

# DEUCE®

## OWNER'S MANUAL



Printed in U.S.A.

### POWER AMP:

OUTPUT POWER @ 1 KHZ @ 120 VAC Line

Rated Power: 120 W RMS at rated load: 4 OHMS / 2 OHMS

Power vs. Load: 90 W RMS @ 5% THD into 8 Ohms

120 W RMS @ 5% THD into 4 Ohms

120 W RMS @ 5% THD into 2 Ohms

PEAK OUTPUT @ RATED LOAD: 8 Amps & 20V, 240 Watts

MUSIC POWER OUTPUT @ RATED LOAD: 150 W RMS @ 5% THD

### PRE-AMP:

INPUT CHARACTERISTICS (Tone controls full cw, Volume @ 12:00, master full cw)

Sensitivity: 20 mV @ 1 KHZ/Input Impedance: 330 K Ohms

Noise: 50 DB Open Ckt., 55 DB 50 K Ohms, 60 DB Short Ckt.\*

DISTORTION @ 1 KHZ: Less than 0.5% THD @ Rated Output\*\*

FREQUENCY RESPONSE: 3 DB Down @ 40 HZ & 25 KHZ

TONE CONTROLS: ± 10 DB @ 50 HZ ± 20DB @ 5 KHZ

MIDDLE CONTROL: ± 10 DB @ 300 HZ

REVERB CONTROL: Continuously variable with footswitch cut off

MASTER GAIN: Used in conjunction with input volume to produce overdrive

TREMOLO CONTROLS: Variable depth & rate w/footswitch cut off

\*Signal-to-noise ratio in DB below rated output

\*\*Measured with reverb & tremolo cut-off (Full CCW)



The new Deuce is the latest of this series and now contains the features so often requested on previous models in the Deuce series as well as the many circuit refinements resulting from our continuous engineering efforts and field testing. Automix is now standard in this new Deuce series.

The Deuce power section is powered by Four extremely rugged and field proven RCA 6L6GC tubes (valves) in a push-pull paralleled circuit that delivers a very conser-

vatively rated 120 watts RMS @ 5% THD. The massive power supply consists of a custom built power transformer delivering energy to series-stacked filter capacitors for the ultimate in reliability under field conditions. Because we have chosen to build a larger and better regulated power supply than found in competing units, the Deuce enjoys a substantial advantage in music power that is quite noticeable when compared to ordinary amplifiers. The special output

transformer matches the tubes to the speakers and allows conservative operation of the four output tubes well within the tube manual specifications.

The Deuce is a fully professional portable amplification system utilizing the latest in circuitry to give you all the needed features in a reasonable package. The versatile Deuce series is available with several different speaker combinations to allow for personal speaker preferences.

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Your new Deuce features two channels, "Effects" and "Normal" with four inputs that function along with the Automix footswitch to allow you to play through either channel, both channels in parallel, both channels in series. Please read the explanation of each input and become familiar with the effects possible with the Automix footswitch.

**1** The **Effects, input** places the signal from your instrument into the effects channel only.

**2** The **Normal input** places the signal from your instrument into the normal channel only.

**3** The **Parallel input** places the signal from your instrument into **both** channels. Plugging into this parallel jack is the same as using a patch cord to bridge into the normal and effects channels, except that the internal circuitry automatically performs the patching function. When plugged into this jack, both normal and effects channel gain controls are active and the desired blend of each can be found by varying the level of each, relative to the other.

**4** The **Series input** places the signal from your instrument into both channels **in series**. By placing the channels in series incredible sustain and overload harmonics can be generated. Experimentation with various combinations of gain control settings will yield an infinite variety of harmonic characteristics and sustain durations. These functions can be used in conjunction with the master gain control to avoid driving the power amplifier to full output while seeking the desired effects enabling the operator to obtain sustain and overload effects at very low volume levels, such as these required in some studio applications.

#### EFFECTS CHANNEL

**5** The effects channel **gain control** sets the gain of the effects channel preamp, thereby controlling the sensitivity of the preamp, not the power of the amp. It is entirely possible for the amp to be driven to full power output on very low volume settings if the signal from your instrument is extremely high.

**6** The **treble control** varies the high end response of the effects channel.

**7** The **middle control** enables the mid-range response to be tailored to give the amp that "punchy" sound so popular in today's music. Experimentation with this unique middle circuit will show that it is much more effective than conventional circuits.

**8** The **bass control** varies the amount of bass response in the system and is very effective in achieving a balanced tonal blend.

**9** The **depth control** is used to vary the amount of amplitude modulation (tremolo) of the output signal. The operation of this control is conventional and should present no problem in adjusting for the desired effect.

**10** The **rate control** determines the speed with which the signal is modulated. This control varies the speed of the tremolo master oscillator and should provide any speed desired for modern music.

#### NORMAL CHANNEL

**11** The normal channel **gain control** determines the sensitivity of the normal channel preamp. This control works in the same way as the effects channel gain control.

**12** The normal channel **treble control** varies the high end response of the normal channel preamp.

**13** The normal channel **bass control** varies the amount of low-end response in the normal channel preamp.

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#### MASTER SECTION

**14** The **master reverb control** determines the amount of delayed signal (reverb) blended into the output. The master reverb control is effective on **both** channels and is remotely switchable by use of the Automix footswitch.

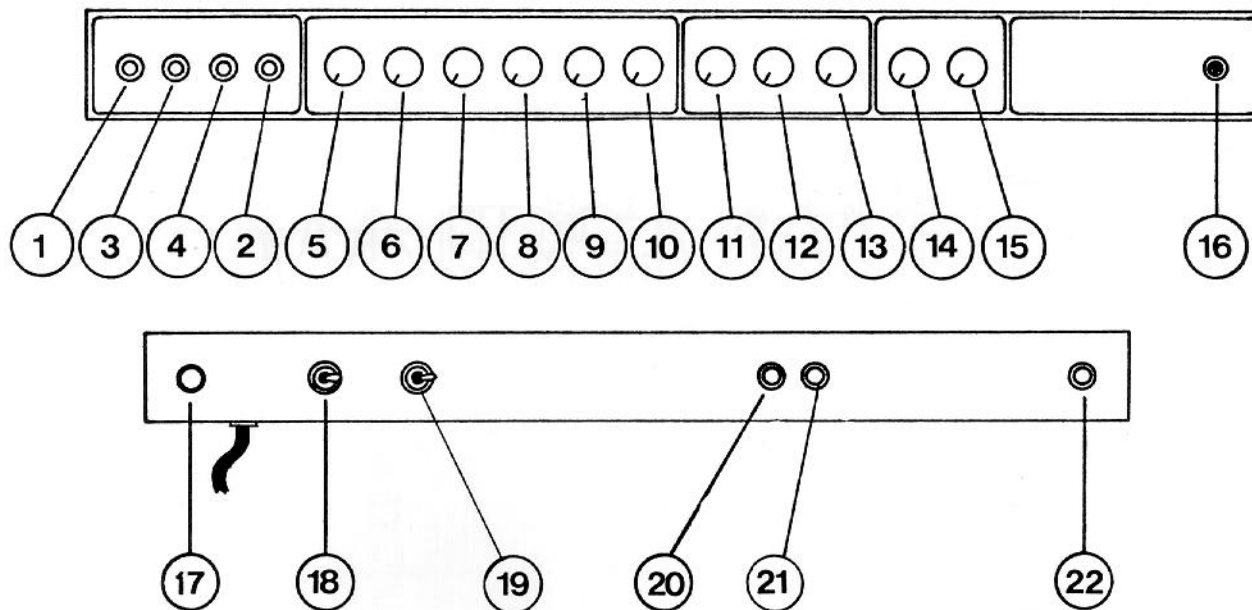
**15** The **master gain control** is very useful for obtaining a number of effects. The most common use of this control is for obtaining overdrive and sustain at low sound levels. Another valuable use for this control is for controlling the response and noise of the amp in a recording studio.

The master gain control is the final gain determining element before the signal is fed into the output amplifier and could more accurately be called a "sensitivity" control. To obtain maximum overdrive and sustain, the individual channel volume controls should be set near maximum, and the output of the system should be adjusted with the master volume control.

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**16** The **pilot light** indicates when the electrical supply (mains) is supplying power to the amplifier.

**17** The **fuse** is located within the cap of the fuse holder and should be replaced with one of the proper value if it should fail. It is necessary that the proper value fuse be used to avoid damage to the equipment and to avoid voiding warranty. If your amplifier repeatedly blows fuses, the unit should be taken to a qualified service center for repair.



**18** The **line power switch** is of the three position type with the center position being off. The three position switch has two ON positions, one of which is used to ground the amplifier properly. One of the ON positions will yield the least hum or popping when the instrument is touched and this is the position that should be used.

For your safety, we have incorporated a 3 wire line (mains) cable with a grounding lug. It is not advisable to remove the ground pin under any circumstances. If it is necessary to use the amp with the old two prong sockets, a suitable adaptor should be used. Much less noise and greatly reduced shock hazard exists when the amp is operated with the proper grounded receptacle.

**19** The **Standby Switch** removes the B+ supply from the output tubes while leaving the filament voltage on. This function keeps the tubes at operating temperature and allows for instant operation when the Standby switch is thrown.

**20** The **main speaker output jack** is where the main speaker must be plugged in. The output impedance of this jack is 4 ohms.

**21** The **external speaker jack** is designed to allow use of an additional speaker system with the Deuce. This jack does not become operational until the main jack has been connected to a speaker. Due to a special switching jack which connects a separate 2 ohm tap on the output transformer, a 4 ohm load may also be connected into this jack—thus allowing the amp to put out full power into a total impedance of 2 ohms when an extension speaker is desired. The output impedance of the Deuce is 4 ohms when the main speaker jack is used and 2 ohms when both are used. **NOTE:** No less than a **4 ohm** speaker system should ever be connected to either speaker jack.

**22** A **"Din" Socket** is located on the back panel for the Automix footswitch. Care should be taken to properly mate the connectors of the footswitch plug with the respective socket holes.

## FOOTSWITCH

### Selector Button

As the name implies, the **selector button** allows you to select between the normal and bright channels. This button is functional with your instrument plugged into either the **series** or **parallel** input.

### Combiner Button

The combiner button deactivates the selector button and allows both channels to be in the circuit at one time. The selector button becomes **inoperative** as soon as the combiner button is depressed.

### Reverb Button

The reverb button activates reverb on both channels.

### Tremolo Button

The tremolo button activates tremolo on the effects channel

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NEVER OPERATE THE AMPLIFIER WITHOUT A SPEAKER LOAD!! This amp is equipped with a shorting system on the main output jack to help protect against accidentally turning on the amp without a load. If the speaker patch cord is plugged into the amp, but not connected to the speakers, the amp is NOT loaded and could cause problems if the amp is turned on and operated in this manner. The natural inductance of the output transformer can store energy that normally is transferred to the speaker and is capable of developing tremendous voltages. These voltages can cause serious internal arcing between the elements of the output tubes and their related circuitry.

The 6L6GC output tubes are the most rugged audio power tubes on the market and should provide long service in the output circuit. Each tube has a keying pin moulded into the base to index the pins into their proper positions. When installing or removing the tubes, it is possible to break off these index pins by bending the tube too much in its socket. Use extreme caution when handling the tubes. **UNDER NO CIRCUMSTANCES SHOULD TUBES WITH BROKEN OR MISSING INDEX PINS BE INSERTED IN THE SOCKETS.**



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