

**NEW**

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

# AMDEK

## Compressor Kit (CMK-100)



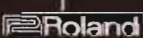
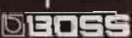
- Designed for low noise and high speed for clear and long tone.
- Assembly process: 20
- Control: Sustain, Level
- Function: Effect changeover switch, Effect indicator
- Terminals: Input, Output, External power source
- Output load impedance: Over 10k $\Omega$
- Max. input level: -5dBm
- Max. output level: -10dBm (W/100k $\Omega$  load)
- Input conversion noise: 100dBm
- Compression range: 40dB
- Power Source: 006P battery or external power source
- Consumption current: 4mA (DC 9V)
- Dimensions: 62(W) x 56(H) x 128(D)mm (2.44" x 2.2" x 5.04")
- Weight: 360g (0.79 lbs.)
- Modifiable points: 4

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

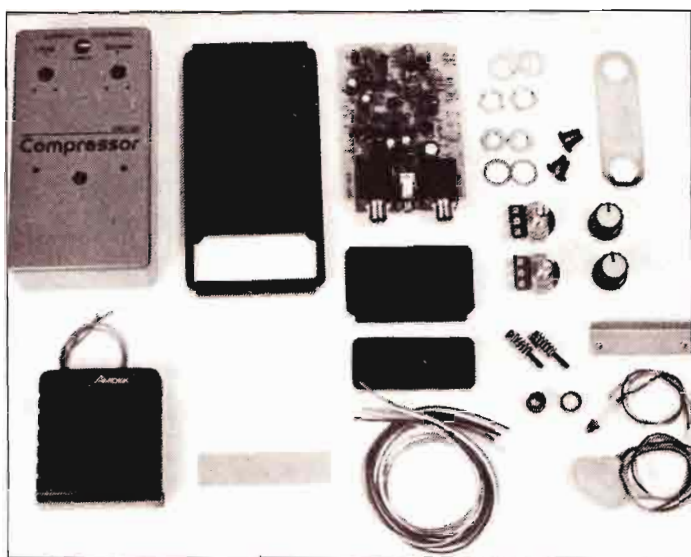
**USE THE AMDEK  
HOTLINE!**

# 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**



All the parts ready for checking off.

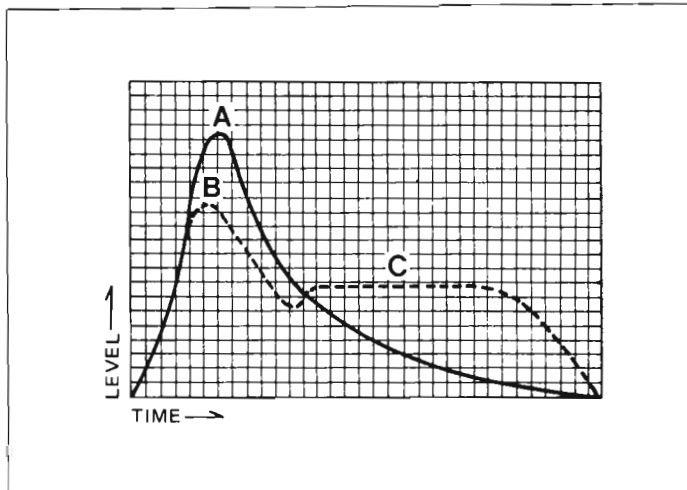


Figure 1. Output characteristics of the Compressor.

# AMDEK

## Compressor Kit

This month we continue our Amdek series with the Compressor, another useful effect which can be assembled and customised with the minimum of technical difficulty.

- \* Variable Sustain
- \* Automatic Level Control
- \* LED effect on and battery check indicator
- \* Pre-assembled circuit board
- \* Complete kit with detailed instructions

The Compressor is a useful addition to any Electro-music studio. In recording applications it can be used to reduce the dynamic range of input signals or in PA situations it could be used to stabilise often unpredictable microphone signals.

The unit compresses the sound by boosting small signals and attenuating larger ones. This is demonstrated in Figure 1. The input, A, has a percussive envelope, such as that produced by a guitar, which, when processed by the circuit, results in the compressed output (shown dotted). The initial high peak, B, has been reduced and the decaying input is boosted to a sustain level, C.

The box has two controls, output Level, and Sustain level with the

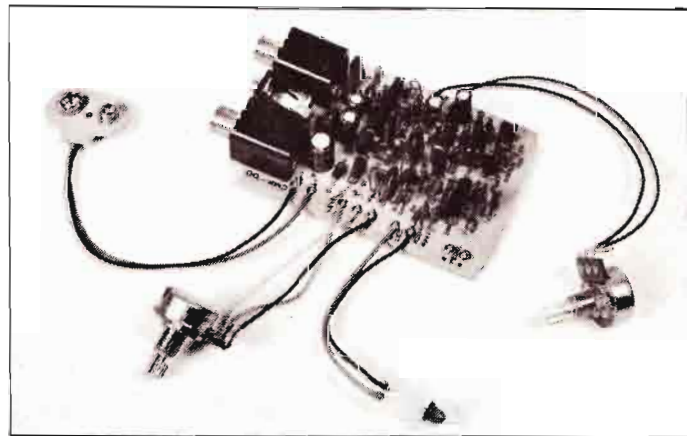
facility to use an optional external power supply.

### The Kit

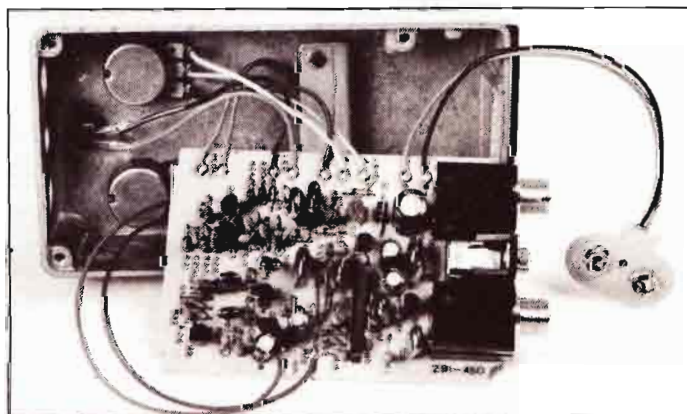
The Compressor is supplied in the usual bubble pack, complete with all parts, connecting wire, solder, a handy Amdek spanner and the instruction sheet. The only extra items needed are a 15-30 watt soldering iron, cutters (or wirestrippers), pliers, screwdriver and the ubiquitous PP3.

Once all of the parts have been separated from their packaging they can be spread out on a work surface and checked off against the parts list in the assembly instructions. When this has been done construction can commence.

The first stage is to cut and strip the appropriate leads for the pots.



Steps 2-8. Pots, battery snap and LED wired to the board.



Steps 9-14. Footswitch assembled and pots fitted into the case.

These leads are then soldered to the controls, the battery connector, LED and footswitch leads can be cut to length (Steps 2-6).

When the eyelets in the factory assembled PCB have been suitably tinned and filled, the leads for the battery snap, pots and LED can be soldered to them (Steps 7-8).

Assembly of the footswitch is next requiring the footswitch, two 25mm screws, springs and footswitch stopper plate. Once this is complete the LED holder can be clipped into place and the footswitch leads soldered to the PCB (Steps 9-11).

The pots can now be fitted into the case using the Amdek spanner to tighten the hexagonal nuts. Once the LED has been fitted (with its locking ring) the PCB can be located into the case and held in place with the jack socket nuts (Steps 12-15).

A self-adhesive insulation sheet is now attached to insulate the PCB from the bottom of the case. Once the rubber pad is fitted to the bottom plate it can be screwed to the case with the four 10mm screws (Steps 16-18).

The stages required to finish the unit are: fitting the battery, the rubber battery cover and the two control knobs (Steps 19-21).

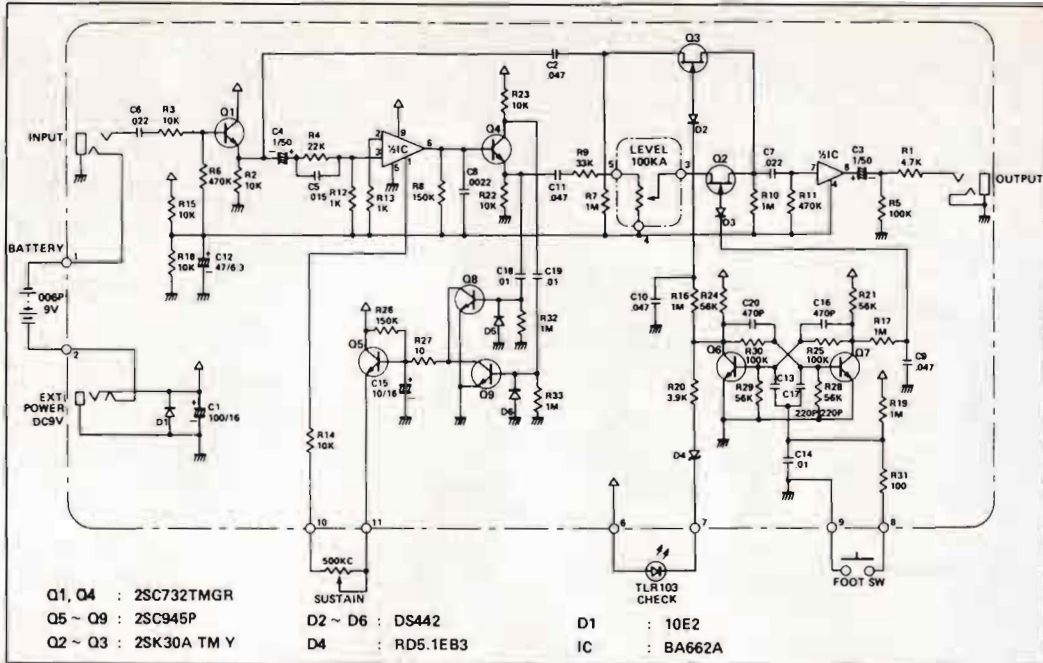


Figure 2. Circuit diagram of the Compressor.

## The Circuit

The circuit diagram of the Compressor is shown in Figure 2.

The IC is a transconductance amplifier whose gain is controlled by the current into pin 1. With no signal present transistors Q8 and 9 are off. This allows C15 to charge via R26 almost to the supply rail. This causes a current to flow through Q5 and into the IC via R14 and the resistance set by the Sustain control. This sets the initial gain of the amplifier.

With a signal present Q8 and 9 come on, discharging C15 and causing a voltage drop at the base of Q5 turning it off, the IC now decreases in gain since the control current has stopped. Since the input signal has now reduced C15 again starts to charge and increase the gain of the IC. The circuit therefore keeps the output constant at a level set by the Sustain control. The effect is switched in and out with two FET's Q2 and 3 controlled by a flip-flop toggled by the footswitch.

## Operation

Our Compressor worked first time after assembly but should you have any difficulties Roland UK have a 'Hot Line' at their factory which is 01-847 1671 — they are always willing to lend a helping ear!

Although Amdek believe they have supplied component values for perfect operation of the unit they do suggest some modifications which can be made. Note that these mods are made at your own risk and may affect guarantee conditions.

## Modifications

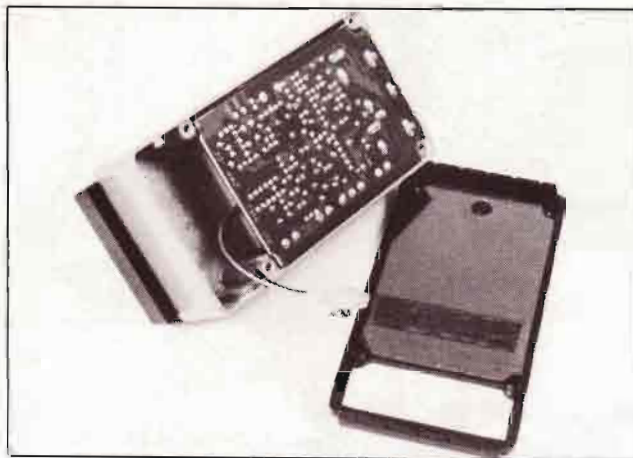
These modifications alter the Attack and Decay times of the Compressor action.

**Mod 1.** Resistor R27 determines the discharge rate of C15. If this is increased the 'attack' increases in amplitude giving a very 'punchy' sound. Try values from 0-1k.

**Mod 2.** Resistor R26 determines the charging rate of C15. When this is decreased the charging rate increases and vice-versa. Try values from 10k to 330k.

**Mod 3.** For full control over the Compressor action fit a miniature pot in place of each resistor. A 1k in place of R27 and a 220k in series with a 10k resistor in place of R26. The two pots could be fitted below the present controls (with some careful drilling!)

**E&MM**



Steps 15-17. PCB fitted into the case and insulation added.



Steps 18-21. Base plate and knobs fitted to complete the unit.

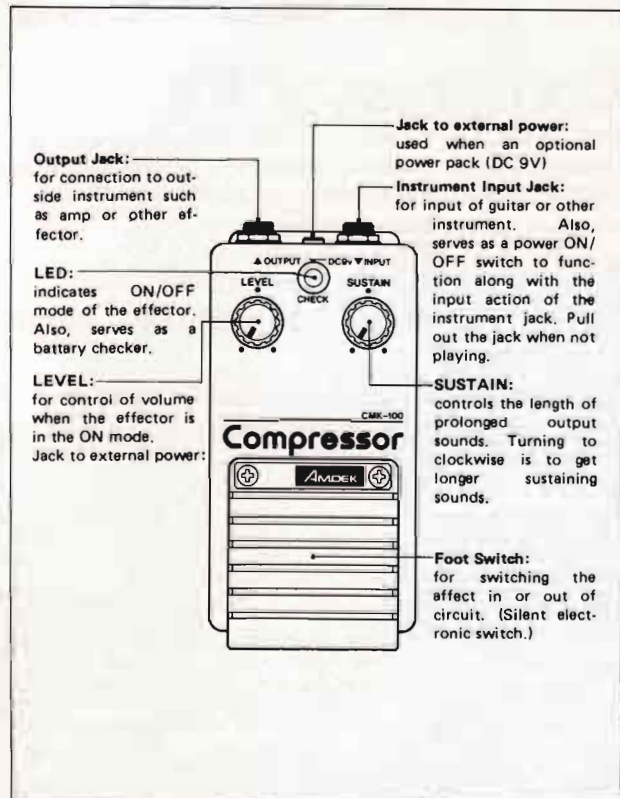


Figure 3. Panel description.

**E&MM's special offer price for the Amdek Compressor Kit is £28.00 incl VAT and P&P. Please order as: Amdek CMK-100 kit.**

RECORDED ON DEMO CASSETTE No. 9

