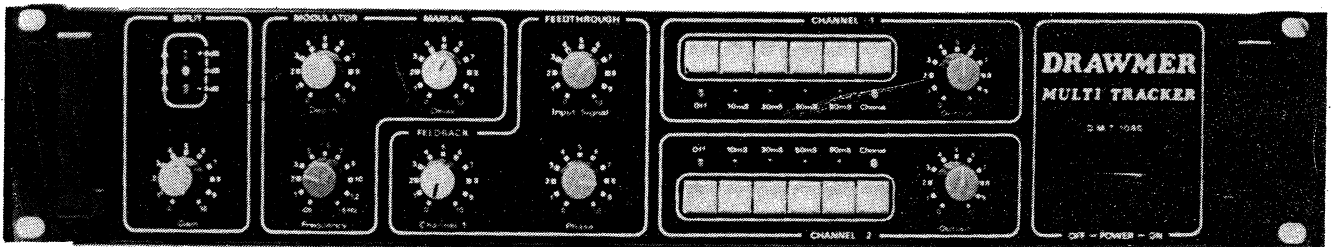
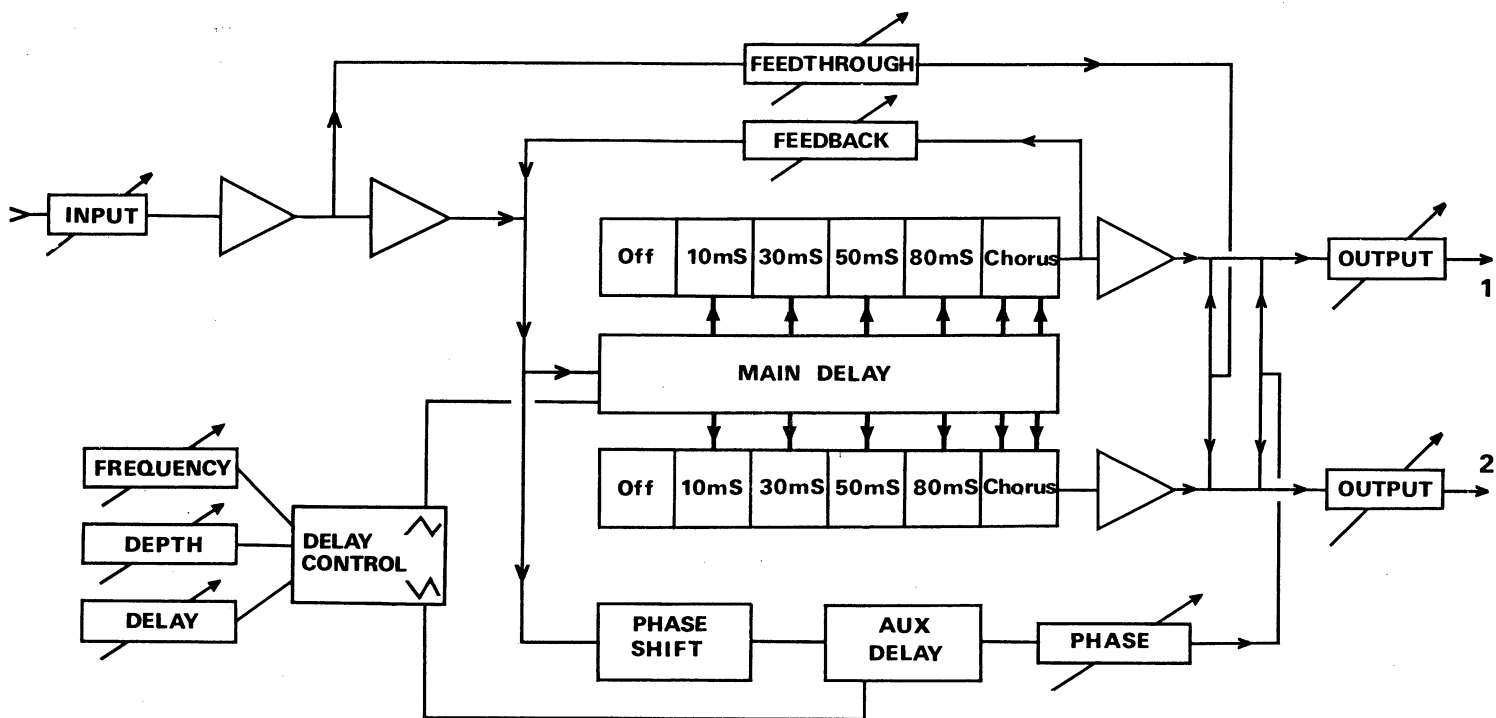


**DRAWMER**  
**MULTI-TRACKER**  
**D.M.T. 1080**



**OPERATORS GUIDE**

FOR SERVICE CONTACT:-



**SIMPLIFIED BLOCK DIAGRAM**

## **CIRCUIT DESCRIPTION**

The DMT 1080 contains two independent delay lines. A multi section delay having a maximum delay time of 80mS, has taps at 10mS, 30mS, 50mS and 80mS which are fed to either channel 1 or channel 2 by the touch button selectors. The same tap on both channels produces a mono output whilst different taps produce stereo images. Chorus on either channel produces two delays, each of which is different from the main 10, 30, 50, 80mS delays and the two chorus images on the other channel; so chorus on both channels gives a stereo image. The output from an auxiliary 10mS delay is fed via the "Phase" level control to both channels giving a mono image. A clean feed signal is connected in a similar manner via the "Feedthrough" level control.

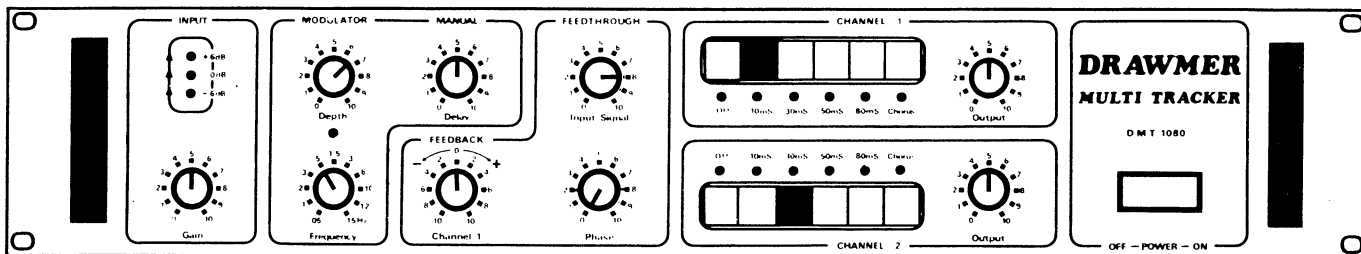
Delay time is variable over a 30:1 ratio either manually ("Manual Delay") or automatically using the internal low frequency oscillator which runs at .05Hz to 15Hz.

Control voltages for each delay line are in anti-phase i.e. when the main delay is at maximum, the "Phase" delay is at minimum and vice versa. This means that true phasing can occur at several points in the sweep (from min. to max. delay) as each main delay tap in turn cancels the signal from the auxiliary delay.

Outputs from the main delay taps are of fixed level. They are mixed with the variable "Phase" and "Feedthrough" signals before the output level controls.

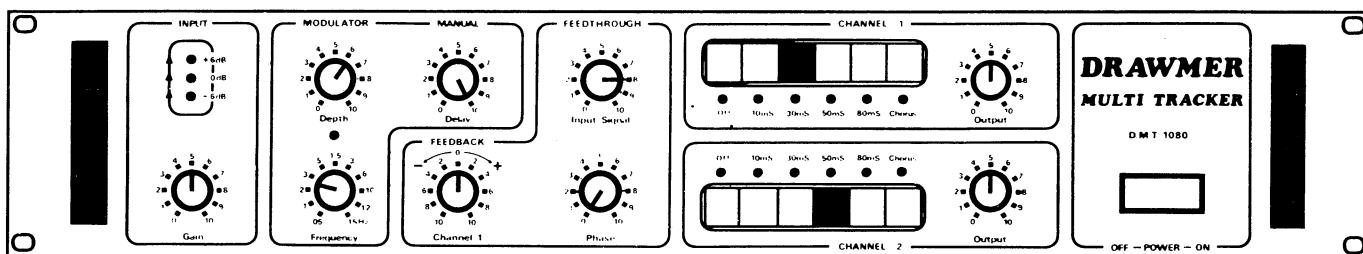
+ or- signals from channel 1 can be routed back via the feedback control to the delay line inputs. + feedback produces resonant peaks at short delays whilst- feedback gives a notch filter type of response.

For convenience, some diagrams of front panel settings for various effects are shown. It should be noted that the settings of the feedthrough control indicate the presence or absence of the original signal, which in most cases comes from another source e.g. a mixing desk. Where "Feedthrough" is shown to be off, the original signal should not be present from any source.



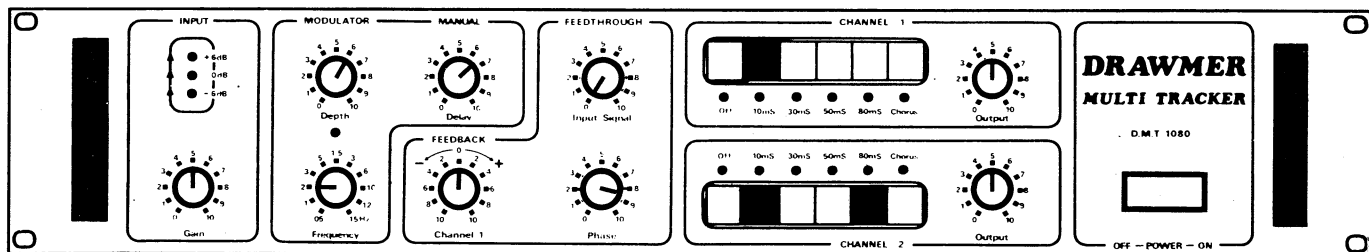
### FLANGING

Manual delay can be between 0 and 5. Either + or - feedback can be added. Modulation speed and depth should be adjusted as necessary.



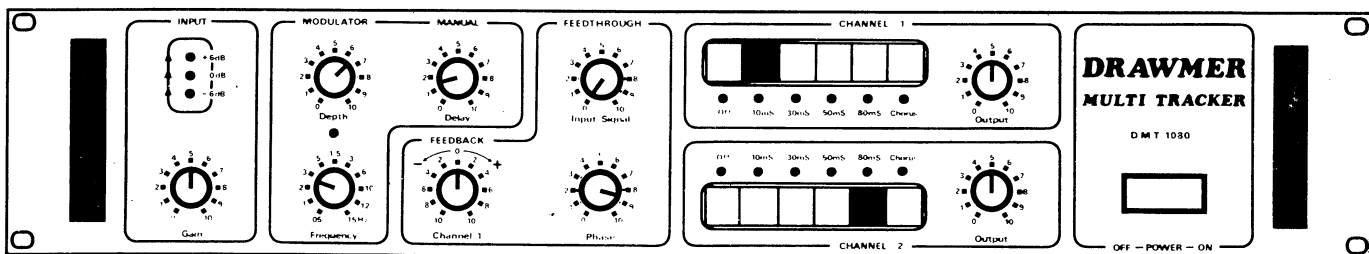
### TRIPLE TRACKING

For a longer delay, use 50mS and 80mS. Chorus is also very effective on either one or both channels. Delay can be reduced if desired using the manual delay control. With manual delay at 10, the phase level can be brought up to 8 - 9. This will give a mild phasing as well as triple track or chorus.



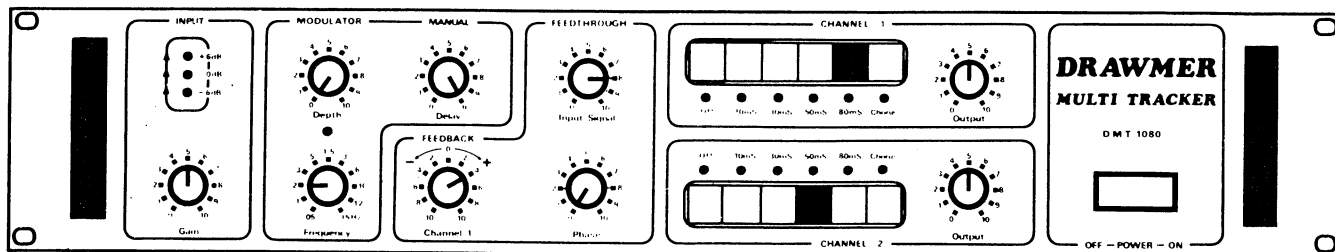
### PHASING WITH A.D.T.

From this set-up, two entirely different effects can be produced without alteration of the variable controls. Selecting chorus will give a multiple image without phasing. Phasing can then be "dropped in" by re-selecting as per the diagram.



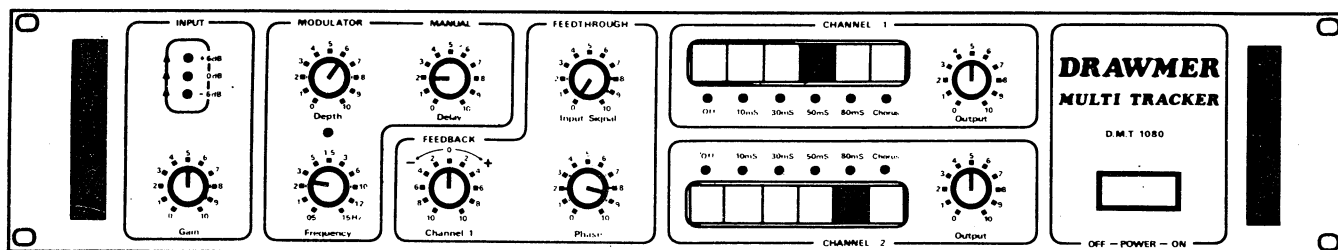
### COMBINATION

This setting produces phasing, flanging, A.D.T. and cyclic pitch shifting. + or - feedback can be added to good effect.



### ECHO

The setting shown is for the longest delay of 80mS. For shorter delays, either reduce the manual delay or select other taps. For a tuned drainpipe effect, select 30mS on channel 1 with any selection for channel 2. Set manual delay anywhere between 3 and 10. Used with speech, this is similar to the sound produced by a ring modulator.



### DUAL PHASING

This is similar to the effect produced by two tape machines running out of sync. and out of phase. Chorus can be selected for multiple phasing. Modulation frequency may require adjustment.

### SPECIFICATIONS

Measurements made with unbalanced inputs & outputs.

**INPUT** Electronic balanced (Cannon) or unbalanced (Jack).

**Impedance** Approx. 100k

**Level** - 20dB to + 20dB

**C.M.R.R.** 40dB

#### **FEEDTHROUGH**

**Bandwidth** 10Hz - 30KHz  $\pm$  3dB

**Noise** - 75dB unweighted

- 80dB CCIR A.R.M. weighted

**Level** Variable to + 6dB above main delay

**Distortion** 0.05%

**MAIN DELAY** 80mS Max.

**Bandwidth** 50Hz - 12KHz  $\pm$  3dB

**Noise** - 75dB unweighted

- 80dB CCIR A.R.M. weighted

**Headroom** + 12dB

**Distortion** Less than 1.5% at 1KHz

**AUX. PHASE DELAY** 10mS Max. (Manual Delay C.C.W.)

**Bandwidth** 30Hz - 11KHz  $\pm$  3dB

**Noise** - 75dB unweighted

- 80dB CCIR A.R.M. weighted

**Headroom** + 12dB

**Distortion** less than 0.5%

**Level** Variable to + 6dB above main delay.

**OUTPUTS** Electronic balanced (Cannon) or unbalanced (Jack)

**CLIPPING LEVEL** + 21dB into 10k (+ 27dB balanced)  
+ 17dB into 600 (+ 23dB balanced)

**SEMICONDUCTORS** 30 I.C.'s, 42 Transistors, 28 Diodes

**Power** 220-240v A.C. 15 V.A. or 110-120v.

**Fuse** Anti-surge 125mA for 240v 250mA for 110v

**Case** 2u Rack 19" (482.6 mm) x 3 $\frac{3}{4}$ " (88 mm)

**Weight** 4Kg.

**DRAWMER ELECTRONICS SHEFFIELD ENGLAND**