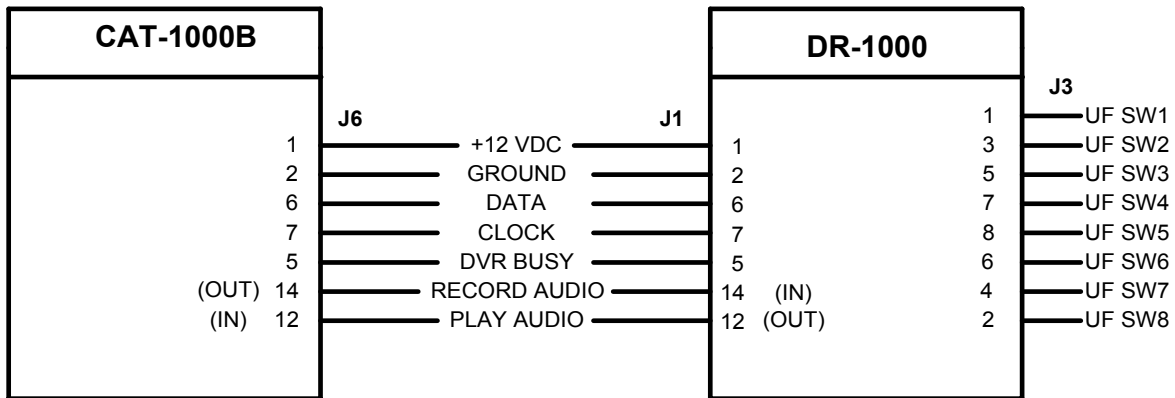


DR-1000 - Digital Recorder

The DR-1000 provides true voice message announcements on your repeater system. Substitute DR-1000 tracks for voice messages, speed dial identifications and courtesy tones. With four minutes of total record time, sixteen audio tracks provide sufficient message capacity. Eight expanded user function switches are also included. Connect the cable to the CAT-1000B at J6, the CAT-300 at J4 or the CAT-700B at J5. See Figure 1 below. Apply power to the controller.



DR-1000 Interface
Figure 1

DVR Control Selection

When the CAT-1000B or CAT-300 is initialized, selection defaults to the DVR-1000. Make sure the DVR-1000 is selected. Enter the programming mode, (unlock the controller) and use the [*280] programming command. If necessary enter the [*281] programming command to select the DVR-1000.

Format Digital Voice Recorder Memory

When power is first applied, format the DR-1000 memory. Memory is protected during power failures. To format the DR-1000, press the Format switch SW1 located on the board.

Signal Report Test

Key-up and send the DVR prefix code [725] followed by a [*]. Un-key and the voice will say: "START TEST NOW." Key-up and record a seven second message. Un-key and the test message will play back. You instantly know how your signal sounds through the repeater.

Track length

The DR-1000 consists of sixteen tracks of fixed lengths. They are:

Track #1	30 seconds	Track #9	10 Seconds
Track #2	30 seconds	Track #10	10 Seconds
Track #3	30 seconds	Track #11	6 Seconds
Track #4	30 seconds	Track #12	6 Seconds
Track #5	15 seconds	Track #13	6 Seconds
Track #6	15 seconds	Track #14	6 Seconds
Track #7	10 seconds	Track #15	6 Seconds
Track #8	10 seconds	Track #16	6 Seconds

Record DVR Tracks By Radio (01-16)

The CAT-1000B must be in the programming mode to record DVR tracks. Key-up and enter the seven digit unlock code. Once unlocked, key-up and send [*95XX]. Un-key and the voice will say: "START MESSAGE". Key-up and enter the message to be stored at track "XX". Un-key and the voice will say: "CONTROL OK". To review the message, key-up and send [*94XX]. Un-key and the CAT-1000B will play the message stored at track "XX". To erase a message, key-up and send [*96XX]. Un-key and the voice will say: "CONTROL OK". Tracks can be recorded, played or erased in any order. Total record time is four minutes. Maximum track length is thirty seconds. The DR-1000 cannot be used in a mailbox type application. It can only be used for announcement type messages.

Record DVR Tracks By Telephone (01-16)

Call the repeater by telephone. The CAT-1000B will answer and send a beep. Enter the seven digit unlock code followed by the [#]. Once unlocked, enter [*95XX#]. The voice will say: "START MESSAGE" and the record function will start. Speak into the phone to record the message. To stop the recording, press the [#]. Press and release the [#] quickly. The DR-1000 is programmed to automatically back-up and erase the [#] tone from the end of the message. The voice will say: "CONTROL OK". To review the message, enter [*94XX#]. Un-key and the CAT-1000B will play the message stored at track "XX" over the telephone. The CAT-300 will play the message over the transmitter. To erase a message, enter [*96XX#]. The voice will say: "CONTROL OK".

Audio Level Adjustment

Set the RECORD level control R3 and the PLAYBACK level control R4 to mid-range. This set the audio path through the DR-1000 at approximately unity gain. Use R3 and R4 to adjust the audio levels as desired. Measure the TX1 audio level at TP5 for the CAT-1000B or TP2 for the CAT-300. Adjust R4 so the playback audio at TP5 or TP2 is the same level as the audio of the original signal.

Expanded User Function Switches

The eight expanded user function switches are open collector relay drivers. Each driver can sink up to 80ma and switch 40VDC. When connected to the CAT-1000B, use the second expanded user function table, controlled by the [580] default prefix code. Place diodes across the relay coils to protect the driver from negative spikes produced when the relay coil collapses.

DR-1000 Diagram

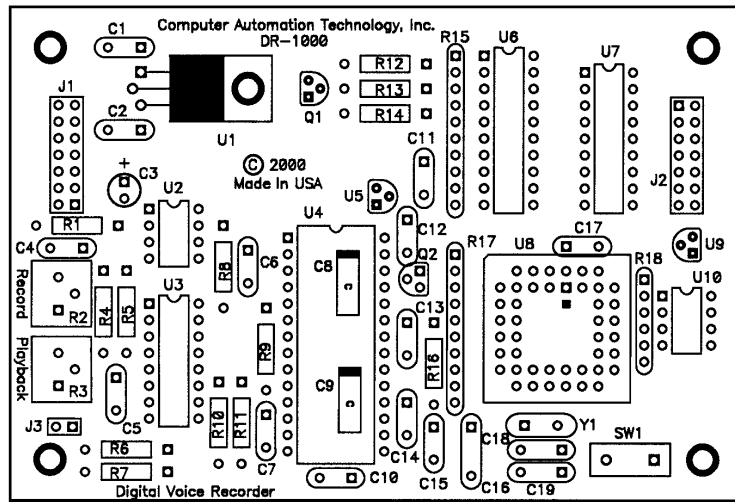
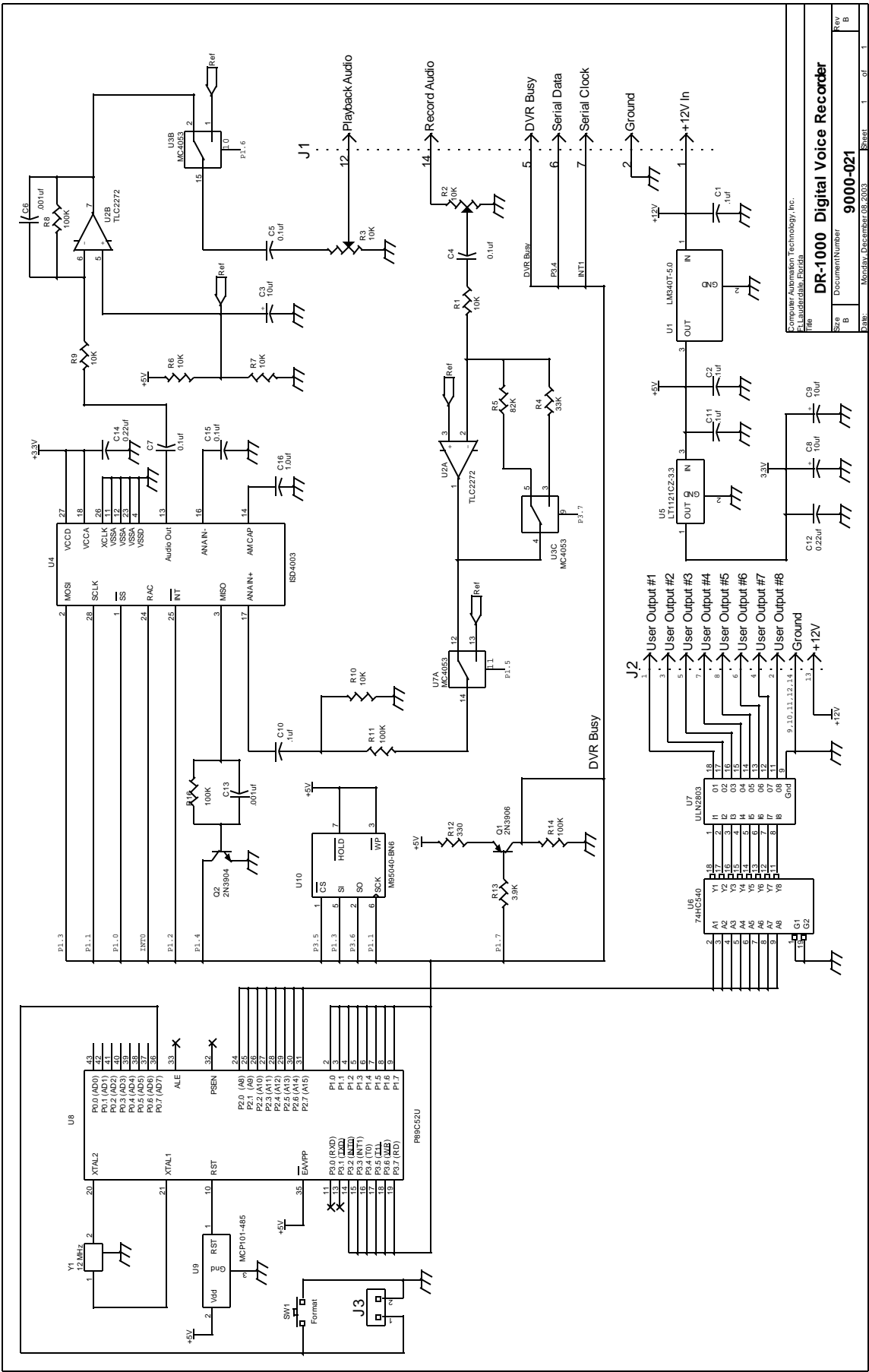


Figure 2

DR-1000 Part List

1	Capacitor	1.0uF 50V	C16
1	Capacitor	10uF 16V	C3
2	Capacitor	10uF (SM)	C8,C9
2	Capacitor	33PF 50V	C18,C19
2	Capacitor	.001uF 50V	C6,C13
2	Capacitor	.22uF 50V	C12,C14
8	Capacitor	0.1uF 50V	C1,C2,C4,C5,C7,C10,C11,C15
1	Crystal	12MHz	Y1
1	I.C.	ISD 4003-04MP	U4
1	I.C.	74HC540	U6
1	I.C.	LT1121CZ-3.3	U5
1	I.C.	MC4053	U3
1	I.C.	MCP101-485	U9
1	I.C.	AT89C51-12JC	U8
1	I.C.	NM25C040	U10
1	I.C.	LM340-5	U1
1	I.C.	TLC2272CP	U2
1	I.C.	ULN2803A	U7
1	Resistor	330 5% 1/4W	R12
1	Resistor	3.9K 5% 1/4W	R13
4	Resistor	10K 5% 1/4W	R1,R6,R7,R10
2	Resistor	33K 5% 1/4W	R4,R9
1	Resistor	82K 5% 1/4W	R5
4	Resistor	100K 5% 1/4W	R8,R11,R14,R16
2	Resistor	10K 10pin	R15,R17
1	Resistor	10K 6pin	R18
2	Resistor	10K Variable	R2,R3
1	Switch	Push-Button	SW1
1	Transistor	2N3906	Q1
1	Transistor	2N3904	Q2



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