

Professional Audio Service Bulletin

3M

Bulletin No.
Date

BULLETIN NO. 11

Subject: DOLBY interface with M-79 Professional Audio Recorder

Applicable to: M-79 Record which interface with DOLBY M series or DOLBY A-type units.

Purpose: Provide remote connection of DOLBY units to M-79 recorder

Remote connection of M series DOLBY units to M-79 (see figure 1).

1. Connect pin A-2 of each channel signal electronics pc board to pin 3 of the DOLBY unit through a suitable connector on the recorder chassis.
- * 2. Connect pin B-22 bus on signal electronic pc board pin 2 of ALL DOLBY units.
3. Insure R102 and R108 in CAT 44 Interface Module are 6.8 K ohms (earlier models had 2.7 K ohm or 3.3 K ohm resistors); if the resistors are not the correct values, replace them with resistors of the correct value.

NOTE: Increasing the resistor values to 6.8 K ohms increases remote sensitivity to 6 volts "ON" and 4 volts "OFF".

4. Correct operation is when the voltage between pin 2 and pin 3 of the DOLBY unit is 10.5 volts "ON" and 0 volts "OFF".

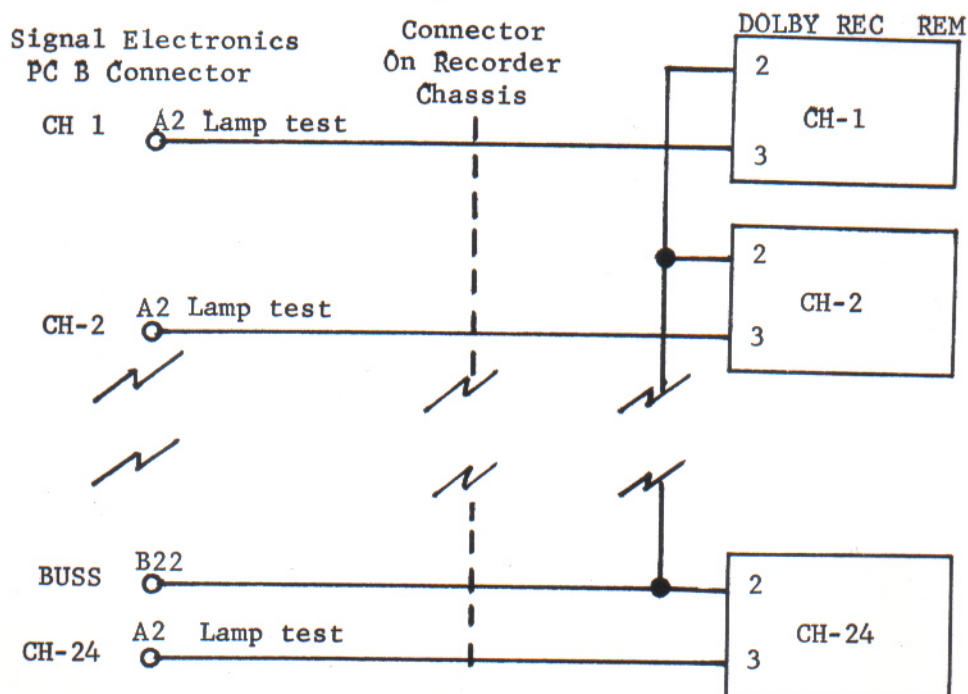


FIGURE 1

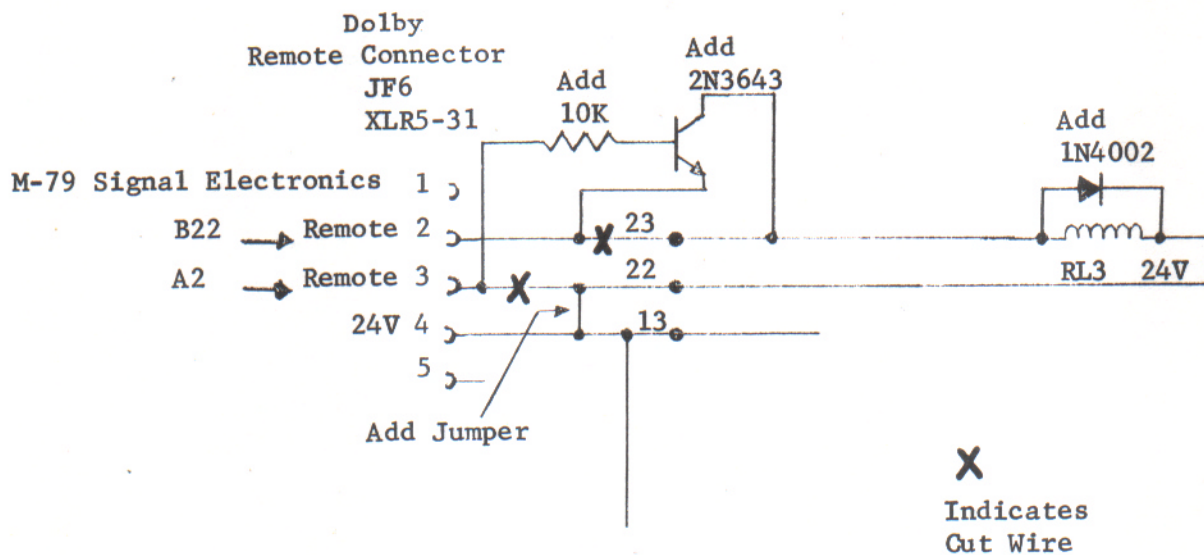
Remote connections of A-type DOLBY units to M-79

1. Connect Pin A2 of each M-79 Signal Electronics PC Board to Pin 3 of the DOLBY Remote Connector through a suitable connector on the recorder chassis.
2. Connect Pin B-22 buss on the M-79 Signal Electronics PC Boards to Pin 2 of ALL DOLBY units.
3. Modify DOLBY interface by adding circuit as shown in Figure 2.
NOTE: Refer to DOLBY 361 Interface circuit in the DOLBY Manual.

Parts Required:

- 1 ea. 2N3643 Transistor
- 1 ea. 10KΩ 1/4W Resistor
- 1 ea. 1N4002 Diode

FIGURE 2



NOTE: Added Circuit may be mounted on a Vector Board inside the DOLBY unit.

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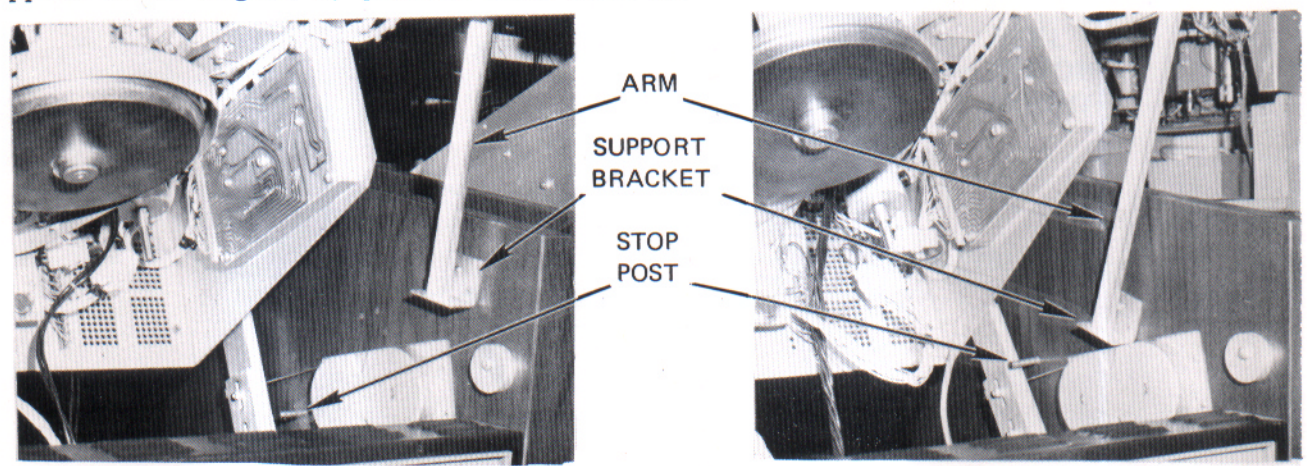
Bulletin No. #12B (Supersedes Bulletin #12A dated January, 1975)
Date July, 1980
SUBJECT: M-79 Conversion to 14" Reels
APPLICABLE TO: All M-79 Professional Audio Recorders 8, 16 and 24 Tracks
PURPOSE: Convert M-79 Recorders to 14" Reel Operation
MATERIAL REQUIRED:

<u>COMPONENT</u>	<u>DESCRIPTION</u>	<u>MINCOM CATALOG NO.</u>	<u>QUANTITY</u>
Qx	2N3643	83-1530-2234	1
Ra (See Table Pg. 5)	470 ohms	83-9520-2116	1
	1K ohm	83-9520-2088	1
	2K ohms	83-9520-2148	1
Rb	20K ohms, 1/4W	83-9520-2162	1
	Kit, Conversion To 14" Reels	83-5990-1595	1

CAUTION: 1) Use of 14" reels is not recommended for recording studio operation.
 2) When reels over 10 1/2" are used, operate the recorder at 7 1/2 or 15 IPS. Operation at 30 IPS with the over 10 1/2" reel will result in poor tape handling.

PROCEDURE:

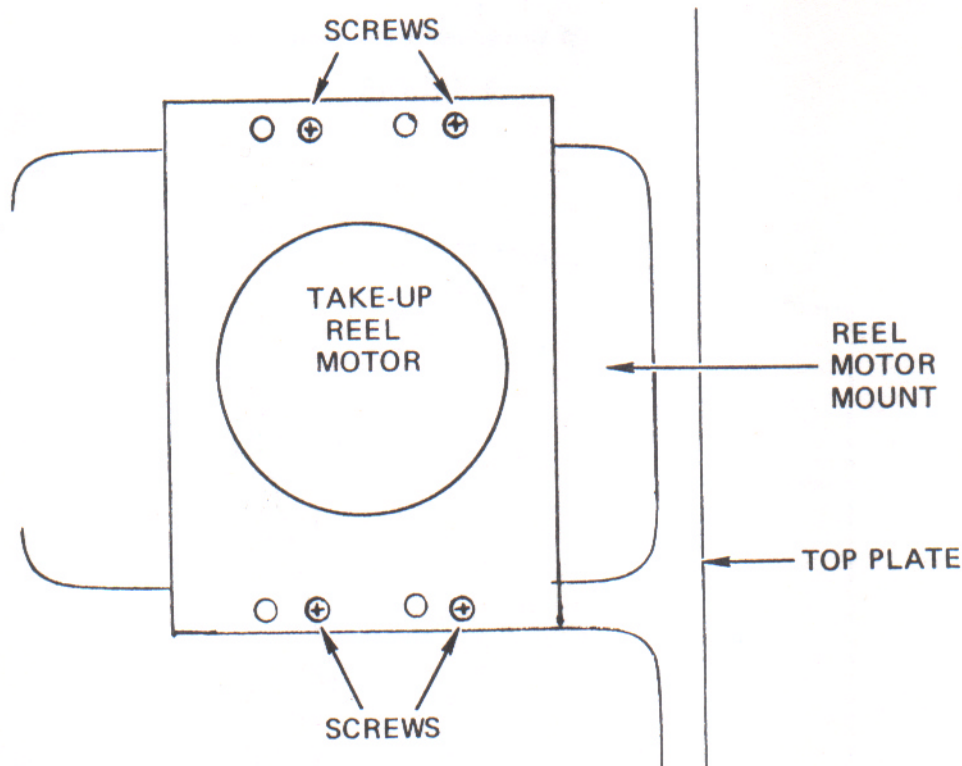
1. Raise the tape transport and observe the position of the support bracket and the stop post. If they appear as in figure 1, proceed with step 3. If they appear as in figure 2, proceed with step 2.



Correct Positions
 FIGURE 1

Older Model Positions
 FIGURE 2

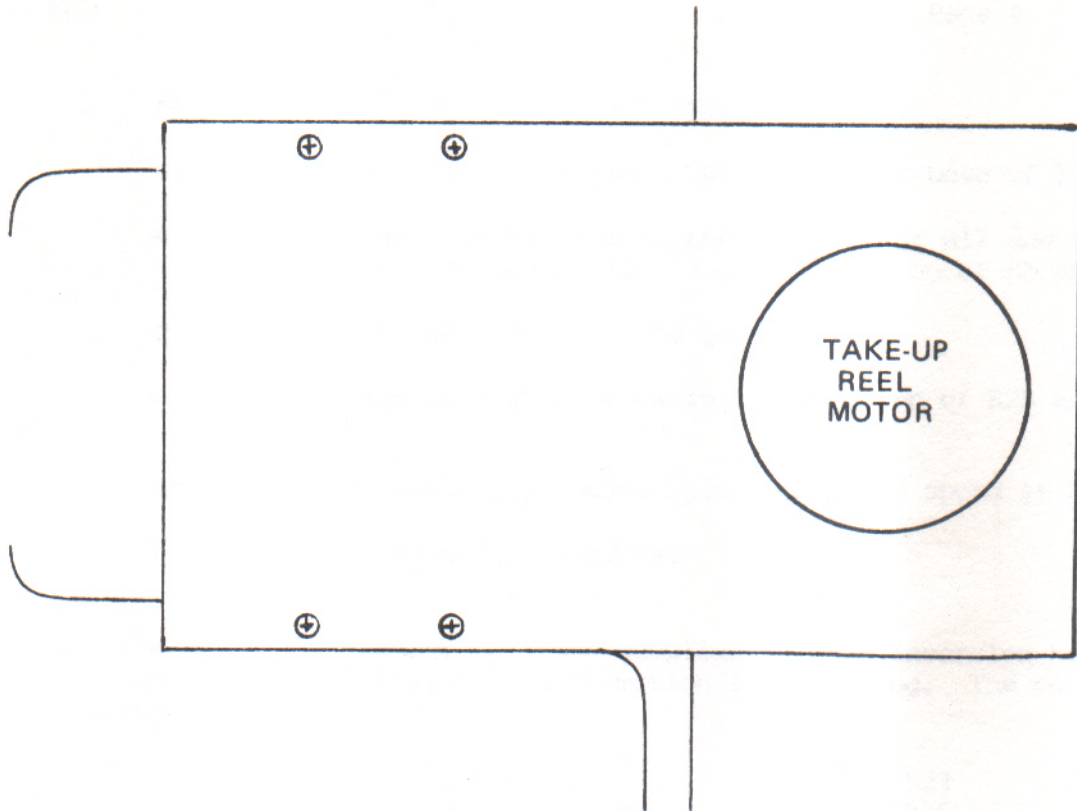
2. Modify the recorder to match figure 1 as follows:
 - a. Relocate support bracket using the template (figure 5) to locate the holes to be drilled.
 - b. Relocate the stop post so it is centered approximately 1 inch behind the pulley (see figure 1) by drilling a 1/4 inch hole and glueing in post.
 - c. Remove existing arm and replace it with a new 11 inch arm (part of conversion kit).
3. Disconnect supply and take-up motor connectors from wiring connectors; remove the four (4) screws holding each reel motor mounting plate and remove motor assembly (see figure 3).
4. Install motors on new motor mounting brackets (supplied in kit).
5. Install reel motor assemblies on recorder top plate (see figure 4). Install harness assemblies (supplied with kit) between respective motor assembly connector and wiring connectors.
6. Install new tape transport cover (supplied with kit).



Existing Take-up Reel Motor Mount *

FIGURE 3

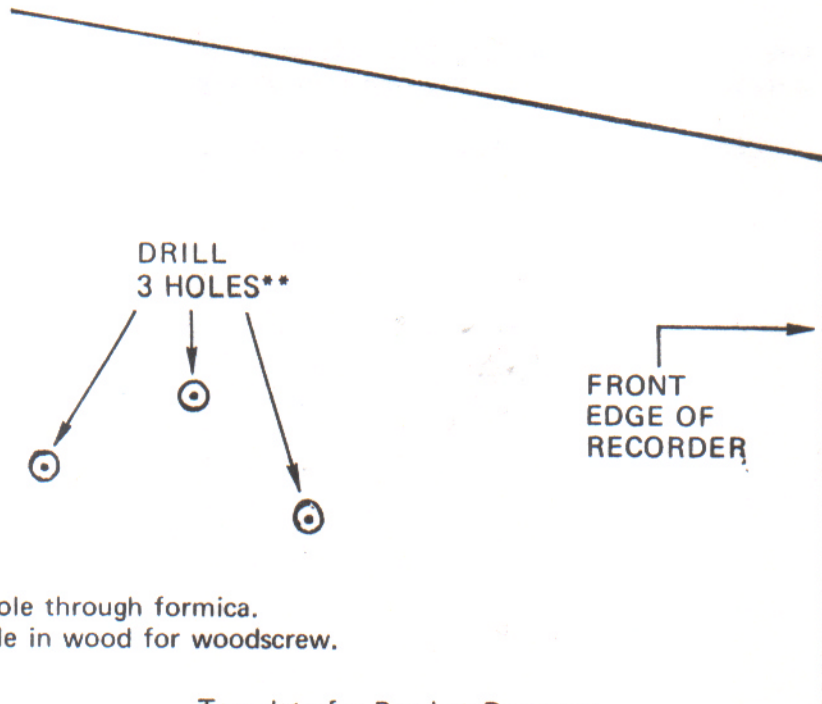
* Supply reel mount is identical to take-up reel mount.



New Reel Take-Up Motor Mount*

*Supply reel mount is identical to take-up reel mount.

FIGURE 4



** 1) Drill 3/16" hole through formica.
2) Drill 1/8" hole in wood for woodscREW.

Template for Bracket Remount

FIGURE 5

7. Modify Capstan Servo p.c. board (see figure 6).
 - a. Connect resistor Rb between GROUND and the base of Transistor Qx.
 - b. Connect resistor Ra between the junction of R17 and C7 (junction nearest to p.c. board side) and the junction of Rb and Qx base.
 - c. Connect the emitter of Qx to ground.
 - d. Connect the collector of Qx to the junction of R28 and IC1B pin 13.
8. Adjust capstan servo p.c. board pulse width and speed if necessary.
9. Perform reel alignment procedure.

NOTE: In the event replacement of items supplied in the conversion kit becomes necessary, use the following information for ordering. The conversion kit contains the following:

1.	Plate, reel motor	83-3330-0523	2 ea.
2.	Cover, tape transport	83-3310-1925	1 ea.
3.	Harness Assy (Takeup)	83-4570-0946	1 ea.
4.	Harness Assy (Supply)	83-4570-0947	1 ea.

NOTE: If your M79 is configured as shown in Fig 2, you must order the shorter support arm separate from the conversion kit.

Arm, Support (11 inches)	83-3340-0895	1 ea.
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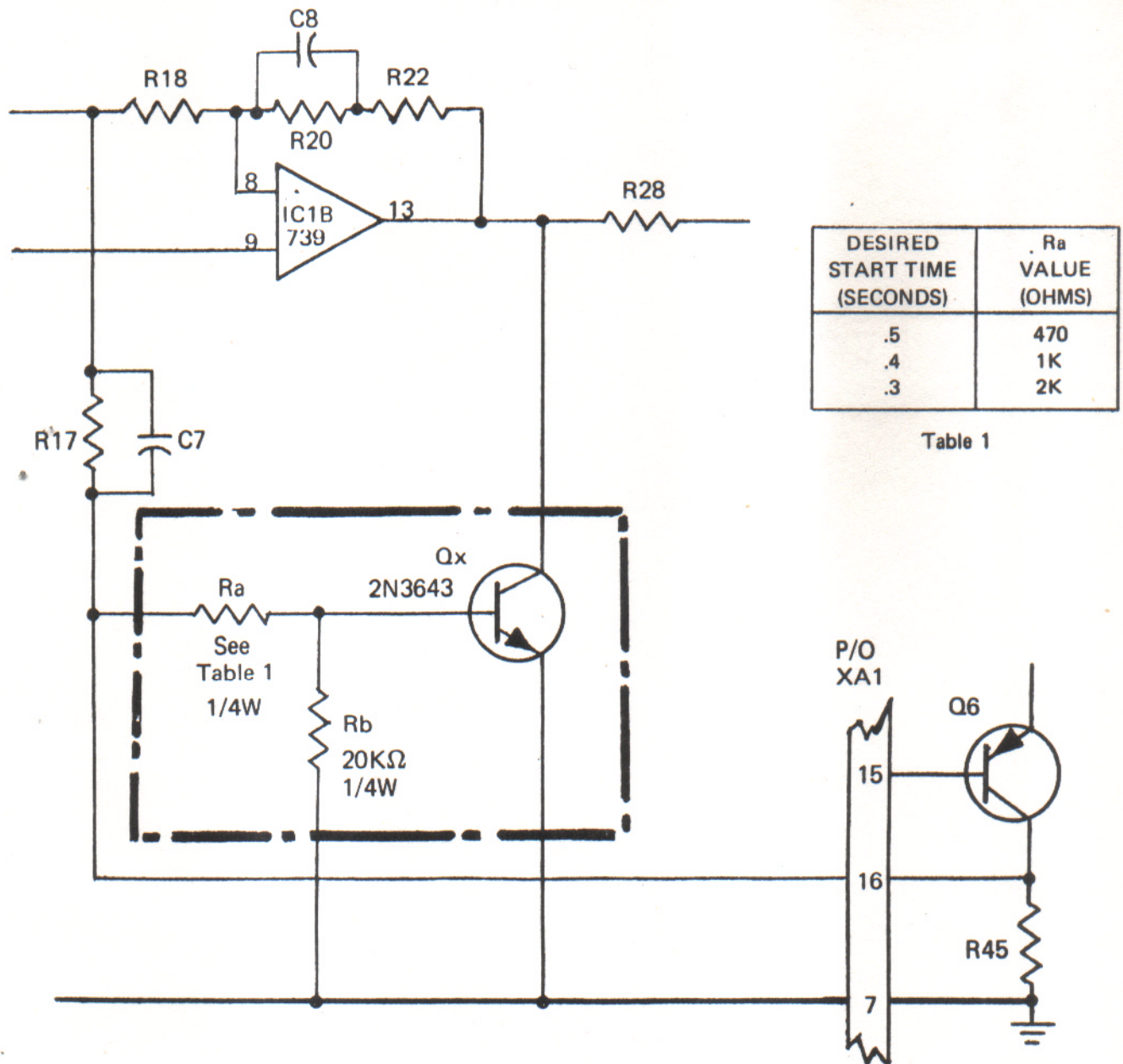


FIGURE 6

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BULLETIN NO. 13

SUBJECT: Modification to Function Switch Assemblies

APPLICABLE TO: All M-79, 8, 16 and 24 Track Machines

PURPOSE: To improve Reliability of the Mute Function during forward and rewind operation.

PARTS REQUIRED: Diode 1N914, Mincom Catalog No. 83-1530-0083, 1 per Function Switch Assy.

PROCEDURE:

Excessive leakage through CR-6 (type 1N270 diode) in the Function Switch Assembly can cause muting to fail in forward and rewind modes. This condition occurs when the leakage is sufficient to set the flip-flop IC1-C/IC1-D on the signal electronics pc board to the sync condition (IC1-D pin 11 low) turning on FET Q-34.

To eliminate possible muting failures, replace CR-6 with a type 1N914 diode on each Function Switch Assembly.

Change the Instruction Manual schematic and parts list to reflect the new diode type.

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BULLETIN NO. 14

SUBJECT: Modification of Record Amplifier Circuitry

APPLICABLE TO: All M-79 Recorders

PURPOSE: Improve the low frequency response of the amplifier

REQUIRED PARTS:	<u>Component</u>	<u>Description</u>	<u>Mincom Catalog No.</u>	<u>Quantity per Board</u>
	Capacitor	.0027 μ f, 200V, 5%	83-1510-4575	1
	Capacitor	6.8 μ f, 35V, 10%	83-1510-6144	1
	Resistor	15K ohms, 1/4W, 2%	83-1520-7231	1
	Resistor	2.2M ohms, 1/4W, 5%	83-1520-0487	1

PROCEDURE:

Replace the following components in the record amplifier with component having the values indicated.

<u>Component Designation</u>	<u>New Component Values</u>
C-23	.0027 μ f, 200V
C-53	6.8 μ f, 35V
R-50	15K ohms, 1/4W
R-55	2.2 Megohms, 1/4W

Check Recorder alignment and adjust if necessary.

Change Instruction Manual schematics and parts list to reflect the component values and catalog numbers.

GM:rb
October, 1974

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BULLETIN NO. 15

SUBJECT: Modification of Line Amplifier Circuitry
APPLICABLE TO: All M-79 Recorders
PURPOSE: Prevent possible high frequency oscillations in the line amplifier

REQUIRED PARTS:	<u>Component</u>	<u>Description</u>	<u>Mincom Catalog No.</u>	<u>Quantity per Board</u>
	Capacitor	.001 μ f, 1000V, 10%	83-1510-1024	1

PROCEDURE:

1. Drill two holes .030/.035 inches in diameter at points in figure 1.

CAUTION

Do NOT drill into traces on the back of the board.

2. Install the .001 μ f capacitor (designated C61) by inserting leads through new holes, bend leads to touch adjacent traces, then solder.
3. Check Recorder alignment and adjust if necessary.
4. Change Instruction Manual schematics (see figure 2) and parts list to reflect the new capacitor, C-61.

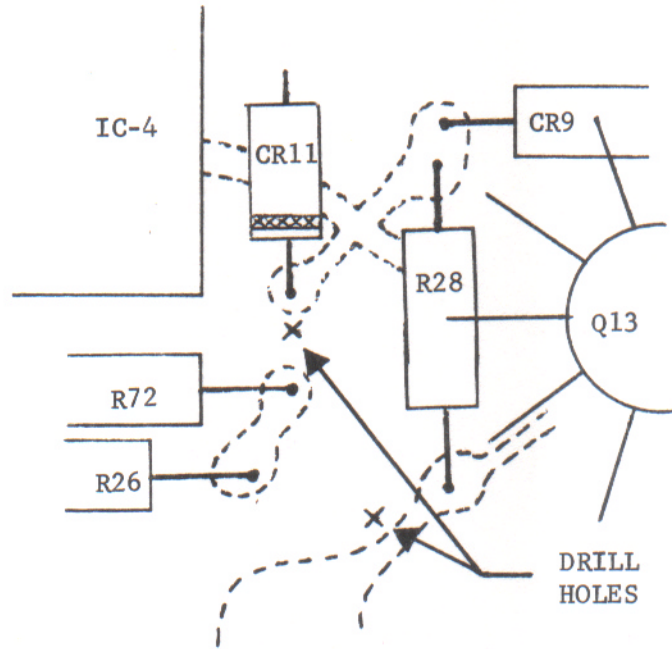


FIGURE 1

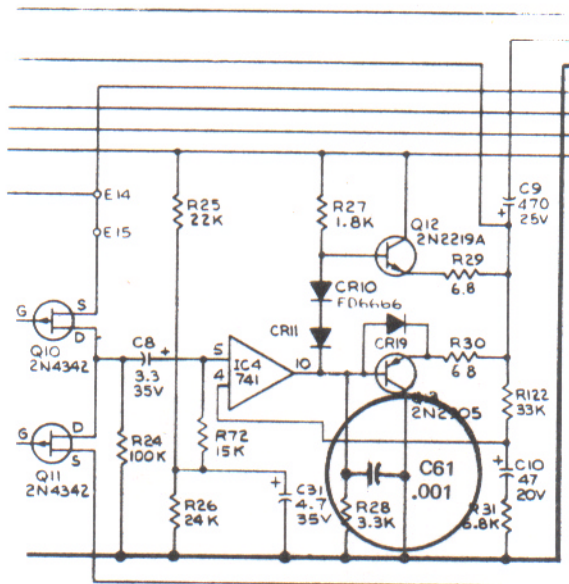


FIGURE 2