



Customer Service

A Harman International Company

3 Oak Park Bedford, MA 01730

Tel (781) 280-0300, Fax (781) 280-0499

email: csupport@lexicon.com

M300 REPAIR PROCEDURE

The purpose of this document is to assist authorized Lexicon Service technicians in repairing and updating returned units to current manufacturing standards. This and its associated procedures are the factory repair standard and are recommended to authorized distributor service centers. This procedure is to be used in conjunction the product service manual, technical bulletins and with standard performance verification, troubleshooting and QC procedures. Some of the information contained herein may be proprietary in nature and should be treated by Lexicon and its representatives as such.

Part 1. Mandatory repairs ALL RETURNS

1. Confirm complaint(s) and repair.
2. Clean all jacks with nonresidue spray.
3. Seat all components in sockets.
4. Inspect for any cracked or otherwise damaged components.
5. Clean unit inside and out.
6. Check all cables as to condition and proper connection.
7. Check for all ECOs based on revision of PCB's. Incorporated as needed at time of repair.
8. ECO 910314-01 Check installation of R106 per ECO.
9. ECO 910410-02 ANALOG BD, REV 1-4; Add two (2) daughter boards to the Analog Bd, to correct differential output line driver signal balance ratio. **ONLY** if customer registers a complaint.
10. ECO 911205-00 AES INTERFACE BD Rev 1 & 2;
 - Release V1.10 firmware to implement fix for slave recovery from missing or intermittent external digital input (external clock).
 - Change gain on RCA SPDIF digital input receiver to improve noise immunity to corrupt signals received through RCS SPDIF 1/P.
11. ECO 911210-00 Front Panel, change the "RUN" button to read "SETUP SELECT" to avoid confusion by the user. Marketing requested modification.
12. ECO 920117-01 ANALOG MAIN BD, Rev 4, check for removal of OP signal ground per ECO.
13. ECO 901227-00 Add RTV to add support to battery to prevent from breaking in the field on HOST Bd.
14. ECO 921118-00 Install Version 1.11 at time of repair or when customer calls call with a problem of recording through the digital interface. This is bug in version 1.10 only.
15. ECO 930616-01 PS Heatsink Assembly - add washers (2 - lock split #6, P/N 644-01740) to +5V digital regulator mounting (torque 6-8 in/lbs).
16. ECO 931203-00 V3.50 UPGRADE - **all Consignment, New and R/E Stock; CUSTOMER UNITS ONLY IF PURCHASED! IF CUSTOMER UNIT HAS V3.?? (OTHER THAN 3.5) INSTALL V3.5!**
17. ECO940105-00 Corrects layout - BAT1 positive terminal too close to a via carrying D2 signal. New Rev-7 PCB. **All Rev 6 boards should be inspected and reworked:** using needle nose pliers, carefully bend positive terminal lead away from circuit via. Shock Test failures resulting in BUSS ERROR have been encountered.
18. ECO940411-00 Changes AES termination - AES Bd: Delete 202-07779 1/2W 240ohm resistor at R7 and Add 202-08190 1/4W 110ohm



Customer Service

A Harman International Company

3 Oak Park Bedford, MA 01730

Tel (781) 280-0300, Fax (781) 280-0499

email: csupport@lexicon.com

M300 REPAIR PROCEDURE

Part 2. Optional repairs AS NEEDED

1. ECO 930412-00 Change resistor R7 on PS Bd from 3k ohm (202-00537) to 4.99k ohm (203-00464) change pfail circuit so pfail/ happens before +5v starts losing regulation.
2. ECO 930426-00 Analog Bd, all Revs. Change resistors at locations R57 and R82 from 470k ohm (202-00579) to 200k ohm (202-00576) to provide more offset adjust range on calibration of PCM56
3. ECO 971218-00 **USE LEXICHIP 2A ONLY IN M300/L**. NEW PART NUMBER CREATED, 330-12589
4. ECO 990402-00 Obsolete part replacement; Lexicon P/N 430-02285 LED,RED,.118DIA; Locations: Host Bd. D2, 3 [MFR P/N PR39325 - Stanley: obsolete]. Use Lexicon P/N 430-13706 LED,RED,.118 DIA,3MCD Note: any existing Lexicon stock of P/N 430-02285 reserved for use on M41, M42 and M2400 service.
5. ECO 990401-00 The following Manufacturer has been deleted from the approved vendor list for Lexicon P/N 355-07542 DAC,AD7628,CMOS,2X8BIT,MDAC: Maxim MX7628KN. Note: the Maxim part does not always work in the M300 & M300L due to a timing violation between A/BSEL and LINWR/, RINWR/, LOUTWR and ROUTWR/ signals. Only Analog Devices parts are used in new production and should be used service failure replacements.
6. ECO 000808-01 FP Processor Board - correct encoder resolution with 36-position encoder (P/N 452-09762): Replace U2, 350-08574 IC,ROM,27128,M300 FP,V2.01 with 350-08059 IC,ROM,27128,M300 FP,V1.0. Note: P/N 350-08574 should be used with any M300 FP with encoder P/N 452-04233 SW,RTY,INC ENCODER,50 POS. P/N 350-08059 may be used with encoder P/N 452-09762 SW,RTY,ENCODER,36 POS,VERT MNT. Note, first serial number with 36 position encoder and V1.00 ROM (350-08059) is SN: 4947. Update customer units as requested. Update all Lexicon inventory returned to stock.

Part 3. Troubleshooting notes

1. Failing ATE due to high freq distortion in A/D portion of board while DSP Bd is running a program, ECO 900716-00
2. Unit fails recording through the digital interface, with version 1.10 installed. Refer to ECO 921118-00.
3. DW 930625-00 analog Devices part OP-275 added to spec for Lexicon P/N 340-07565 Ic Linear MC33077
4. M300 ATE released for V3.00 010-08389 (ATE files) and 010-08390 (ATE Descriptions).
5. DCR931111-06 Analog Devices OP-275 added as a second source for P/N 340-07565 (MC33077). NOTE: MC33078 is NOT a recommended substitution - higher voltage offsets.
6. 940105-00 Corrects layout - BAT1 positive terminal too close to a via carrying D2 signal. New Rev-7 PCB. All Rev 6 boards should be inspected and reworked: using needle nose pliers, carefully bend positive terminal lead away from circuit via. Shock Test failures resulting in BUSS ERROR have been encountered.



Customer Service

A Harman International Company

3 Oak Park Bedford, MA 01730

Tel (781) 280-0300, Fax (781) 280-0499

email: csupport@lexicon.com

M300 REPAIR PROCEDURE

7. 970418-02 Alps encoder, Lexicon P/N 452-04233 SW,RTY,INC ENCODER,50 POS discontinued. Replace with P/N 452-09762 SW,RTY,ENCODER,36 POS,VERT MNT (Noble part).
 - ECO980417-00 Replace discontinued Motorola part MC68008, P/N 365-04594 with 024-12910 ADPTR BD,ASSY,68008 [Note: for spare parts sales, 023-12909 ADPTR BD,PRE-TEST,68008]. Use existing stock of P/N 365-04594 for repair of older M300/M480L. . Replacement has not been tested in older revs but may work.

Part 4. Engineering change orders

1. 890707-00 Sub panel front change cable slot size.
2. 890724-00 Add keyboard support 702-07474.
3. 890824-01 Delete 641-06758 add 640-08061 hardware cost reduce
4. 890828-00 550-07573 changes so to fit PCM-x as well
5. 890831-00 FP Add U19,SW32 (BOM errors)
6. 890922-00 Bom change delete mem x2 add 1 meg mem x2
7. 890928-00 Demensions front panel
8. 890928-01 Drill dwg aes brd
9. 891006-00 Drill dwg host brd
10. 891011-00 Mechanical drawing changes knob, cover, bracket, support, front panel & box.
11. 891017-00 Front panel lense changes
12. 891019-00 Chassis & Front panel B.O.M. changes
13. 891106-00 Button changes FP
14. 891117-00 HOST Rev 1; drill out feedthrough, 3 Cuts, 4 Jumper. Does not apply to repairs, manufacturing only.
15. 891117-01 ANALOG Rev. 1 Remove jumper wire W1 2-3, etch cut.
16. 891117-02 DSP Rev. 1 Drill swage holes to .187", add kapton tape U50, add R23 75 ohm & C66 150pf U51, add kapton tape under R23/C66.
17. 891117-03 AES interface Rev.1 move R1 to prevent shorts.
18. 891117-04 FP switch Rev. 1 Correct resistor values; R1,3,16,8,9,11,14,16. PC board relocate Q1-4.
19. 891120-00 FP Rev. 1 Move components.
20. 891121-00 Power Supply change 440-07783 1/16AMP from fast-blow to slo-
blo.
21. 891129-00 Change screw tap soft knob
22. 891201-00 Mechanical spec changes
23. 891204-00 ANALOG Rev. 1 correct schematic ferrite beads.
24. 891207-00 Revise B.O.M's Analog & Chassis.
25. 900117-01 DSP Rev.1,2 Add 74HC04 (cuts & wires on 20 pilot)
26. 900117-01-A DSP Rev.2 Add daughter board to reduce rework and possible scrap. (not on 20 pilots)
27. 900118-01 HOST Rev.1,2 (wires & cuts on 20 pilots +)
28. 900118-01-A HOST Rev.1 Add functionality to ADI 5400 chip. Create daughter brd. 024-08366. (20 pilot only)



Customer Service

A Harman International Company

3 Oak Park Bedford, MA 01730

Tel (781) 280-0300, Fax (781) 280-0499

email: csupport@lexicon.com

M300 REPAIR PROCEDURE

29. 900118-02 Power Supply Rev.1 Prevent premature fuse blowing. Change .25A to .5A, C8 from 47uf to 220uf.
 30. 900118-02-A Correct error with F2.
 31. 900207-00 Change front panel finish. (all should be same)
 32. 900215-00 Analog Brd. Socket MDAC's U2,8,11,15. (20 pilots not done)3
 33. 900516-00 Update graphics FP & button
 34. 900320-00 HOST Rev.1,2 Improve noise immunity of PLL. Remove U11,C21,CR2 & R14. Add Socket 520-00942 & 74AC14 330-06495 U11, 245-03868 33pf C21, 202-00506 20 ohm CR2, 202-00517 200 ohm R14, buss wire to gnd R14,R15,C19,U14.7&8 and Q2.1.
 35. 900321-02 Add assy note to glue button.
 36. 900321-00 Change all buttons to black.
 37. 900322-01 Mounting bracket reduce cost, change finish, use on M-300 only & use std. aluminum extrusion.
 38. 900327-00 DSP Rev.1,2,3 Add chassis gnd and resistor network to Rev.1,2. Add R24,25,26 to BOM. REV. 1 & 2
 - Make chassis gnd 620-06638 & 675-03722 install under nut on J3 closest to U3.
 - Feed lug gnd lead between rear panel and DSP and solder to J3,P2 (DSP solder side)
Solder side
 - Attach R24 202-00515 150ohm between U3.7 and U3.8.
 - Attach R25 202-00543 5.1K between U3.1 and U3.8.
 - Attach R26 202-00543 5.1K between U3.4 and U3.7
 - REV. 1, 2 & 3 component side
 - Cut center etch above U44 before via
 - Attach jumper from via above C65 to U44.5
 39. 900327-01 FP assy. Rev.1,2 To prevent etch/pins shorts on switch panel add washer (7) 644-06347, install kapton tape per drawing.
 40. 900406-01 update shipping material from drop test
 41. 900406-02 FP REV.3 revise rev.2 for keep out zones
 42. 900412-01 FP REV.3 revise rev.2 move swage hole
 43. 900416-00 HOST REV.4 revise rev.3 artwork for rev.4 release.
- NOTE: REV.2 & REV.3 NEVER BUILT PRODUCTION**
44. 900416-01 Add CLA label 740-02773, delete CSA 740-06678 and ETL 740-06679.
 45. 900416-01-A Delete 740-06680 TUV label
 46. 900416-02 FP delete knob 550-07573, add 550-08253 textured.
 47. 900416-03 DSP Rev.3 delete daughter brd. 024-08350, add 330-03487 (2) U28,29, delete socket 520-00943 U28,29 and add pick rev.3
 48. 900502-00 FP switch brd. blacken unused led faces with sharpie.
 49. 900503-01 Shorten cable 680-07761 from 16" to 10.5"
 50. 900515-00 Limit input voltage swing, add diode, 1N914 and 4148, CR31-34.
 51. 900515-01-A Condition the I/P signal to CS5326 ADC
 - Current limit I/P to ± 10 mA. Worst case @ 35kHz, +22dbm.
 - Change max voltage swing from 11.4Vpp per ECO 900515-00 to 10.5Vpp.
 52. 900518-00 Correct error in mismatch of parts, washer,lock,split.
 53. 900518-01 Change knob to correct play in knob.
 54. 900522-00 Ground unused inputs and control signals on U7 (HC253) to fix artwork error.



Customer Service

A Harman International Company

3 Oak Park Bedford, MA 01730

Tel (781) 280-0300, Fax (781) 280-0499

email: csupport@lexicon.com

M300 REPAIR PROCEDURE

- 55. 900529-00 Add service option package.
900529-00-A To correct errors in original ECO.
- 56. 900619-00 Allow use of M300 bottom cover on CP-3.
- 57. 900621-00 Label to comply with VDE standards.
- 58. 900702-00 Change U24 Mem-decode GAL to accommodate 1 megabit ROMs in ROM1 location (U22).
- 59. 900705-00 Change encoder, soft knob and sub front panel after initial stock is depleted.
- 59A. 900705-00-A Allow deviation from BOM for FP assembly to use Rev 3 Processor Bds #710-07458, with Rev 2 FP Switch Bds #710-07498.
- 59B. 900705-00-B To correct the version number displayed on power up from V1.00 to V2.00.
- 60. 900713-00 Correct BOM for R9 & R10 values for DSP Bd., Rev 2 and higher.
- 61. 900716-00 To reduce distortion at high frequencies in the A/D portion of board while the DSP board is running a program.
- 62. 900716-00-A Standardize wire color.
- 63. 900814-00 Insure transistor on the FP Switch Bd will not touch or be bent by the front panel when installed.
- 64. 900815-00 Update DSP Bd.
 - Correct BOM for Rev 3 and 4 boards. (Rev 3 Bds are not being built)
 - To allow MIDI thru jack to work and correct implementation of MIDI thru jumper (W6).
- 65. 900822-00 Add fuse warning labels to comply with CLA.
- 66. 900828-01 Comply with CLA and change ROM size to accommodate s/w.
- 67. 900914-00 Isolate local XCLK to remove 2V reflection which exceeds the minimum input high voltage causing arbitrary clocking of the ADI5400.
- 68. 900914-00-A Correct rework instructions on original ECO.
- 69. 901002-00 HOST Bd (Rev 1,4,5) Install C82 on solder side of PCB between the gnd side of R28 and the cathode of CR3, as shown on page 4 of ECO.
- 70. 901012-02 Correct screw length in finishing kit.
- 71. 901023-02 Host Bd software. Correct software error in init sequence. New Version V1.01.
901023-02-A Update Host board to V1.02 to correct assorted software errors

There are separate BOMs for M300 and M300/S

- 72. 901023-00 M300 Develop new BOMs for compatibility with MINX system.
- 73. 901028-01 M300/S Update BOMs for compatibility with MINX.
- 74. 901119-00 Correct schematic errors on REV 4, DSP Boards.
- 75. 901126-00 Change signal name on schematic.
- 76. 901207-01 Software release notice for V1.02 only, obsolete upon next release.
- 77. 901224-00 Add silk screen to solderside of Analog board, Rev 3.
- 77A. 901219-00 Correct top cover problems.
- 78. 901227-00 To add support to battery to prevent from breaking in the field on HOST Bd.
- 79. 910103-00 HOST Board Rev 5, update rev 5 boards to make compatible to previous ECO's.
- 80. 910201-01 KNOB, to correct engineering error.
- 81. 910201-00 Top and bottom cover screw change to eliminate interference to FP assembly, new part number 641-08796. Correct BOM error



Customer Service

A Harman International Company

3 Oak Park Bedford, MA 01730

Tel (781) 280-0300, Fax (781) 280-0499

email: csupport@lexicon.com

M300 REPAIR PROCEDURE

- 81A. 910201-00-A Delete washer Stk # 644-06347.
82. 910207-00 Correct mechanical design errors for the manufacturing process.
83. 910227-00 Fix bottom cover fit, replace spacer part # 630-07548 with part # 630-07546.
84. 910314-01 ECO shows the proper installation of R106.
85. 910315-00 Updates drawing of DSP Board.
86. 910315-01 Update drawing for AES board.
87. 910410-02 ANALOG BD, Rev 1-4; Add two (2) daughter boards to the Analog Bd, to correct differential output line driver signal balance ratio.
88. 910530-00 Change screw length for mounting bracket from 10-32X5/16 to 10-32X3/8, FH, PH; Stk # 640-08874.
89. 910613-00 FP screw to short, delete 641-08796 add 641-09004.
90. 911024-01 To change DC offset removal cap in output driver Circuit to meet unblaanced frequency response test spec of +/- 0.2db @ 10Hz. On Analog Daughter Bd for rev 1-3 Analog bd; and Analog bd rev 4. Change capacitor value from 10uf to 47 uf.
91. 911127-00 Remove Optical cables from ship kit. The are no longer provided with the unit.
94. 911125-00 ANALOG Bd Rev 4 and Daughter Bd Rev 0, add power supply caps to the 2442 O/P driver on the Analog Daughter bd; add addition power supply bypass caps to 2142 O/P driver on the Analog Bd to improve stability. Revise Analog Bd rev 4 to improve PCB layout of U10,14 bypass caps. This change is on production boards, none have made is to the field.
- 94A. 911125-00A ANALOG BD, Rev 4, (Rev 1-3 WITH DAUGHTER BD); To correct component manufacturing and design errors.
- 94B. 911125-00B Analog Bd Rev3, on ECO 911125-00A the wrong capacitor was called out. Delete part #(245-00590) on all references. Replace with part # (245-03870) Cer Cap 150pf, 100volt .
95. 911205-00 AES INTERFACE BD Rev 1 & 2;
 - Release V1.10 firmware to implement fix for slave recovery from missing or intermittent external digital input (external clock).
 - Change gain on RCA SPDIF digital input receiver to improve noise immunity to corrupt signals received through RCS SPDIF 1/P.
96. 911210-00 Front Panel, change the "RUN" button to read "SETUP SELECT" to avoid confusion by the user. Marketing requested modification.
97. 920117-01 ANALOG BD, Rev 4, remove left and right O/P ground from signal ground to leliminate possible ground loops. There is no product in the field.
98. 920211-00 Chassis add ground indicator labels as identified in the ECO for UL1419 & TUV approval.
99. 920220-00 Change length and color of ground wire #675-02852 from 4", GRN to 4.5", GRN/YEL.
100. 920515-00 To conform to TUV certification, add switch protection bracket and new power cord to 220V unit only in stock and all future builds.

101. 920728-00 AES Bd. Rev 3; Add missing C11 and J2 nomenclature to board.



Customer Service

A Harman International Company

3 Oak Park Bedford, MA 01730

Tel (781) 280-0300, Fax (781) 280-0499

email: csupport@lexicon.com

M300 REPAIR PROCEDURE

102. 921118-00 Release Version 1.11 install for customer service only to repair a bug which causes incorrect channel status to be transmitted when the M300 is running from the internal crystal mode. With version 1.10 installed customer can have a problem recording through the digital interface when recording to DAT machine, with the M300 on internal crystal. This bug is not present in Version 1.02 .
103. 931203-00 V3.50 Upgrade- All Consignment, New and R/E Stock; CUSTOMER UNITS ONLY IF PURCHASED! IF CUSTOMER UNIT HAS V3.??(OTHER THAN 3.5) INSTALL V3.5!
104. 930412-00 Change resistor R7 on PS Bd, from 3kohm (202-00537) to 4.99kohm (203-00464)...change pfail circuit so pfail / happens before +5v starts losing regulation
105. 930426-00 ANALOG BD all Revs, Change resistors at locations R57 and R82 from 470kohm (202-00579) to 200kohm (202-00567) to provide more offset adjust range on calibration of PCM 56.
106. 930422-00/00-A V3.00 Software Upgrade
107. 930616-01 PS Heatsink Assy add washers (2- split lock #6 , P/N 644--1740) to +5V digital regulator mounting (torque 6-8 in / lb)
108. 940105-00 Correct layout- Bat1 positive terminal too close to via carrying D2 signal. New Rev-7 PCB. All Rev 6 bds should be inspected and reworked : using needle nose pliers, carefully bend positive terminal lead away from circuit via. Shock Test resulting in BUSS ERROR have been encountered.
109. 940411-00 Changes AES termination- AES bd Delete (202-07779) 1/2W 240 ohm resistor at R7 and add (202-08190) 1/4 W 110 ohm.
110. 950427-00 Incorporate new M300 / L Power supply board into M300 product, and remove unnecessary Front Panel Supply circuitry from M300L power supply board Bom.
111. 950428-00 Incorporate New M300L DSP bd into M300 product so that both share common assembly.
112. 950713-02 To correct the AES output impedance (increase to 100 ohm). To also correct the Analog Input-Analog Output phase (they're 180 degrees out of phase).
113. ECO 990402-00 Obsolete part replacement; Lexicon P/N 430-02285 LED,RED,.118DIA; Locations: Host Bd. D2, 3 [MFR P/N PR39325 - Stanley: obsolete]. Use Lexicon P/N 430-13706 LED,RED,.118 DIA,
END OF ECO'S...



Customer Service

A Harman International Company

3 Oak Park Bedford, MA 01730

Tel (781) 280-0300, Fax (781) 280-0499

email: csupport@lexicon.com

M300 REPAIR PROCEDURE

Part 5. Quick Reference ECO's

ANALOG BOARD

1. 891117-01 ANALOG Rev. 1 Remove jumper wire W1 2-3, etch cut.
2. 891204-00 ANALOG Rev. 1 correct schematic ferrite beads.
3. 900215-00 ANALOG Brd. Socket MDAC's U2,8,11,15. (20 pilots not done)
- 3A. 911125-00A ANALOG BD, Rev 4, (Rev 1-3 WITH DAUGHTER BD); To add high frequency shunt caps to PMI 2142 O/P drivers. To correct component manufacturing and design errors.
4. 910410-02 ANALOG BD, Rev 1-4; Add two (2) daughter boards to the Analog Bd, to correct differential output line driver signal balance ratio.
5. 911024-01 To change DC offset removal cap in output driver Circuit to meet unbalanced frequency response test spec of +/- 0.2db @ 10Hz. On Analog Daughter Bd for rev 1-3 Analog bd; and Analog bd rev 4. Change capacitor value from 10uf to 47 uf.
6. 911125-00 ANALOG Bd Rev 4 and Daughter Bd Rev 0, add power supply caps to the 2442 O/P driver on the Analog Daughter bd; add addition power supply bypass caps to 2142 O/P driver on the Analog Bd to improve stability. Revise Analog Bd rev 4 to improve PCB layout of U10,14 bypass caps. This change is on production boards, none have made is to the field.
- 6A. 911125-00A ANALOG BD, Rev 4, (Rev 1-3 WITH DAUGHTER BD); To add high frequency shunt caps to PMI 2142 O/P drivers. To correct component manufacturing and design errors.
- 6B. 911125-00B Analog Bd Rev 3 , on ECO 911125- A the wrong capacitor was called out. Delete part(245-00590) on all references. Replace with part (245-03870) 150pf cer cap.
7. 920117-01 ANALOG BD, Rev 4, remove left and right O/P ground from signal ground to eliminate possible ground loops. There is no product in the field.
8. 930426-00 ANALOG BD, all Revs, Change resistors at locations R57 and R82 from 470k(202-00579) to 200k (202-00576) to provide more offset adjust range on calibration of PCM56.



Customer Service

A Harman International Company

3 Oak Park Bedford, MA 01730

Tel (781) 280-0300, Fax (781) 280-0499

email: csupport@lexicon.com

M300 REPAIR PROCEDURE

Quick Reference ECO's cont.

FRONT PANEL ASSEMBLY

1. 890831-00 FP Add U19,SW32 (BOM errors)
2. 891011-00 Mechanical drawing changes knob, cover, bracket, support, front panel & box.
3. 891017-00 Front panel lense changes
4. 891019-00 Chassis & Front panel B.O.M. changes
5. 891106-00 Button changes FP
6. 891117-04 FP switch Rev. 1 Correct resistor values R1,3,6,8,9,11,14,16. PC board relocate Q1-4.
7. 891120-00 FP Rev. 1 Move components.
8. 900321-00 Change all buttons to black.
9. 900321-02 Add assy note to glue button
10. 900327-01 FP assy. Rev.1,2 To prevent etch/pins shorts on switch panel add washer (7) 644-06347, install kapton tape per drawing.
11. 900406-02 FP REV.3 revise rev.2 for keep out zones
12. 900412-01 FP REV.3 revise rev.2 move swage hole
13. 900416-02 FP delete knob 550-07573, add 550-08253 textured.
14. 900502-00 FP switch brd. blacken unused led faces with sharpie.
15. 900518-01 Change knob to correct play in knob.
16. 900705-00 Change encoder, soft knob and sub front panel after initial stock is depleted.
- 16A. 900705-00-A Allow deviation from BOM for FP assembly to use Rev 3 Processor Bds #710-07458, with Rev 2 FP Switch Bds #710-07498.
17. 900814-00 Insure transistor on the FP Switch Bd will not touch or be bent by the front panel when installed.
18. 910201-01 KNOB, to correct engineering error.
19. 910613-00 FP screw to short, delete 641-08796 add 641-09004.
20. 911210-00 Front Panel, change the "RUN" button to read "SETUP SELECT" to avoid confusion by the user. Marketing requested modification.



Customer Service

A Harman International Company

3 Oak Park Bedford, MA 01730

Tel (781) 280-0300, Fax (781) 280-0499

email: csupport@lexicon.com

M300 REPAIR PROCEDURE

Quick Reference ECO's cont.

HOST BOARD

1. 891117-00 HOST Rev.1, drill out feedthrough, 3 Cuts, 4 Jumper.
2. 900118-01 HOST Rev.1,2 (wires & cuts on 20 pilots +)
3. 900118-01-A HOST Rev.1 Add functionality to ADI 5400 chip. Create daughter brd. 024-08366. (20 pilot only)
4. 900320-00 HOST Rev.1,2 Improve noise immunity of PLL. Remove U11,C21,CR2 & R14. Add Socket 520-00942 & 74AC14 330-06495 U11, 245-03868 33pf C21, 202-00506 20 ohm CR2, 202-00517 200 ohm R14, buss wire to gnd R14,R15,C19,U14.7&8 and Q2.1.
5. 901002-00 Host Bd (Rev 1,4,5) Install C82 on solder side of PCB between the gnd side of R28 and the cathode of CR3, as shown on page 4 of ECO.
6. 901023-02 Host Bd software. Correct software error in init sequence. New Version V1.01.
- 6A. 901023-02-A Update Host board to V1.02 to correct assorted software errors
7. 901227-00 Add RTV to add support to battery to prevent from breaking in the field on HOST Bd.
8. 910103-00 HOST Board Rev 5, update rev 5 boards to make compatible to previous ECO's.
9. 931203-00 V3.50 UPGRADE
10. 940105-00 Corrects layout - BAT1 positive terminal too close to a via carrying D2 signal. New Rev-7 PCB.



Customer Service

A Harman International Company

3 Oak Park Bedford, MA 01730

Tel (781) 280-0300, Fax (781) 280-0499

email: csupport@lexicon.com

M300 REPAIR PROCEDURE

Quick Reference ECO's cont.

DSP BOARD

1. 891117-02 DSP Rev. 1 Drill swage holes to .187", add kapton tape U50, add R23 75 ohm & C66 150pf U51, add kapton tape under R23/C66.
2. 900117-01 DSP Rev.1,2 Add 74HC04 (cuts & wires on 20 pilot)
3. 900117-01-A DSP Rev.2 Add daughter board to reduce rework and possible scrap. (not on 20 pilots)
4. 900327-00 DSP Rev.1,2,3 Add chassis gnd and resistor network to Rev.1,2. Add R24,25,26 to BOM. REV. 1 & 2
 - Make chassis gnd 620-06638 & 675-03722 install under nut on J3 closest to U3.
 - Feed lug gnd lead between rear panel and DSP and solder to J3,P2 (DSP solder side)Solder side
 - Attach R24 202-00515 150ohm between U3.7 and U3.8.
 - Attach R25 202-00543 5.1K between U3.1 and U3.8.
 - Attach R26 202-00543 5.1K between U3.4 and U3.7REV. 1, 2 & 3 component side
 - Cut center etch above U44 before via
 - Attach jumper from via above C65 to U44.5
5. 900416-03 DSP Rev.3 delete daughter brd. 024-08350, add 330-03487 (2) U28,29, delete socket 520-00943 U28,29 and add pick rev.3



Customer Service

A Harman International Company

3 Oak Park Bedford, MA 01730

Tel (781) 280-0300, Fax (781) 280-0499

email: csupport@lexicon.com

M300 REPAIR PROCEDURE

SUBJECT: M300 ANALOG BOARD, REV 4

REFERENCE: ECO 920117-01

PURPOSE: Remove left and right O/P ground etch from signal ground to eliminate possible ground loops.

CORRECTIVE ACTION: All Rev 4 boards were ECO'd prior to shipment. It is only necessary to verify the ECO has been performed in the event of ground loop complaints or suspicions.

WARNING

This modification should be performed by qualified technical personnel only. Damage caused by performing this modification may void the manufacturer's warranty or standard repair policies.

CAUTION

Electrostatic Discharge (ESD) Precautions

The following practices minimize possible damage to ICs resulting from electrostatic discharge or improper insertion.

- Keep parts in original containers until ready for use.
- Avoid having plastic, vinyl or styrofoam in the work area.
- Wear a properly installed anti-static wrist-strap.
- Discharge personal static before handling devices.
- Remove and insert boards with care.
- When removing boards, handle only by non-conductive surfaces and never touch open-edge connectors except at a static-free workstation.*
- Minimize handling of ICs.
- Handle each IC by its body.
- Do not slide ICs or boards over any surface.
- Insert ICs with the proper orientation, and watch for bent pins on ICs.
- Use anti-static containers for handling and transport.

* To make a plastic-laminated workbench anti-static, wash with a solution of Lux liquid detergent, and allow to dry without rinsing

INSTRUCTIONS: Check for etch cut at feed through adjacent to CR9 on solder side of board. If the etch is intact, it should be cut.



Customer Service

A Harman International Company

3 Oak Park Bedford, MA 01730
Tel (781) 280-0300, Fax (781) 280-0499
email: csupport@lexicon.com

M300 REPAIR PROCEDURE

SUBJECT: M300 FIRMWARE RELEASE, VERSION 1.11

REFERENCE: ECO 921118-00

PURPOSE: To correct software bug which caused incorrect channel status to be transmitted when the M300 is running from internal crystal mode. This bug was not present in version 1.02.

CORRECTIVE ACTION: V1.11 should be installed if customers are having difficulty recording through the digital interface to a DAT machine when the M300 is set to run from its internal crystal.

Contact Lexicon Customer Service if you need this update. We will send one set of masters to be used by the distributors.

NOTICE: This ECO will be canceled by the installation of version 3.xx into any M300.

EQUIPMENT REQUIRED:

1 IC,ROM,27C010,M300,V1.11-2 P/N 350-09641
1 IC,ROM,27512,M300,V1.11-1 P/N 350-09642

INSTRUCTIONS:

CAUTION

Electrostatic Discharge (ESD) Precautions

The following practices minimize possible damage to ICs resulting from electrostatic discharge or improper insertion.

- Keep parts in original containers until ready for use.
- Avoid having plastic, vinyl or styrofoam in the work area.
- Wear a properly installed anti-static wrist-strap.
- Discharge personal static before handling devices.
- Remove and insert boards with care.
- When removing boards, handle only by non-conductive surfaces and never touch open-edge connectors except at a static-free workstation.*
- Minimize handling of ICs.
- Handle each IC by its body.
- Do not slide ICs or boards over any surface.
- Insert ICs with the proper orientation, and watch for bent pins on ICs.
- Use anti-static containers for handling and transport.

*To make a plastic-laminated workbench anti-static, wash with a solution of Lux liquid detergent, and allow to dry without rinsing.

Replace ROMs with V1.11



Customer Service

A Harman International Company

3 Oak Park Bedford, MA 01730
Tel (781) 280-0300, Fax (781) 280-0499
email: csupport@lexicon.com

M300 REPAIR PROCEDURE

SUBJECT: M300 - Power Supply Heatsink Assembly

REFERENCE: ECO 930616-01

PURPOSE: To inform technicians of possible intermittent +5V Digital power supply.

Symptoms may include possible:

- Intermittent initialization.
- Intermittent lock-up.
- It is recommended that all M300(s) returned for repair have this corrective action installed as a preventive measure.

CORRECTIVE ACTION: Improve mechanical integrity of the +5V Digital regulator and eliminate intermittent voltage fluctuations.

EQUIPMENT REQUIRED:

2 - Lexicon P/N 644-01740 WSHR,LOCK,SPLIT,#6

WARNING

This modification should be performed by qualified technical personnel only. Damage caused by performing this modification may void the manufacturer's warranty or standard repair policies.

CAUTION

Electrostatic Discharge (ESD) Precautions

The following practices minimize possible damage to ICs resulting from electrostatic discharge or improper insertion.

- Keep parts in original containers until ready for use.
- Avoid having plastic, vinyl or styrofoam in the work area.
- Wear a properly installed anti-static wrist-strap.
- Discharge personal static before handling devices.
- Remove and insert boards with care.
- When removing boards, handle only by non-conductive surfaces and never touch open-edge connectors except at a static-free workstation.*
- Minimize handling of ICs.
- Handle each IC by its body.
- Do not slide ICs or boards over any surface.
- Insert ICs with the proper orientation, and watch for bent pins on ICs.
- Use anti-static containers for handling and transport.

* To make a plastic-laminated workbench anti-static, wash with a solution of Lux liquid detergent, and allow to dry without rinsing.

INSTRUCTIONS: Install lock split washers (P/N 644-01740) between the head of the mounting screw(s) (P/N 640-01719) and the regulator case in the mounting of the +5V Digital regulator (P/N 340-07535) on the Power Supply Heat Sink Assembly (P/N 023-07429). Torque 6-8 in/lbs. for the screw(s).



Customer Service

A Harman International Company

3 Oak Park Bedford, MA 01730
Tel (781) 280-0300, Fax (781) 280-0499
email: csupport@lexicon.com

M300 REPAIR PROCEDURE

SUBJECT: Noise in audio in certain Pitch shift programs.

REFERENCE: ECO 970422-00

PURPOSE: To inform technical personnel and distributor service centers of noise problems in audio, when certain Pitch Shift programs are used and recommended resolution. (Octave down, Bank 10, Program 2).

CORRECTIVE ACTION: The following components must be added and deleted from two of the boards in the M300L.

On the HOST board M300L (Rev 0 to 1)

Add:

- 1 ¼W 33 ohm resistor R53 P/N (202-00508)

On the DSP board M300L (Rev 0 to 1)

Delete:

- 1 ¼W 75 ohm resistor R23 P/N (202-00512)
- 1 150pF 100V cap C66 P/N (245-03870)

EQUIPMENT REQUIRED:

Clean, well lighted anti-static work bench with grounded wrist-strap

#1 Phillips Screwdriver

Low Wattage Soldering Iron

Wire strippers

Solder

Xacto Knife

2" 28 gauge kynar

2" capton tape

WARNING

This modification should be performed by qualified technical personnel only. Damage caused by performing this modification may void the manufacturer's warranty or standard repair policies.

CAUTION

Electrostatic Discharge (ESD) Precautions

The following practices minimize possible damage to ICs resulting from electrostatic discharge or improper insertion.

- Keep parts in original containers until ready for use.
- Avoid having plastic, vinyl or styrofoam in the work area.
- Wear a properly installed anti-static wrist-strap.
- Discharge personal static before handling devices.
- Remove and insert boards with care.
- When removing boards, handle only by non-conductive surfaces and never touch open-edge connectors except at a static-free workstation.*
- Minimize handling of ICs.
- Handle each IC by its body.
- Do not slide ICs or boards over any surface.
- Insert ICs with the proper orientation, and watch for bent pins on ICs.
- Use anti-static containers for handling and transport.

* To make a plastic-laminated workbench anti-static, wash with a solution of Lux liquid detergent, and allow to dry without rinsing.

1. **INSTRUCTIONS:** The following pages of this bulletin contain the complete rework instructions for this ECO.



Customer Service

A Harman International Company

3 Oak Park Bedford, MA 01730

Tel (781) 280-0300, Fax (781) 280-0499

email: csupport@lexicon.com

M300 REPAIR PROCEDURE

Please note that these changes have been implemented at the factory starting with M300 serial # 4007 and M300L serial # 1582. Earlier M300 units do not require the change. Implement only in M300 and M300L units with HOST raw PCB p/n 710-10780,REV0 and DSP raw PCB p/n 710-10800,REV0 AND with serial numbers lower than those indicated.

Rework Instructions

1. Host Board Component Side (see page 5 for details):

- Cut Etch at J1 pin 7
- Cut etch that runs between U10 pins 9 & 10.

2. Host Board Solder side (see page 6 for details) :

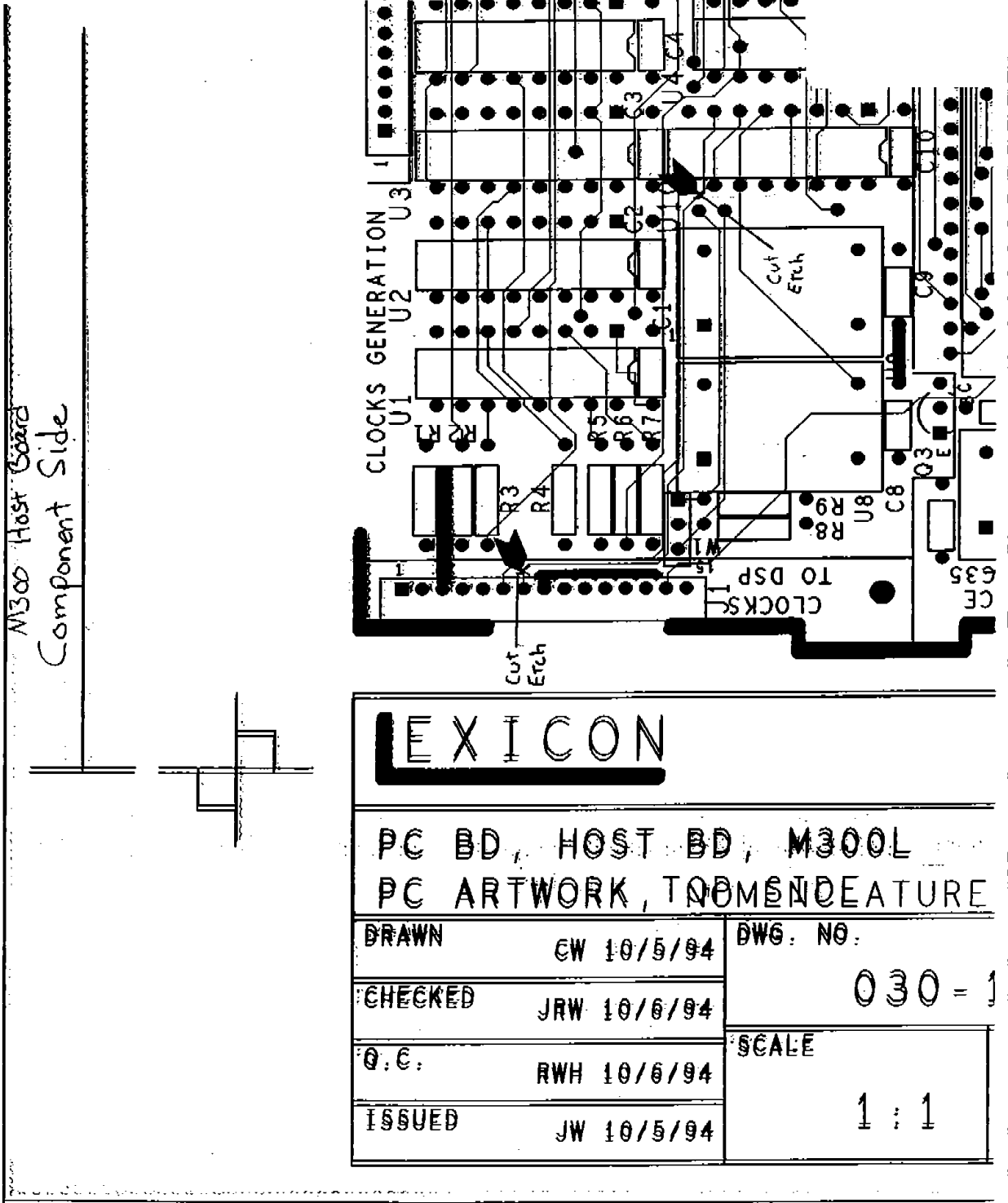
- Apply 2" of capton tape from J1 pin 7 to U10 pin 7. Don't cover the pins.
- Solder one end of the resistor to J1 pin 7 and make a good mechanical connection (to workmanship standards) before soldering.
- On the other side of the resistor, remove all but 1/8" of component lead.
- Using 2" of 28AWG kynar wire, strip off 1/8" insulation on both ends.
- Make a good mechanical connection with one end of the kynar wire and the component lead of the resistor.
- Solder the connection.
- On the other end of the kynar wire, make a good mechanical connection to U10 pin7 and solder the connection.

3. DSP Component Side:

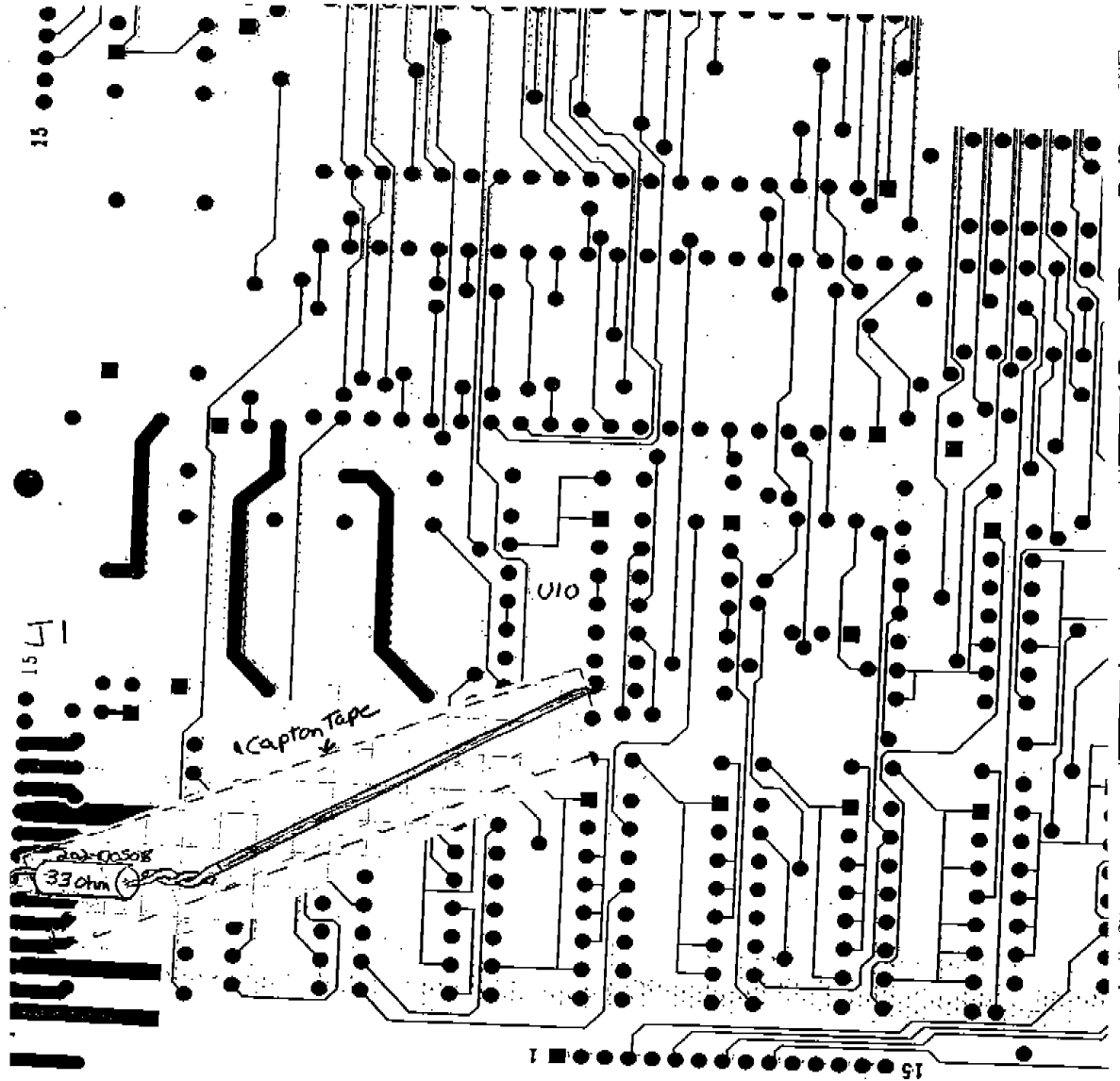
- Remove R23 (75 ohm resistor)
- Remove C66 (150pf capacitor)

Note - Step 3 not required for new DSP Board builds

M300 REPAIR PROCEDURE



M300 REPAIR PROCEDURE



Host Board Solder Side

710-10780 Rev 0 PC BD,HOST,M300L