

DL-1000 Audio Delay Board

When placed in the receive audio path, the DL-1000 will eliminate the first chirp of DTMF tone during muting and the squelch crash noise present on many repeater systems. A dip-switch selects delays of 62.5, 125, 250 or 500 milliseconds. With an audio sampling rate 60 KHz, the delayed audio is faithfully reproduced.

Remove the jumper plug from the CAT-1000 at J8, CAT-700 at J9 or the CAT-300 at J5. Connect the cable from the DL-1000 to header connector J8, J9 or J5 to delay repeater audio.

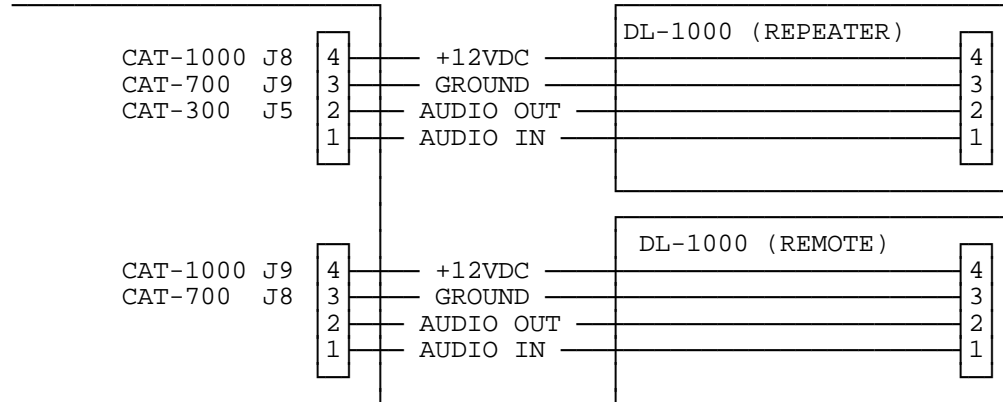


Figure 1

Select Delay

The amount of delay is determined by the setting of the dip-switch. The typical repeater receiver has a squelch crash noise of 40 milliseconds. The 62.5 millisecond setting should be sufficient to eliminate the noise. If not increase the delay to the next setting.

MILLISECONDS	SW1	SW2	SW3	SW4
0.0	OFF	OFF	OFF	OFF
62.5	ON	OFF	OFF	OFF
125.0	ON	ON	OFF	OFF
250.0	ON	ON	ON	OFF
500.0	ON	ON	ON	ON

Figure 2

The DL-1000 is inserted in the receive audio path before the controller's audio switch. This audio switch is controlled by the COR logic signal. Loss of COR will cause the audio switch to open, preventing the receive audio from reaching the transmitter. The DL-1000 provides time for the switch to open before the squelch crash noise reaches the switch's input.

During DTMF muting, 40 milliseconds of the first tone will sneak through before the DTMF decoder can tell the microprocessor to open the audio switch. The DL-1000 provides the necessary delay to overcome this problem.

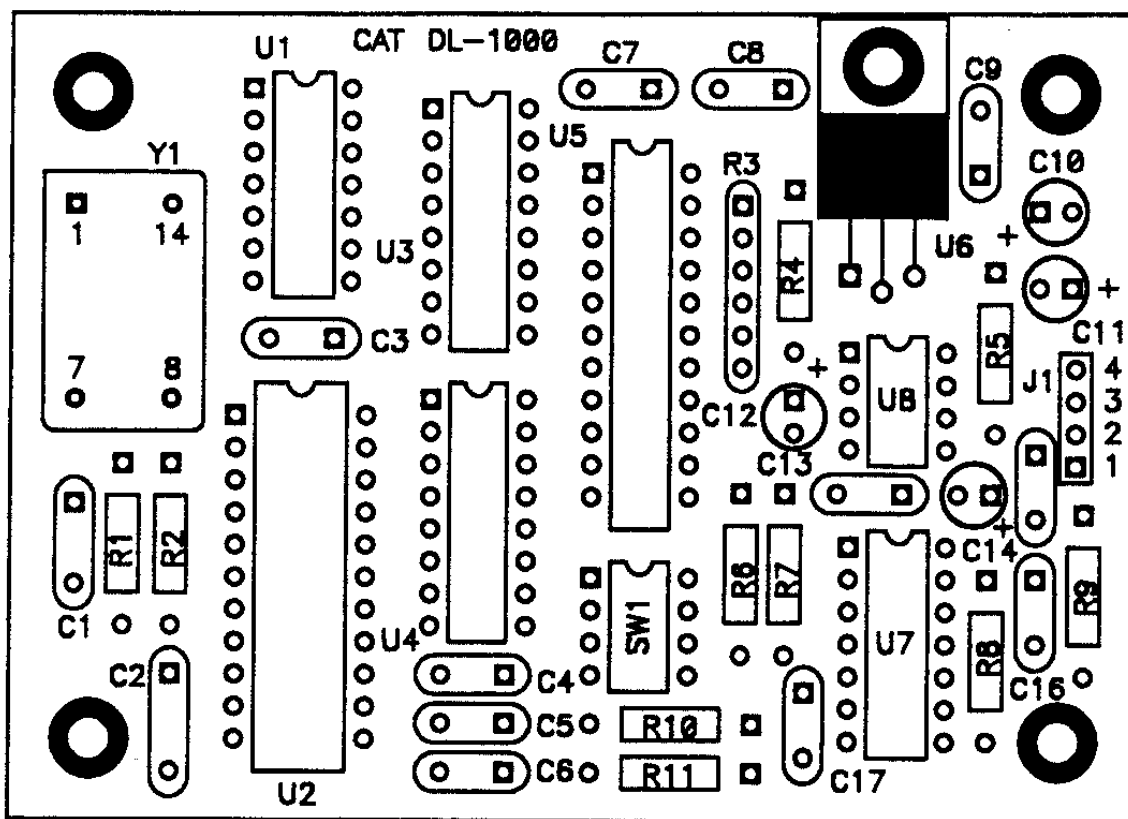


Figure 3

DL-1000 Audio Delay Board

9	Capacitor	0.1uF 50V	C3, C4, C5, C6, C7, C8, C9, C13, C15
1	Capacitor	1.0uF 50V	C2
4	Capacitor	10uF 16V	C10, C11, C12, C14
1	Capacitor	100pF 50V	C1
1	Capacitor	.001uF 50V	C17
1	Capacitor	.0015uF 50V	C16
1	Header	1X4	J1
1	I.C.	74HCT00	U1
2	I.C.	74HCT4520	U3, U4
1	I.C.	CY7C187	U5
1	I.C.	LM340-5	U6
1	I.C.	LM348	U7
1	I.C.	MX-609	U2
1	Module	1.00MHz	Y1
2	Resistor	10K 5% 1/4WR	R9, R10
1	Resistor	4.7K 5% 1/4WR	R2
1	Resistor	22K 5% 1/4WR	R6
3	Resistor	100 5% 1/4WR	R1, R4, R5
2	Resistor	47K 5% 1/4WR	R7, R8
1	Resistor	82K 5% 1/4WR	R11
1	Resistor	10K 6pin	R3

