

# *Marshall*

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## *JCM 2000*

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### *DSL201 & DSL401 Combos*

*Marshall Amplification plc  
Denbigh Road, Bletchley, Milton Keynes, MK1 1DQ, England  
Tel: (01908) 375411  
Fax: (01908) 376118*

*Web Site - <http://www.marshallamps.com>*

*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.*

*Nov '98*

# *Handbook*

## **WARNING! - Important safety instructions**

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- A. **ALWAYS** fit a good quality mains plug conforming to the latest B.S.I. standards where necessary (UK only).
- B. **NEVER** attempt to by-pass the fuses or fit ones of the incorrect value.
- C. **NEVER** attempt to replace fuses or valves with the amplifier connected to the mains.
- D. **DO NOT** attempt to remove the amplifier chassis, there are no user serviceable parts.
- E. **Refer all servicing to qualified service personnel.** Servicing is required when the apparatus has been damaged in any way, such as the power supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally or has been dropped.
- F. **NEVER** use an amplifier in damp or wet conditions.
- G. **ALWAYS** unplug this apparatus during lightning storms or when unused for long periods of time.
- H. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles and at the point where they exit from the apparatus.
- I. **DO NOT** switch the amplifier on without the loudspeaker connected.
- J. **ENSURE** that any extension cabinets used are of the correct impedance.
- K. **PLEASE** read this instruction manual carefully before switching on.  
**Follow all instructions and heed all warnings.**

**WARNING :** This apparatus must be earthed!

**WARNING :** Do not obstruct ventilation grille and always ensure free movement of air around the amplifier!

**USA ONLY - DO NOT** defeat the purpose of the polarised or grounding type plug. A polarised plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong.

The wide blade or the third prong are provided for your safety. When the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.

*KEEP THESE INSTRUCTIONS*

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## *Introduction*

*With the introduction of the Marshall JCM2000 range of DSL50 and 100 heads, the TSL100 head and the TSL122 combo, the quintessential definition of ultimate tone and usable features has been rewritten. This quartet of great amps has now spawned a new generation of compact, lower power combo amps, the DSL201 and DSL401, destined to be classics for both studio and session/club gigs.*

*As the names imply these amps are 20 Watts and 40 Watts respectively, but as these are true valve amps, built to exacting standards, do not let the lower power ratings lull you into thinking that they are mere practice amps, as nothing could be further from the truth! The benefits of using a lower powered amp are many fold, not least that of being able to push the output valves harder for extra warmth at manageable volume levels. Just remember how many famous artists have used smaller amps to record those classic tracks and how many use lower powered amps on stage, to help balance the sound. Worried that your amp is great for the studio and small club, but not for bigger gigs? Well don't, there are ways of making them sound much bigger than they really are. Just adding a Marshall 1960 4x12" is going to increase the spread and SPL of your sound, by simple physics. If not mic or D.I. through the PA. The onboard D.I. output of your DSL201 or 401 contains Marshalls acclaimed speaker emulation circuit, making accurate sounding D.I.ing as simple as plugging in a cable! Silent recording in your project studio? Again, use the speaker emulated D.I. output, only this time turn down the 'output master' volume control (which by the way, controls the apparent output power) to zero and still capture the full valve tone of your amp on tape (or disc!)*

*Continuing with the features of your amp, both the DSL201 and 401 have two totally independent, footswitchable channels, notably 'Clean' and 'Overdrive' which cover the whole range of tones from sparkly clean, through classic and modern 'Crunch', through to super-saturated Lead Overdrive.*

*On top of this, the DSL401 offers a three channel option by having the ability to (foot)switch between OD1 and OD2 - OD2 having even more gain than OD1 - in fact a staggering 20dB more! Thus giving the ability to switch from great clean to crunch and then to lead. Remember, the Clean channel not only does clean, it crunches up in a great traditional way too, just turn it up and drop the apparent output power (output master) down to a socially acceptable level.*

*Rounding out the features, your DSL201 or 401 also has a parallel FX loop with a mix control and large spring 'Sound Enhancements' reverb, with footswitch facility (DSL401 only).*

*It is important to mention here that your DSL201 or DSL401 use EL84 output valves, as opposed to either the 5881/6L6 or EL34 valves used in bigger Marshall amps. The EL84 is the classic output valve for smaller British style amps (and some U.S. ones too) and is a great valve to achieve superb tone at lower power levels. Normally they are used in a very simple circuit that features no negative feedback and are run in the cathode biased mode which gets close to them being run in class A, which makes for a very squashy compressed tone, as typified in the VOX AC30 for instance. Whilst this mode is great for these classic amps, we felt that this simple operating mode limited the amount of versatility required from an amp as diverse as the DSL201 & 401, in this modern age. Therefore, after careful study of how these classic amps worked and how the bigger Marshall's worked, a fresh design that covers a broader spectrum of tones has been incorporated into the DSL201 and 401. We feel that it does it with great style.*

## DSL201 & DSL401 Front Panel Features (pages 32 & 34)

Please note both models DSL201 and DSL401 are described together, any model variations are indicated.

✪ **User Hint** - where you see text starting with this sign, we have described some slight technical paraphernalia in order for you to understand what is going on inside your amp and we hope will help you in creating the tone that is best for you and your amp.

### 1. Input Jack

As most manuals state, plug your guitar in here.

✪ **User Hint** - Amusement aside, it is worthwhile remembering that you should use a high quality guitar lead to achieve optimum performance. If you are unsure what constitutes a high quality lead then most good music stores should be able to give you good advice, but remember, it may not be the cheapest one going!

It is also worth pointing out here that how an amp sounds is VERY dependent on the type of

guitar you use. For instance, a guitar with humbucker type pick-ups is not going to sound as open and clean as one with single coil type pick-ups, yet will provide that great mid range bark that we are accustomed to for rock playing.

### 2. Clean Gain

This controls the preamp level of the clean channel, at lower settings the sound will be very clean and at higher settings the sound will start to 'Crunch' up in a traditional blues sort of way. In between, around midway, depending on what type of guitar you are using, you will find some great semi-clean/semi-crunch tones, just like those great vintage amps that had minimal features, but great tone.

✪ **User Hint** - there is a capacitor across the gain control that brightens up the tone when set to lower levels. This helps to 'cut' through at low volumes and adds 'twang' to the tone. As you bring up the gain control the effect of this decreases and the tone becomes fatter. If you

find the tone too thin with the gain control down either take some of the high end off with the treble control, or alternatively, bring the clean gain control up until you achieve the depth of tone you want and then control the volume of the amp with the 'master volume' control.

### 3. Clean Treble, Mid, Bass

These controls vary the E.Q. and voicing of the Clean channel.

✪ **User Hint** - These controls are early on in the amplifier chain and as such not only control the tone of the Clean channel, but also how the clean channel reacts 'gain' wise. For instance, if the mid control is advanced (especially with higher gain control settings) the sound will become more 'singing' in a blues/traditional rock kind of way. But if the mid control is backed off towards (or even) zero the gain emphasis is placed on the treble and bass controls and gives more to work on, especially on cleaner, lower gain settings, as would be the case for country, jazz, or good old chord strumming.

A good starting point is to set these three controls to their 'midway' position and by experimenting with the 'feel' of how they interact with the amp, build up a wide palette of tones for future use.

### 4. Channel Switching

The channels of your DSL201 or DSL401 can either be switched from the front panel, or via an external footswitch - connection of the footswitch is described later.

DSL201 - The front panel switching arrangement consists of two LEDs and a single pushswitch, to switch between either the clean (Green LED) or Overdrive channels (Red LED). Switch out is Clean, switch in is Overdrive.

DSL401 - Here the front panel switching arrangement consists of three LEDs (Green = Clean, Yellow = OD1, Red = OD2) and two pushswitches, marked CLN/OD and OD1/OD2. To select Clean the switch marked CLN/OD must be released to its out position (Green LED will be on). To select either OD1 or OD2, push the CLN/OD switch in and select either OD1 or OD2 by pushing or releasing the switch marked OD1/OD2 and the appropriate Yellow or Red LED will illuminate. To revert back to Clean, release the CLN/OD switch once more. Do not worry, you do not have to go through OD1 to reach OD2, these channels can be pre-selected.

✪ **User Hint** - These functions are repeated on the footswitch. Remember that plugging the footswitch into the amp will override the front panel pushswitches.

### 5. Overdrive Gain

This controls the amount of gain drive available for the overdrive channel, from mildly almost clean crunch to super-saturated overdrive, depending where this control is set, i.e. lower is less and higher is more. Wherever this control is set is going to give you a wide palette of tones to work with, depending on the type of guitar, EQ settings, how hard you push the power amp, etc.

Note: the difference between OD1 and OD2 (DSL401 only) is approx 20dB more gain on OD2. The DSL201 is preset to the gain levels of OD2 and does not have the OD1 facility.

✪ **User Hint** - Due to the immense amount of gain and saturation available on the preamp of the DSL401, particularly when using high output humbucker pick-ups, the 20dB difference between OD1 and OD2 may become less apparent. In this case, back off the settings of the gain control slightly until the difference becomes more useable again.

✪ **User Hint** - One of the beauties of using a lower power amp is that it makes the power amp distortion more easy to use and by lowering the input gain control and bringing up the channel volume control will give you a whole new load of tones to play with, as well as making the amp run quieter, especially if you use the ability of the 'master volume' to emulate a lower powered amp.

### 6. Overdrive Volume

This control adjusts the level of sound coming out of the overdrive preamp channel and allows you to balance it against the Clean channel.

✪ **User Hint** - To achieve the normal Marshall style heavy rock 'punch & crunch' especially at lower volume levels, this control should be used to keep the volume down and the output Master Volume should be kept higher. To achieve a squashier type tone, great for lead work, then use this control higher and bring the level down on the output Master Volume.

✪ **User Hint** - When using the less gain/more level way of driving the power stage, keep the overdrive gain low and use this volume control to drive the power amp.

### 7. Overdrive Treble, Middle, Bass

As opposed to the 'Clean' channel, these controls are placed after the distortion generating circuitry of your amp and as such affect the texture of the tone, rather than the gain of the channel, especially when using high levels of preamp gain.

✪ **User Hint** - Although many textures are available from this relatively simple configuration, a good starting point (again) is to set everything midway. For a more modern

heavy' tone, turn the mid control down and boost the treble and bass. For a more classic 'rock' tone bring back the mids and bring the treble and bass down a bit.

☛ **User Hint** - When using the less gain / more volume approach, the tone controls can be used to help 'push' the power amp for a more refined tone.

## 8. Master FX Mix

This controls the balance of the return from the parallel FX loop (see rear panel details for connection) with the amps direct signal.

☛ **User Hint** - As the FX loop is of the parallel kind, this is where you should use time delay effects (i.e. echo, reverb, pitch shifting, chorus, etc.). For optimum use the direct signal in your processor should be turned to zero so that only the effect signal is returned to the amp, this way the tone integrity of the direct amp signal is unimpaired.

## 9. Master Reverb

This controls the level of the internal spring reverb circuitry from a slight shimmer to a cavernous depth. DSL401 only - the reverb has the facility of being footswitchable via the rear panel socket and optional PEDL-10013 footswitch.

## 10. Master Volume

Apart from the obvious function of being the master level control for the whole amp (regulating the output volume of both the clean and the overdrive channels), this control actually affects the apparent power level of the power amp section itself. This means that, at lower settings, the amp acts and feels like an even lower powered amp, along with the kind of smooth saturation that you get from pushing a power amp into distortion.

☛ **User Hint** - As the (rear panel mounted) speaker emulated D.I. output is derived from this circuit you can balance the sound coming out of the loudspeaker from zero to full, whilst maintaining a constant level out of the D.I. output and enjoy the tonal qualities of a push-pull valve output stage - ideal for silent recording, direct to the desk.

## 11. Standby Switch

This turns the high voltage feed to operate the valves on and off.

☛ **User Hint** - This switch should be used for (a) allowing the amp to warm up before turning the Standby on (at least a minute - preferably 2/3 minutes if possible) and (b) turn the Standby switch off when taking a break (rather than turning off the whole amp), thereby keeping your amp at the 'ready', without waiting for it to warm up again. Remember to do these two simple rules and your valves will love you for it and should last an awful lot longer before replacement is needed.

## 12. Power Switch

This turns the mains electricity that feeds your amp on and off. As stated before, turn this switch on for at least a minute or two before turning the Standby on, to allow your amp to warm up.

☛ **User Hint** - For environmental reasons at least, if leaving your amp for more than a normal gig type break or so, turn your amp off at this switch, it will save electricity. Also, if leaving your amp unused for a long time, always remember to disconnect your amp's power cord from the mains supply, at the very least it will prevent someone else accidentally turning it on without realising.

## DSL201 & DSL401 Rear Panel Features (pages 32 & 34)

### 1. Channel Footswitch Jack

This socket takes the jack connected to the lead of the channel change footswitch (CLEAN/OVERDRIVE - DSL201, CLN/OD & OD1/OD2 - DSL401).

### 2. Reverb Footswitch -(DSL401 only)

Takes the optional footswitch (PEDL-10013) to remotely control the reverb function.

### 3. FX Loop Send Jack

Connects the DSL amp to the input of the external FX processor.

### 4. FX Loop Return Jack

Connects the output of the external FX processor back into the DSL amp circuit.

### 5. Speaker Emulated D.I. Out Jack

Line level, emulated output signal for connection into PA or recording Mixing Desks etc.

## 6. Loudspeaker Output Select - (DSL401 Only)

This switch selects the output impedance of the amplifier for either 8 or 16 ohm use, to match to alternate speaker systems. Although more on this will be covered later, it is important to remember that the internal loudspeaker is 16 ohms and that the amp must be set to match that (16 ohms).

## 7. Loudspeaker Output Jacks

One (1) only on DSL201, two (2) on DSL401. These are identified by having RED jack socket nuts and connect the amplifier output to either the internal (or an external) loudspeaker system. **WARNING!** At no time must the amplifier be allowed to run with no loudspeaker (or appropriate loudspeaker type load) connected to its output. Otherwise serious and expensive damage may occur.

## 8. H.T. Fuse - See specifications for correct value

This fuse protects your amp in the case of a fault occurring with any of the high voltage circuit of your amp. The usual reason for this to blow is when an output valve has become faulty.

## 9. Mains Input

Use the supplied power cord to connect your amp to the mains supply.

## 10. Mains Fuse - See specifications for correct value

This fuse provides overall safety protection in the case of your amplifier developing a major electrical fault.

✦ **User Hint** - The fuses fitted to your amp are there to provide you with safety protection in the case of a fault developing. If they blow it means something is wrong, usually a valve is getting old, but under no circumstances fit a fuse of a different value to stop it from blowing, as this could be very expensive in terms of safety and cost. Remember, if a fuse blows, it has blown for a reason.

## LOUDSPEAKER SYSTEMS

The DSL201 and DSL401 combo amps are each fitted with a Marshall designed 12" loudspeaker, each one developed to work with your amp to produce the great tone that you expect from a Marshall amp. The 1x12" format makes for a very highly portable package that works great in most circumstances. However, if you require a bigger sound, or just a different one, there are numerous cabinets manufactured by Marshall that will interface with your DSL combo, with ultimate ease.

The DSL201 is fitted with a single loudspeaker socket preset at an impedance of 16 ohms, which is normally plugged into the internal 16 ohm 12" loudspeaker. To use an external loudspeaker, just unplug the internal speaker and plug into your external cabinet (this must be 16 ohms only), for instance, a Marshall 1960 4x12".

The DSL401 is fitted with two parallel wired loudspeaker jack sockets and a selector to switch between the normal 16 ohms (to suit the internal speaker) or 8 ohms. This makes the choice of extension cabinets even wider. For instance, not only could you use a Marshall 1960 4x12" cab, with or without the internal speaker (set amp to 8 ohms if using both, keep on 16 ohms if using without internal speaker), but you could also make the choice of various Marshall 1x12" or 2x12" extension cabs. But always make sure that the output selector is set correctly!

i.e.

1 x 16 ohm speaker = 16 ohm output

2 x 16 ohm speaker = 8 ohm output

1 x 8 ohm speaker = 8 ohm output

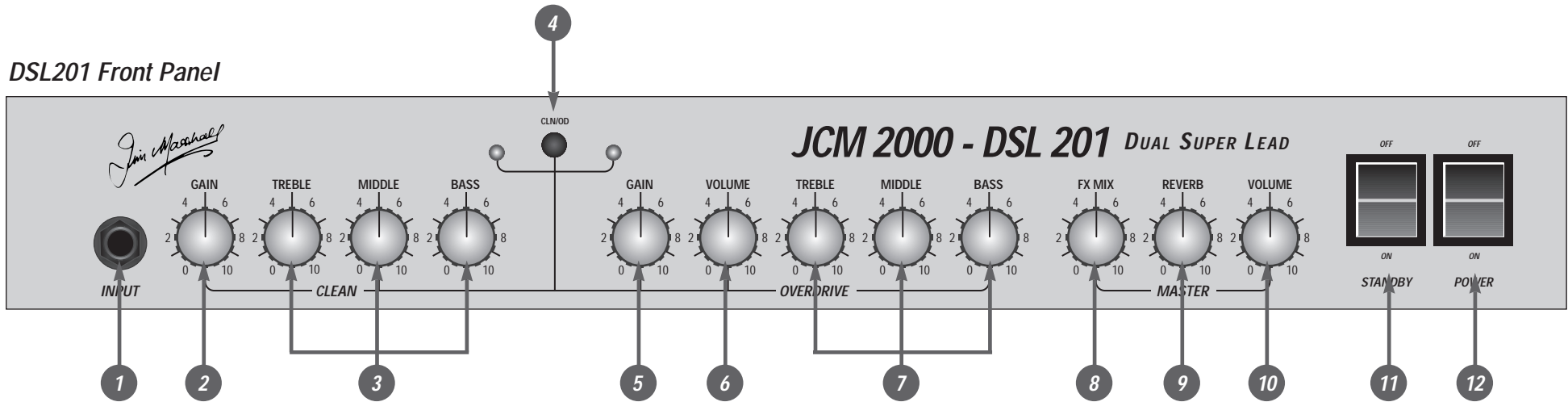
**WARNING!** Never operate your DSL valve amp without a loudspeaker, or suitable loudspeaker type load, connected to the output, even when using the output Master Volume set to zero for silent recording. Otherwise expensive damage may occur!

## USING EFFECTS SYSTEMS

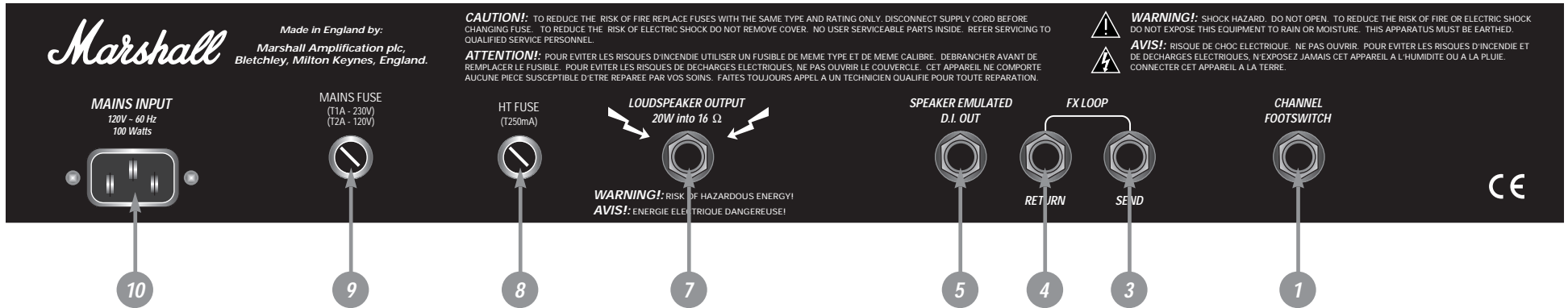
Your DSL combo amp is fitted with parallel FX Loop, this is placed after the gain and distortion parts of the preamp and is the ideal place for inserting time varying effects, such as delay, digital reverb, chorus, pitch shifting, etc. By being a parallel loop, this means that the direct signal is kept within the DSL's circuit and therefore your tone is not degraded by sending it outside the amp. To use the loop connect your effects processor (rack type units are better at this job) as described earlier, turn the effects units direct signal path off (the FX units manual will tell you how to do this), set up the unit to give you the effect you require and then balance your direct sound and effected sound using the FX MIX control on the front of your amp. Easy!

Floor type effects stomp boxes are designed to work in between a guitar and the input of an amp and should not be used in a parallel loop, otherwise some very weird and undesired effects could occur. For their best use, use them where they are designed to go.

## DSL201 Front Panel



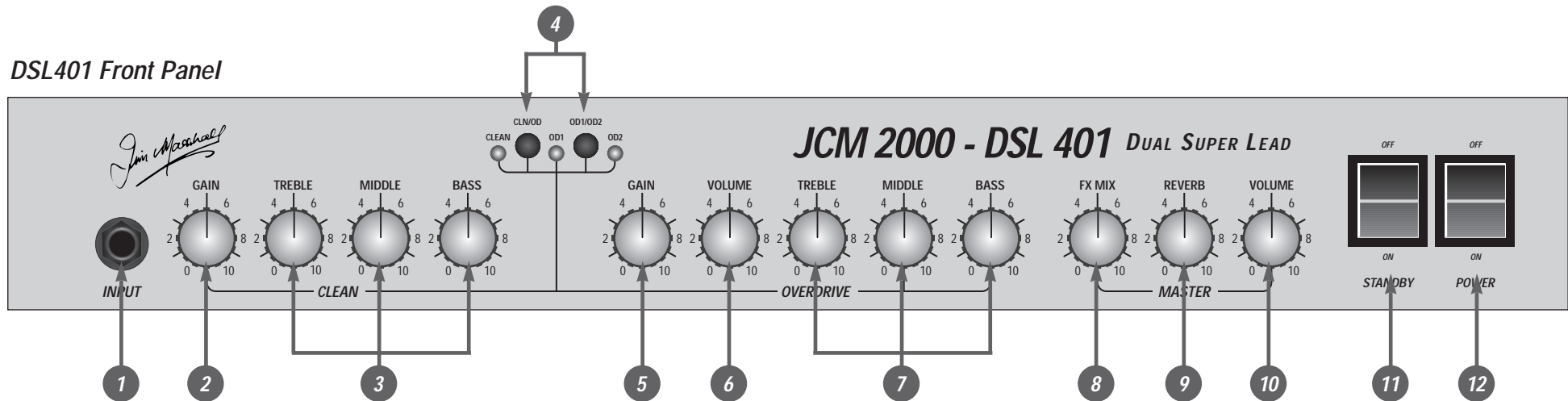
## DSL201 Rear Panel



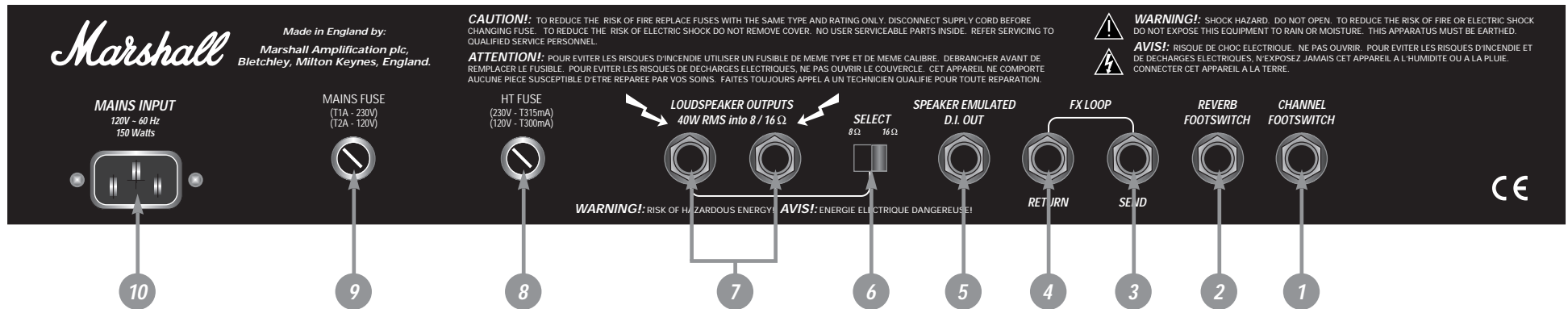
## DSL201 SPECIFICATIONS

- Power Output - 20 Watts RMS into 16 ohms
- Valve complement - 4 x ECC83/12AX7 and 2 x EL84
- Loudspeaker Type - 12" 16 ohm 50 Watt Model SPKR-00072
- Mains Requirement - Preset for 117V~60Hz or 230V~50Hz
- Other variations to special order - see local distributor for information.
- Mains Fuse - T2A - 117V or T1A - 230V
- H.T. Fuse - T250mA

## DSL401 Front Panel



## DSL401 Rear Panel



## DSL401 SPECIFICATIONS

- Power Output - 40 Watts RMS into 8 or 16 ohms
- Valve complement - 4 x ECC83/12AX7 and 4 x EL84
- Loudspeaker Type - 12" 16 ohm 100 Watt Model SPKR-00068
- Mains Requirement - Preset for 117V~60Hz or 230V~50Hz
- Other variations to special order - see local distributor for information.
- Mains Fuse - T2A - 117V or T1A - 230V
- H.T. Fuse - T315mA