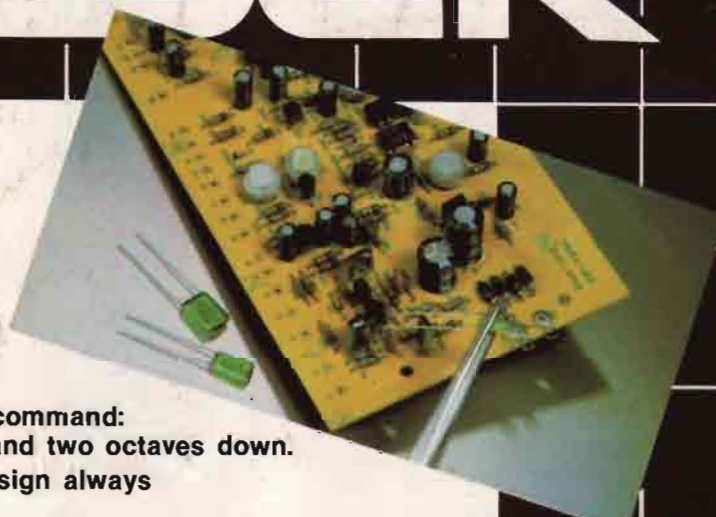


NEW

**Creative Kits
for Creative Musicians...**

AMDEK

Octaver Kit (OCK-100)



- Faithfully produces the same envelope as the input note.
- Three sound levels are at your command: the input note, one octave down, and two octaves down.
- AMDEK's famous low-noise design always keeps the sound crystal-clear.
- The silent electronic on/off switch eliminates switching noise.



SPECIFICATIONS

- Input impedance: 470 k Ω
- Output load impedance: Over 10 k Ω
- Maximum input level: -5dBm
- Maximum output level: 0.775V rms
- Minimum operating input level: -60dBm at 250Hz
- Residual noise: 8 μ V or less (IHF-A)
- Controls: Direct, 1 oct, 2 oct
- Power source: 9V battery, external power source
- Current draw: DC 9V, 4mA
- Dimensions: 95(W) x 64(H) x 143(D)mm (3.74" x 2.52" x 5.63")
- Weight: 510g (1.1 lb.)

Consumers:
Questions, Problems
Suppliers? Retailers:
Supplies & Re-orders?

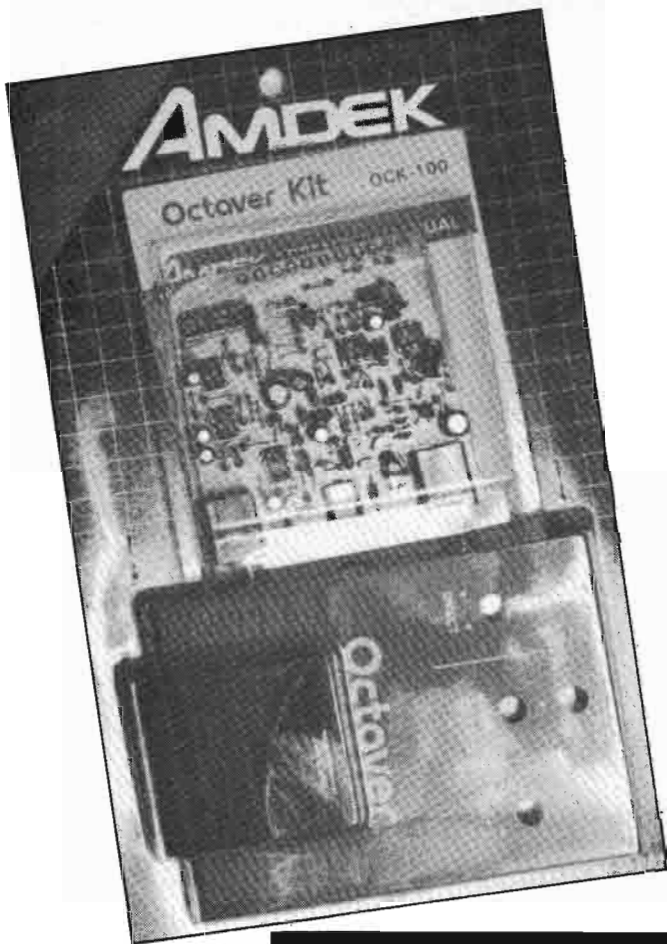
**USE THE
AMDEK HOTLINE!**

AMDEK

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

from the manufacturers of:  Roland /  BOSS

**AMDEK
HOTLINE!
01-847 1671**



AMDEK

Octaver Kit

A high quality effect which can be built with the minimum of technical difficulty in a few hours.

- ★ Signals one and two octaves down independently mixable
- ★ Variable direct signal
- ★ LED effect on and battery check
- ★ Pre-assembled circuit board

This handy footswitch unit offers the guitarist, or keyboardist for that matter, a range of beefing-up effects to add 'depth' and 'guts' to solos, in particular (mainly because it can only handle one note at a time!).

It does this by mixing, using the 3 controls, Direct, Oct 1 and Oct 2, harmonics which are one octave and two octaves below the fundamental pitch of the input signal. It has special circuitry to minimise the decay 'hiccup', with which users of early octave dividers (and certain guitar synthesisers) will be only too familiar, where the guitar string's second harmonic is locked onto as it decays more slowly than the fundamental.

The Kit

The Amdek OCK-100 Octaver kit comes in bubble-pack form, complete with all parts, a spanner for tightening nuts and a detailed instruction sheet. The extra tools required are a 15 to 30 W fine tipped soldering iron, wire cutters and strippers, small pliers and a cross-head screwdriver. A PP3 battery powers the unit, although an external DC9V input jack is provided.

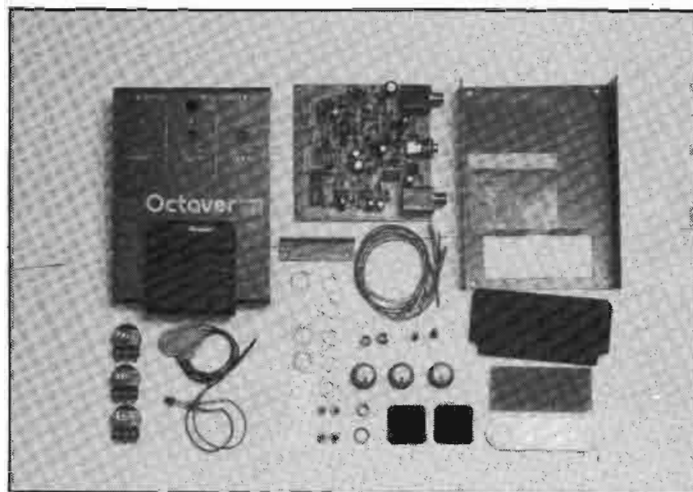
Parts identification is best done by first laying them all out when they can be checked off one by one, using the component drawings in the handbook for guidance.

Step by step assembly commences with the preparation of 9 lengths of connecting wire which are attached to the three pots. This process is simplified by the provision of a scale and useful tips on soldering. In steps 4 to 6 the battery clip, LED and footswitch wires are prepared ready for connecting these, and the pot wires, to the factory built PCB assembly in steps 7 to 11. These steps also include fitting the footswitch and the LED bezel to the metal case.

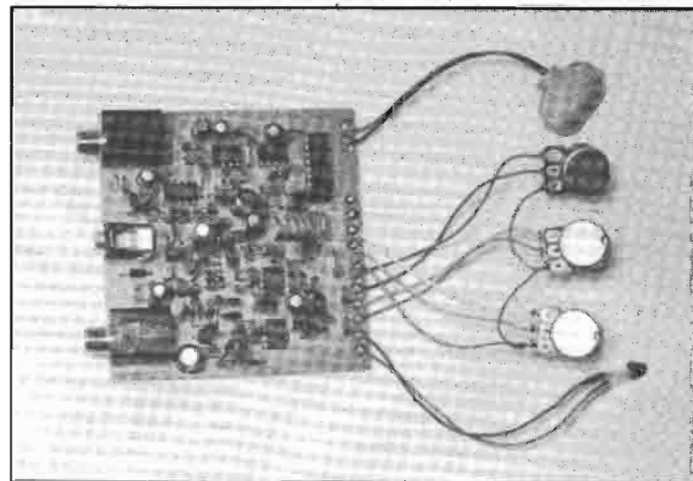
After the pots have been mounted into the case in steps 12 and 13, the PCB assembly is fixed in place by means of the jack socket nuts as shown in step 14. A self-adhesive plastic sheet insulates the PCB track side from the case base. A sponge insert is also stuck in place to restrict the movement of the battery. The base then screws neatly in place. The rubber battery cover gives simple and effective access without the use of screws (steps 15 to 19). The construction is completed by the addition of two stick-on feet and the three control knobs.

Circuit

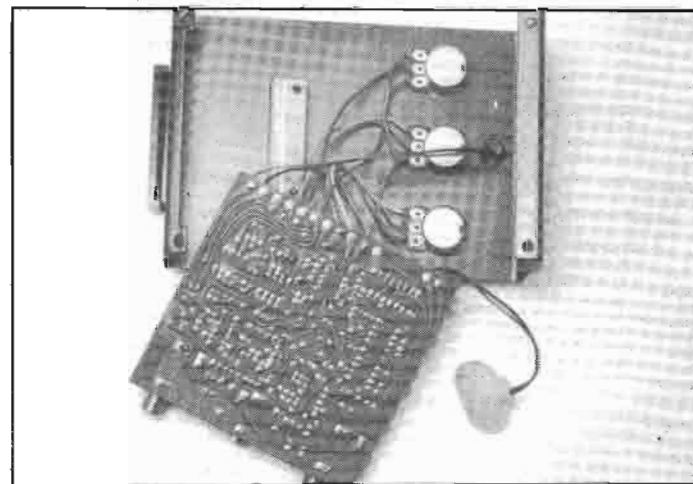
As might be expected, the frequency division is performed by a CMOS dual flip-flop, IC7. The outputs from these two stages are used to



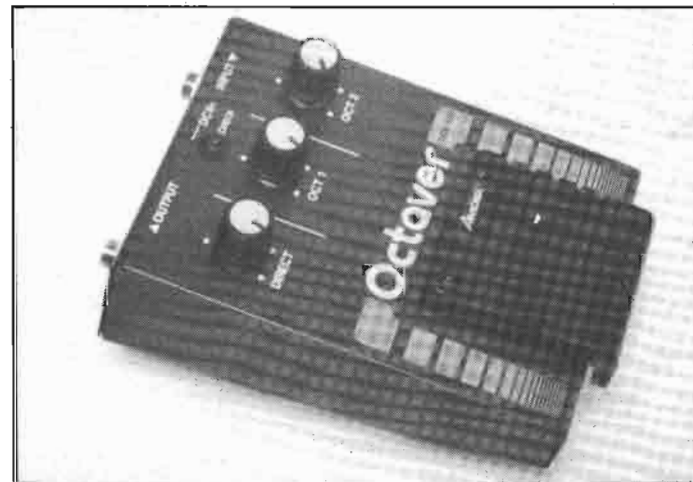
Complete set of parts ready to be checked off.



Pots, LED and battery clip fitted to PCB (steps 1-8).



Completed internal assembly (steps 14-16).



The completed Octaver.

Panel Description

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

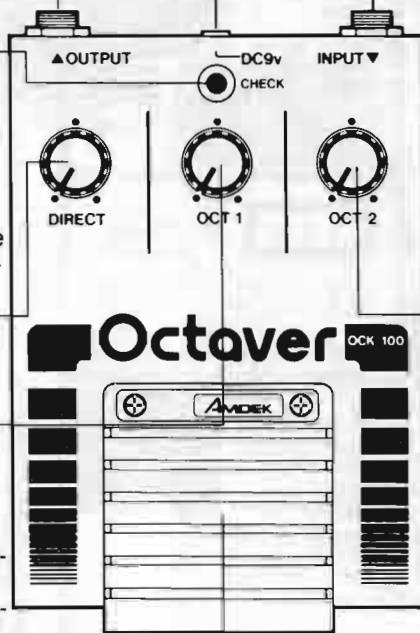
External Power Input Jack:
This is to connect the optional Power Pack (PDK-500, AC Adaptor).

INPUT Jack:
This is to connect to a guitar, etc. Plugging into this jack automatically turns the OCK-100 on, so please disconnect the cord when not using the unit.

LED:
This indicates ON/OFF mode of the OCK-100. Also, this can be used to check battery. If the LED fails to light or become dimmer, the battery should be replaced.

DIRECT:
This knob adjusts the volume of the direct sound.

OCT 1:
This knob adjusts the volume of the sound one octave lower than a direct sound. Turn it clockwise to increase the volume and counter-clockwise to decrease.



OCT 2:
This knob adjusts the volume of the sound two octaves lower. Turn it clockwise to increase the volume and counter-clockwise to decrease.

Foot Switch:
This turns the effect on or off.

control the analogue signal inverters, Q7 with IC4 for Octave 1, and Q8 with IC4 for Octave 2. The two halves of IC3 serve to filter out the switching noise. The two divided outputs and the direct output are passively mixed by the three pots and R58-60 into the output buffer transistor via the switching FET, Q4. This, and the direct signal FET, Q6 are alternately activated by the flip-flop formed by Q3 and Q5. This is toggled by operating the foot-switch.

The anti 'hiccup' circuit comprises a low pass filter IC1, a pair of precision rectifiers IC2 and IC5, and a pair of comparators IC2 and IC5. The purpose of this circuit is to detect the lowest frequency harmonic present (the fundamental), and use it to clock the digital dividers.

Operation

The Octaver kit was assembled without any problems and worked first time. If you do have problems however, you can contact the Roland 'Hot Line' on 01-847 1671.

The unit performed quite well, although despite the ingenuity and complexity of the fundamental picking circuit, hiccups were still occasionally apparent. These were not too dramatic however, due to the heavy filtering used.

Modifications

Amdek do not recommend modifications since "The circuit may be broken". However, you may like to experiment with the values of R31, 34, 35, 51, 52 and 56 to alter the cut-off frequency of the switching noise filters. Reducing the values (try halving them) will make the sound less mellow. The side effect though, will be more noticeable hiccups.

E&M

