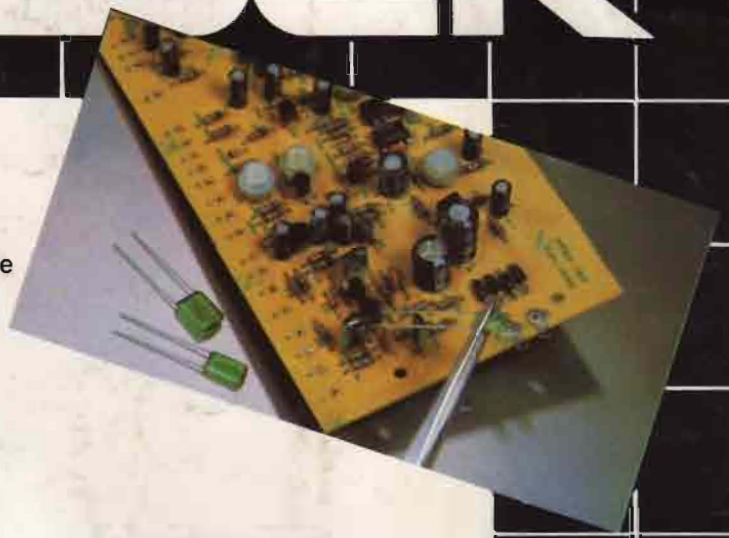
NEW

Creative Kits for Creative Musicians...

AMDEK

Delay Machine Kit (DMK-200)



- Delay time continuously adjustable from 20msec to 300msec.
- AC/DC operation is easy
- The noise reduction circuit ensures clear, clean sound.
- The silent electronic on/off switch eliminates switching noise.

SPECIFICATIONS

- Delay time: 20msec to 300msec (continuously variable)
- Input impedance: 470kΩ
- Output load impedance: Over 10kΩ
- Maximum input level: −3dBm at 500Hz
- Residual noise: 8μV or less (1HF-A)
- Controls: Delay time, Intensity, Delay Vol.
- Power source: 9V battery, external power source
- Current draw: DC 9V, 11mA
- Dimensions: 95(W) × 64(H) × 143(D)mm (3.74" × 2.52" × 5.63")
- Weight: 510g (1.1 lb.)

Consumers:
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USE THE AMDEK HOTLINE!

AMDEK

Roland (UK) Ltd., Great West Trading Estate
983 Grest West Road, Brentford, Middx. TW8 9DN

from the manufacturers of: Roland / BOSS

AMDEK HOTLINE: 01-847 1671

AMDEK

DMK-200 Delay Machine Kit

A high quality effect which can easily be assembled in an evening.

- ★ Echo
- ★ Slapback echo
- ★ ADT
- ★ Battery or mains adaptor power
- ★ Silent FET switching

This is the smaller brother of the Amdek delay kit described in July '83 E&MM; it uses the same basic circuitry, and gives the same delay range, but without some of the frills. Echo is the major effect produced, including 'slapback' (a single short repeat) when the intensity control is at minimum. On shorter delay times, still with the intensity at minimum, ADT (automatic double tracking) is available; this thickens up your sound without being an obtrusive effect. Phasing, flanging and chorus, which are also associated with time delay, are not available because the minimum time delay is not short enough and no modulation is available. However, some weird sounds can be produced by turning the delay time control by hand (or foot!) whilst sustaining a note.

The Kit

The delay machine is supplied in a bubble pack, complete with detailed step-by-step instructions, a spanner for tightening the nuts on pots and sockets, and a length of solder which should be sufficient even if you make a couple of mistakes and have to do some joints over again.

You will need the customary fine tipped sholdering iron, a pair of wire cutters, pliers and a cross-head screwdriver: Pozidriv no. 1 point is the right size. You will also need a PP3/6F22-size battery, or a suitable 9V adaptor to fit the unit's 3.5mm jack. The device takes about 11mA.

The first thing to do is to check all the components are there, and tick them off against the drawings in the leaflet. Use the 'bubble' from the front of the pack as a tray to stop the smaller parts rolling away. The circuit board is supplied ready assembled and tested, so the next steps involve connecting up the LED, battery clip and pots using the wire supplied. All the wires are cut to length first with the help of the scale printed in the instructions.

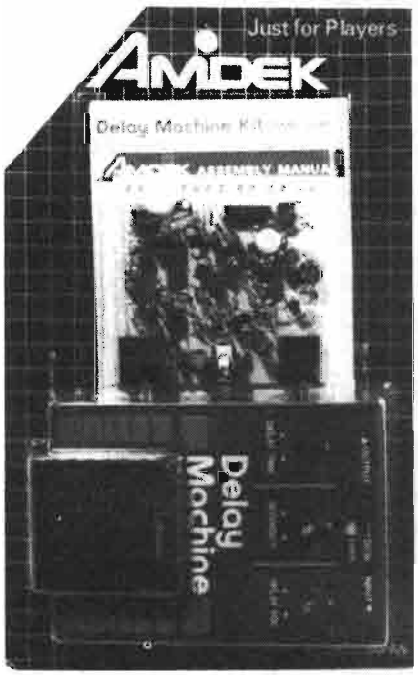
The footswitch is not connected until it has been screwed to the case, and the pots and LED can then be mounted. Since the pots must have their locating spigots broken off, do the nuts up fairly tightly (but don't gorilla them!) or the pots may turn in use.

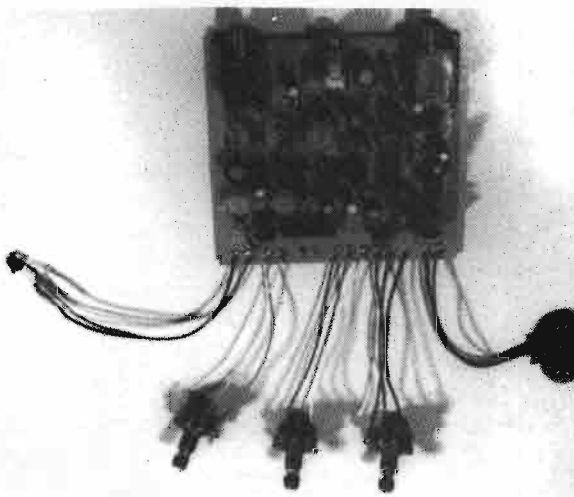
The PCB is held in the case by the jack socket nuts. Roland recommend that the wires to the Delay Time control are routed away from the rest of the circuit to avoid interference, and the surest way of keeping them that way is to tape them to the front of the case. You will probably need to bend the LED leads to one side before the PCB will fit: exercise great care when doing this, and support the leads with pliers to avoid breaking them.

The unit may now be tested before finishing the casing. An insulating sheet goes in the case bottom – place it up against the protruding lugs – and a piece of sponge goes in the top to retain the battery. This is meant to be self-adhesive, but ours wasn't; a piece of double sided tape soon fixed that. The case is screwed together, the knobs are fitted, and finally two stick-on feet and a rubber battery hatch/foot complete the unit.

Circuit

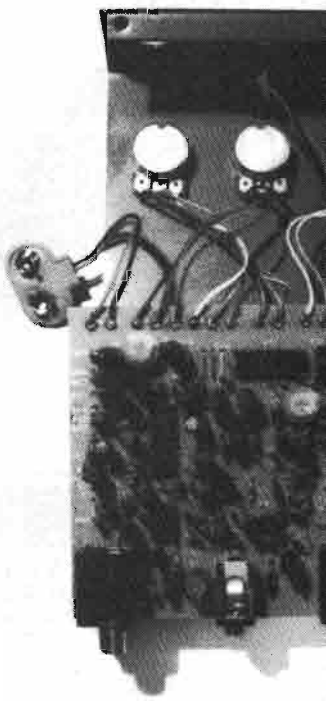
The heart of the unit is a so-called 'bucket brigade' delay IC, IC4. This has 4096 'buckets', or





Pots, LED and battery clip connected to the circuit board.

Parts laid out for checking.



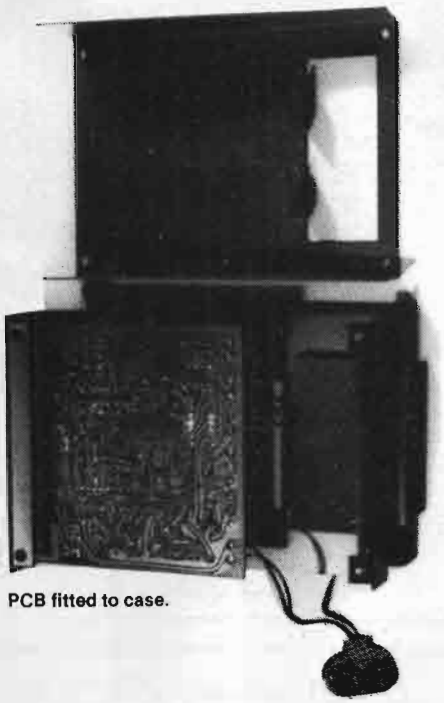
Pots, LED and footswitch installe the case.

capacitors, and the signal is passed from one to the next at a speed determined by the clock oscillator IC3, giving a delay time variable from 20 to 300ms. Filters around Q5, 6 and 7 prevent the clock and signal frequencies interfering with each other.

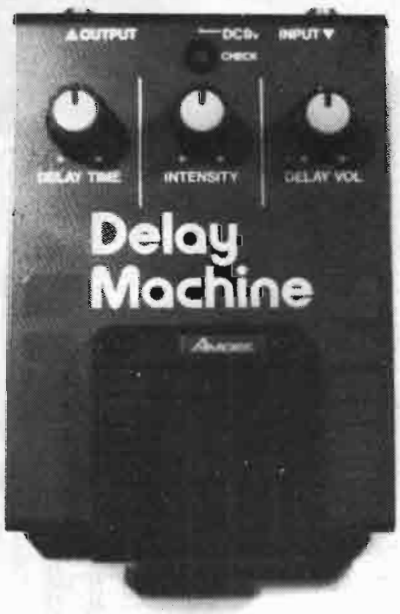
Bucket brigade delays tend to be noisy as they get longer, and so a noise reduction system is incorporated using IC2. This compresses signals (raising all of them to nearly the same level) prior to the delay, then expands them back to their original levels afterwards. As a further aid to noise reduction, pre-emphasis (treble boost) is applied by the first half of IC1, followed by a matching de-emphasis after the delay. This helps cut the more annoying high frequency elements of the noise. Q4 is a FET, a silent electronic switch, operated by the footswitch via flip-flop Q2 and Q3.

Operation

The functions of the switches are given in the panel drawing. Note, however, that the Delay Volume control does not affect the direct sound at all, so it is not possible to have a delay-only sound, nor can the echoes be made louder than the direct signal. Also, the bandwidth is limited (about 3kHz) but this is adequate for use as a floor effect on guitar or keyboards. The Delay Machine worked first time and gave excellent results. If you have trouble getting your kit to work, contact Amdek on their special number: (01) 847 1671, in the UK. **E&MM**



PCB fitted to case.



Finished!

Panel Description

OUTPUT Jack: for connection to the input of an Amp or other effect unit.

LED: This indicates ON/OFF mode of the DMK-200. Also, this can be used to check battery. If the LED fails to light or become dimmer, the battery should be replaced.

DELAY TIME Control: Rotating this knob clockwise will increase the delay time.

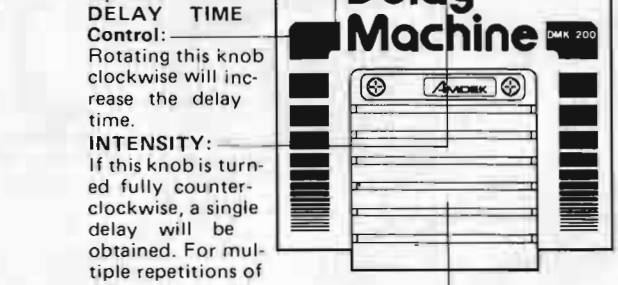
INTENSITY: If this knob is turned fully counterclockwise, a single delay will be obtained. For multiple repetitions of delay sounds, this should be rotated clockwise.

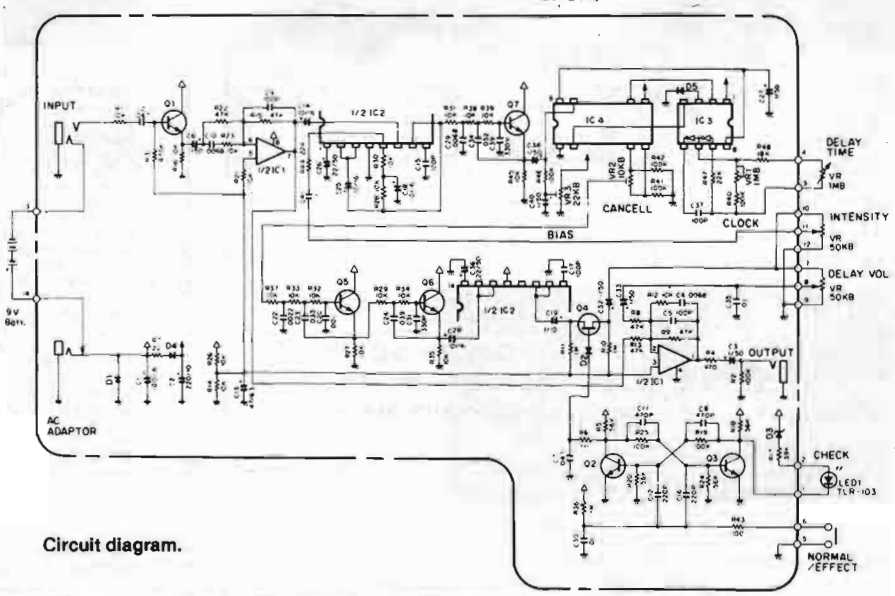
External Power Input Jack: This is to connect the optional Power Pack (PDK-500, AC Adaptor).

INPUT Jack: This is to connect to a guitar, etc. Plugging into this jack automatically turnes the DMK-200 on, so please disconnect the cord when not using the unit.

DELAY VOLUME Control: This knob is to control the level of the Delay sound. If it is turned fully counterclockwise, only the Direct sound is obtained, and if clockwise, Delay sound.

Foot Switch: This turns the effect on or off.





Circuit diagram.