

Professional Audio Service Bulletin



Bulletin No.
Date

BULLETIN NO. 1

SUBJECT: Signal Electronics PC Board FET Replacement

APPLICABLE TO: All M-79 Signal Electronic PC Boards which use Motorola FET'S

PURPOSE: To improve the reliability of the Signal Electronics PC Boards

REQUIRED PARTS: Transistor 2N4342 or 2N4343, Manufactured by Fairchild or National ONLY, Mincom Catalog No. 83-1530-2462

PROCEDURE:

- I. Replace all Motorola 2N4342 transistors on the signal electronic PC board with Fairchild or National components.
- II. Change the Instruction Manual signal electronic PC board parts list to read FAIRCHILD or NATIONAL instead of MOTOROLA for Q10, Q11, Q18, Q19, Q20, Q25, Q26, Q27, Q28, Q34 and Q35.

Professional Audio Service Bulletin

3M

Bulletin No.
Date

BULLETIN NO. 2

SUBJECT: Replacement of MURA type Meter Lamps

APPLICABLE TO: ALL M-79 Professional Audio Recorders

PURPOSE: Improved Lamp Reliability

REQUIRED PARTS: 1) Lamp, Type 388, Mincom Catalog No. 83-1550-2689
2) Lamp Holder, Mincom Catalog No. 83-1620-0294

PROCEDURE:

- I. Remove MURA type meter lamp from the white line cap above the meter and unplug the wires from meter mother board.
- II. Solder wires on lamp holder 83-1620-0294 in place of the removed wires on the mother board (see Figure 1).

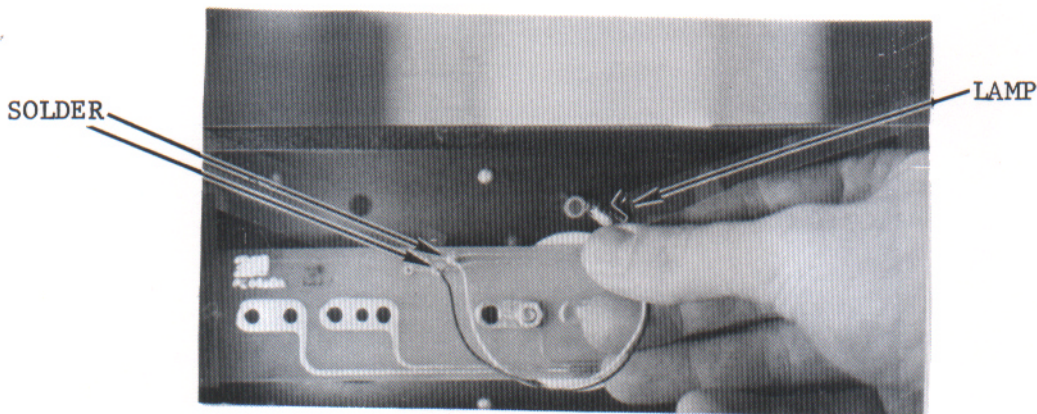
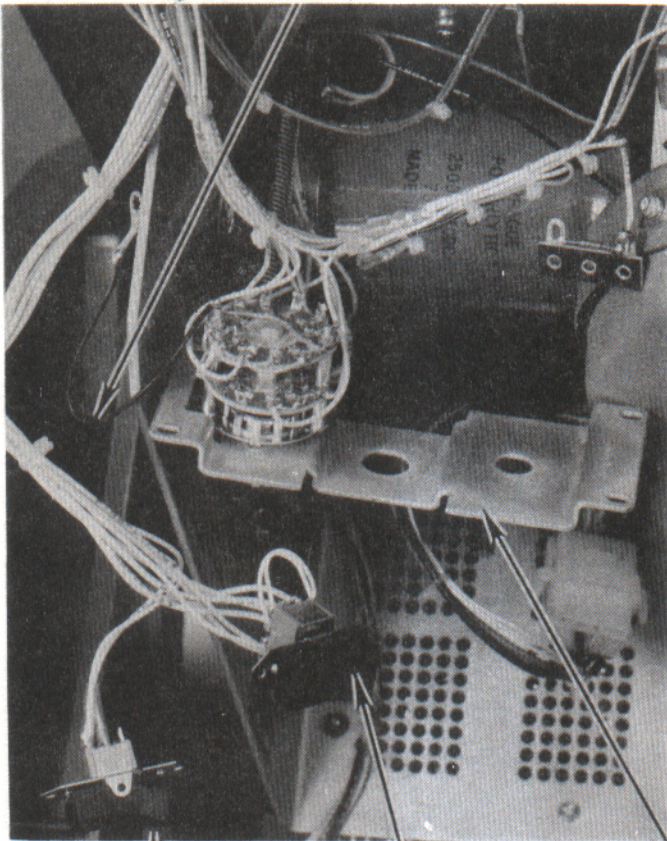


FIGURE 1

- III. Insert the lamp, type 388, in holder (83-1620-0294) and insert entire assembly in the white lens cap.
- IV. Future replacement of failed lamp will be accomplished by replacing the lamp only.

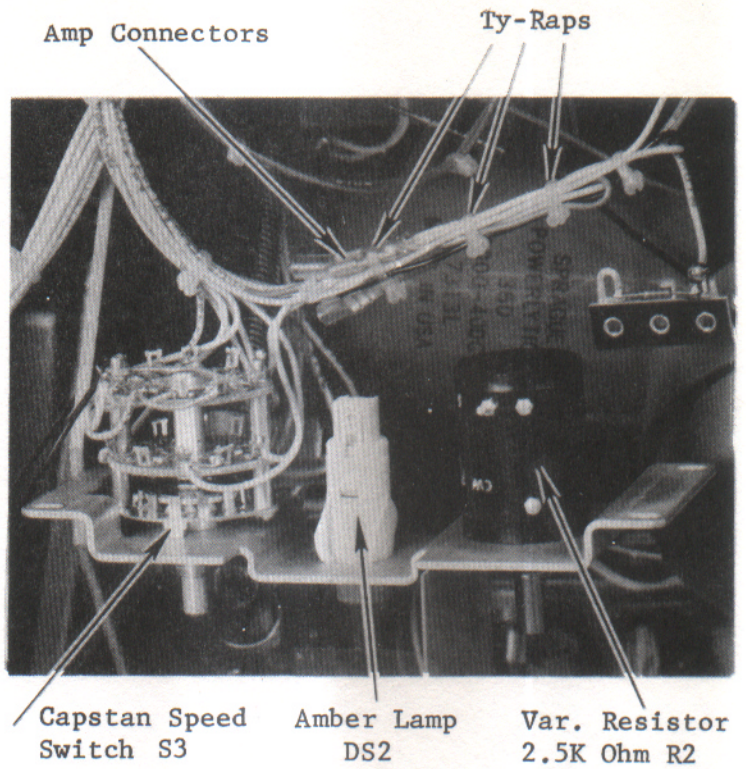
December 1973

Ground Wire



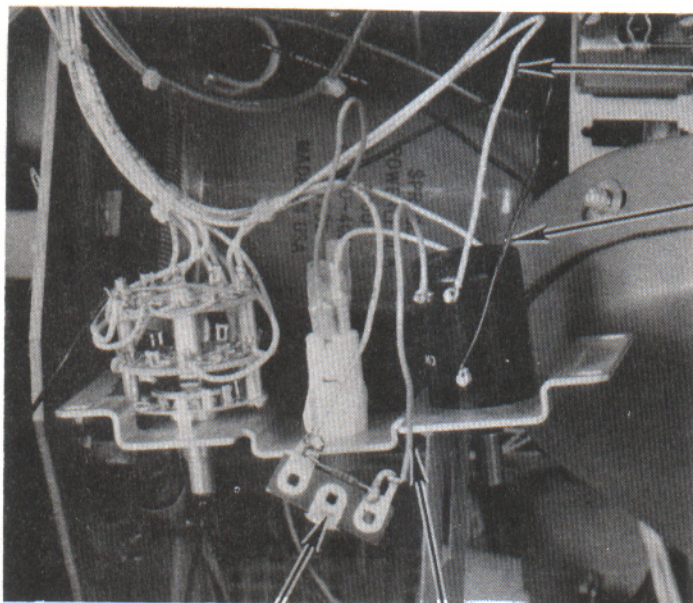
Power Switch Reel Balance Switch Capstan Speed Switch Assy.

FIGURE 1



Amp Connectors Ty-Raps
Capstan Speed Switch S3 Amber Lamp DS2 Var. Resistor 2.5K Ohm R2

FIGURE 2

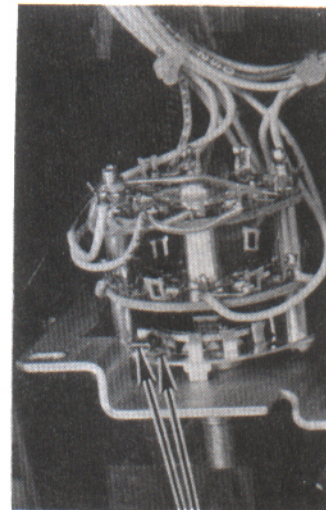


White 22 ga. Wire
R2/1 → 104J2A

Black 22 ga.
R2/3 → TB3

TB 5 22 ga. Wire 3"
To Wiper of R2

FIGURE 3



TABS

FIGURE 4

Professional Audio Service Bulletin



Bulletin No.
Date

BULLETIN NO. 3

Subject: Change Current Limiting of Transport Power Supplies

Applicable to: Custom Electronics Design Power Supplies
Serial No. 007 through 090

Materials Required: Resistor 51 ohms, 1/2 watt, 5%
Catalog No. 83-1520-7222 - 1 each

Purpose: Increase power supply fold-back current limiting point
from 16 amps to 18-20 amps

Procedure: Remove resistor R-7 for printed circuit board and
replace with the 51 ohm resistor.

Professional Audio Service Bulletin



Bulletin No.
Date

5A (Supersedes Bulletin #5 dated January, 1974)
JULY, 1979

SUBJECT: Signal Electronics PC Board Modification to Read Digital Code (SMPTE) at Rewind and Fast FWD Speeds.

APPLICABLE TO: All M-79 Professional Audio Recorders using SMPTE Time Code Equipment.

PURPOSE: To Extend Signal Bandwidth

REQUIRED PARTS:

1 ea.	10K ohm 1/4W Resistor	Mincom Catalog #83-1520-7308
1 ea.	IC-LM318	Mincom Catalog #83-1530-8263
2 ea.	.01 uf Capacitors	Mincom Catalog #83-1510-1048
1 ea.	15pF Capacitor	Mincom Catalog #83-1510-5265

PROCEDURE: In most cases, the last or edge track is modified to read code in the electronics, i.e., track 8 on 8 track machine.

1. Install R127, the 10K 1/4W resistor: See Note 6 of the Signal Electronics Schematic, Figure 6-10 or 6-12 of the M-79 Manual.
2. Remove CR5, 1N270 (Clip out).
3. Remove IC4, the 741, and install a .01 uf capacitor from the socket of IC4 pin 11 to ground. NOTE: Install the capacitor as close as possible to pin 11.
4. Install the LM318 in place of the 741.
5. Install a .01 uf capacitor from the collector of Q32 in the reproduce pre-amp to ground. Install this capacitor as close as possible to the collector.
6. Install the 15pF capacitor from pin 3 to pin 10 of IC4.
7. Remove (clip out) L1 and C5 in the line amp circuit.
8. De-tune the 15 ips equalizers, both Norm and Sync, by turning all 6 pots fully CCW.

WT/Mincom Division

Professional Audio Service Bulletin



Bulletin No.
Date

BULLETIN No. 6

SUBJECT: Modification to Eliminate Power Off Erase Surge

APPLICABLE TO: All M-79 Signal Electronics Printed Circuit Boards

REQUIRED PARTS:

<u>Description</u>	<u>Mincom Catalog No.</u>	<u>Quantity</u>
Transistor - 2N3905	83-1530-2281	One per P C Board
Resistor - 2K 1/4W 2%	83-1520-7203	One per P C Board
Resistor - 30K 1/4W 2%	83-1520-7281	One per P C Board
Resistor - 11K 1/4W 2%	83-1520-0368	One per P C Board

PROCEDURE:

- 1) Remove Power from machine.
- 2) Remove Track 1 Signal Electronics Board from housing.
- 3) Remove R6 and replace with 11K 1/4W 5% resistor.
- 4) Drill 4 holes using a .030/.035 diameter drill as shown in Figure 1. Use Caution not to drill into traces on the component side of the board.
- 5) Cut trace as shown in Figure 1.
- 6) Remove Q7 the 2N3903 and replace with the 2N3905 transistor as shown in Figure 2.
- 7) Install R137 the 2K 1/4W resistor as shown in Figure 2.
- 8) Install R138 the 30K 1/4W resistor as shown in Figure 2 use teflon tubing on the leads.
- 9) Solder component leads to traces shown in Figure 1 and brush clean all joints.

Professional Audio Service Bulletin



Bulletin No.
Date

BULLETIN No. 6

SUBJECT: Modification to Eliminate Power Off Erase Surge

APPLICABLE TO: All M-79 Signal Electronics Printed Circuit Boards

REQUIRED PARTS:

<u>Description</u>	<u>Mincom Catalog No.</u>	<u>Quantity</u>
Transistor - 2N3905	83-1530-2281	One per P C Board
Resistor - 2K 1/4W 2%	83-1520-7203	One per P C Board
Resistor - 30K 1/4W 2%	83-1520-7281	One per P C Board
Resistor - 11K 1/4W 2%	83-1520-0368	One per P C Board

PROCEDURE:

- 1) Remove Power from machine.
- 2) Remove Track 1 Signal Electronics Board from housing.
- 3) Remove R6 and replace with 11K 1/4W 5% resistor.
- 4) Drill 4 holes using a .030/.035 diameter drill as shown in Figure 1. Use Caution not to drill into traces on the component side of the board.
- 5) Cut trace as shown in Figure 1.
- 6) Remove Q7 the 2N3903 and replace with the 2N3905 transistor as shown in Figure 2.
- 7) Install R137 the 2K 1/4W resistor as shown in Figure 2.
- 8) Install R138 the 30K 1/4W resistor as shown in Figure 2 use teflon tubing on the leads.
- 9) Solder component leads to traces shown in Figure 1 and brush clean all joints.

Professional Audio Service Bulletin



Bulletin No.
Date

#7

FEBRUARY, 1974

SUBJECT:

Pendar Switch #S13011, Mincom Catalog Number 83-1550-5467

APPLICABLE TO:

All M-79, M-56, M-64 and M-23 Machines

When ordering replacements and spares in all cases except in the M-56 Remote Box, Pendar Switch #S13011 will be replaced by Pendar Switch #S180-11, Mincom Catalog No. 83-1550-5177.

WT/MINCOM DIVISION

Professional Audio Service Bulletin



BULLETIN NO. 8

Bulletin No.
Date

Subject: Modification to Eliminate Possible Sync Oscillation

Applicable to: All M-79 Professional Audio Recorders

Procedure:

- 1) Remove power from machine.
- 2) Remove Track 1 Signal Electronics board from housing.
- 3) Remove L-10, 100uh coil and replace with 110 ohm, 1/4W, 5% resistor (Mincom Catalog No. 83-9520-2131 or 83-1520-0353).
- 4) Remove C-54, .0047uf capacitor and replace with 75k ohm, 1/4W, 5% resistor (Mincom Catalog No. 83-9520-2171 or 83-1520-0377).
- 5) Repeat steps 3 and 4 for each Signal Electronics board in the particular M-79 that is to be modified.
- 6) Change Signal Electronics board schematic to reflect these changes.

February 1974

Professional Audio Service Bulletin



BULLETIN NO. 9

Bulletin No.
Date

Subject: Modification Instructions for the M-79 Logic and Master Bias Supply PC Board to eliminate Bias Beating when two machines are operated in close proximity to each other.

Procedure:

Tools necessary to accomplish task:

1. Drill Motor
2. No. 70 Twist Drill

Parts necessary to accomplish task:

<u>Part</u>	<u>Mincom Catalog No.</u>	<u>Quantity</u>
Coil, 100 μ h	83-1540-0535	1
Capacitor, 4.7 μ f, 35V	83-1510-6210	2

- 1) Remove all power from machine.
- 2) Remove the following from Logic and Master Bias Supply PC Board in sequence:
 - a) Connectors
 - b) 2; 6-32 Hold Down Screws
 - c) PC Board from machine.
- 3) Place board on bench component side up and three connectors facing toward you.
- 4) Locate P-5. It will be to the extreme right of the board. Locate contact 9 and note that trace runs from contact 9 to the bottom side of C-26. Cut this trace.

February 1974

RM-TSBA

- V. Utilizing the drill motor and the #70 twist drill, put 6 holes thru the PC Board. Location of these holes are as follows: (See Figure I)
- A. Top of Contact Finger #9
 - B. Top of contact Finger #7
 - C. Between contact Finger #9 and cut in trace.
 - D. In trace running to the left of C-26 near lower left hand edge of C-26.
 - E. Between cut in trace and bottom of C-26, drill 2

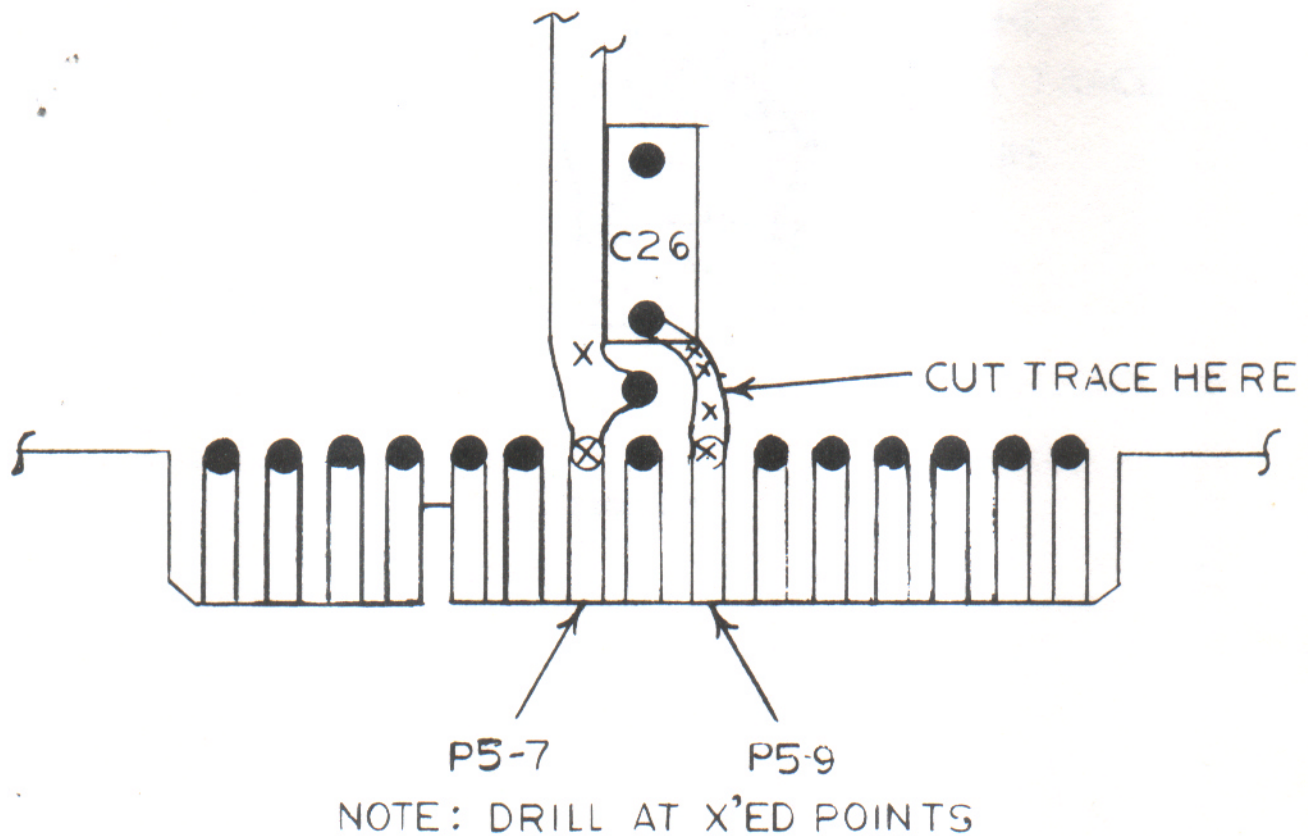


FIGURE 1

- VI. Install 4.7uf capacitor between holes drilled at top of contacts 7 & 9.
(See Figure 2)
- VII. Install 4.7uf capacitor between holes drilled just below and to the left and right of C-26. (See Figure #2)
- VIII. Install 100μh coil in two remaining holes (See Figure 2)

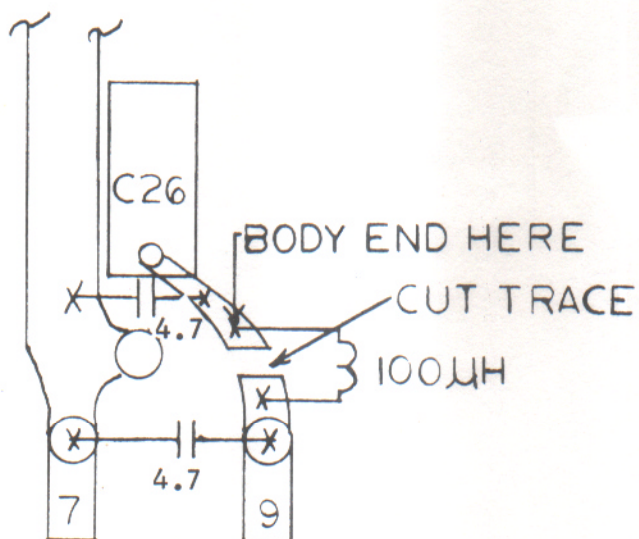


FIGURE 2

Professional Audio Service Bulletin

3M

BULLETIN NO. 10

Bulletin No.
Date

Subject: Logic Board Modification to Prevent Overdissipation of Bias Oscillator Resistors

Applicable to: All M-79 8, 16 & 24 Track Recorders

Parts Required: 2 ea. 33 ohm 2W Resistor - Mincom Catalog No. 83-9520-5514
1 ea. 10 ohm 2W Resistor - Mincom Catalog No. 83-9520-5508
3 ea. Nylon Washer - Mincom Catalog No. 83-9630-0435
1 1/2" AR #16 Teflon Sleeving

Procedure:

This modification involves changing R-174, R-164 and R-165 from 1/2 watt to 2 watt values.

- 1) Remove Logic Board from machine.
- 2) Unsolder and remove R-164, R165 and R174.
- 3) Enlarge Resistor lead holes in pc board using a #54 drill to accept new resistor leads.
- 4) Install 33 ohm 2W resistor in place of R164 and R165 (see figure 1).
- 5) Install 10 ohm 2W resistor in place of R174 (see figure 2).
- 6) Install Logic Board in machine.
- 7) Change instruction manual parts list and schematic to reflect the changes.

