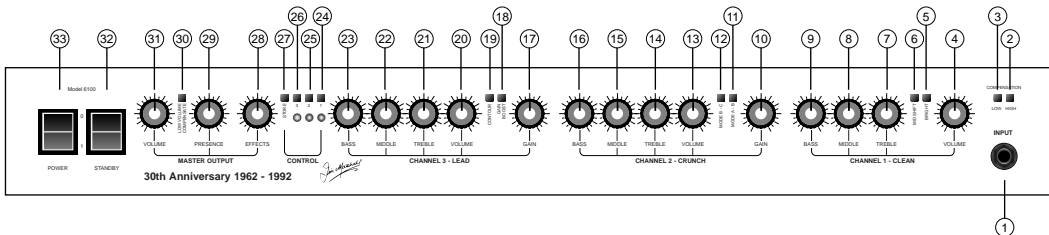
Someday, probably at a most inconvenient time, you will blow a fuse or your valves will go. This is no reflection on any amp, valves have a definite lifespan. Always make sure you have replacements, just like you carry spare strings, or you could be left stranded. Always thoroughly check speaker leads to ensure that (A) they are properly connected and (B) they are fully working. Also, use good quality guitar leads and check them regularly.

Spares And Accessories

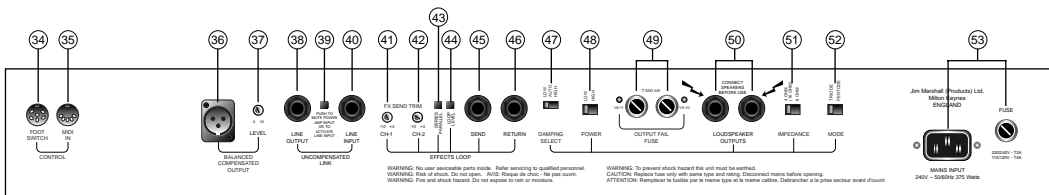
Superb engineering is a part of Marshall tradition and your amplifier is built to withstand the abuse of a working musicians heaviest demands. However it is worth remembering that at it's heart, your amplifier is full of electrical components and glass bottles. If you think of it as an extension to your guitar and treat it accordingly, then long life and small service bills should be the norm. Using only Marshall valves as replacements will give you optimum performance from your amplifier and will remove the need for any re-biasing by a technician.

In the event of component damage Marshall agents worldwide maintain a stock of spares and accessories capable of refurbishing your road-worn beast!

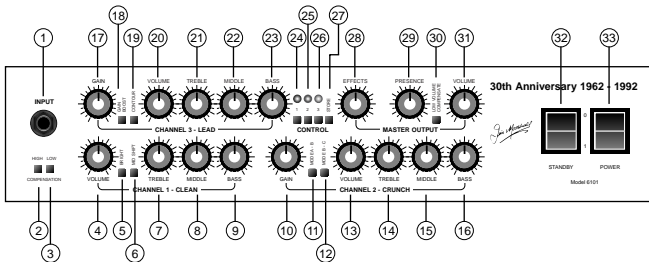
30th Anniversary Amplifier - Model 6100 - front panel



30th Anniversary Amplifier - Model 6100 - rear panel



30th Anniversary Amplifier - Model 6101 - front panel



30th Anniversary Amplifier - Model 6101 - rear panel

