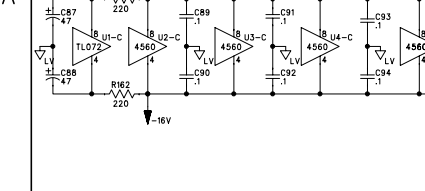


REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
A	PR 616	08-SEP-04	MCU

A IC POWER SUPPLY CONNECTIONS



TP30 (INPUT PNL CH SELECT):
 WITH FOOTSWITCH - - -
 < -2.89VDC CH SELECT OFF (NORM CH)
 -7.49VDC CH SELECT ON (DIRTY "YEL")
 -10.9VDC CH SELECT ON (LOOSE "RED")
 WITH FRONT PANEL SWITCHES (S1/S2) - - -
 < -8.69VDC S1 IN, S2 OUT (NORM CH)
 -7.29VDC S1 IN, S2 OUT (DIRTY "YEL")
 -9.39VDC S1 IN, S2 IN (LOOSE "RED")

TP31 (REF PNL CH SELECT):
 -8.92VDC CH SELECT OFF
 -6.92VDC CH SELECT ON

TP32: -10.0VDC

TP34 (INPUT PNL LOOSE SELECT):
 WITH FOOTSWITCH - - -
 < -8.99VDC CH SELECT OFF (NORM CH)
 -8.99VDC CH SELECT ON (DIRTY "YEL")
 -12.3VDC CH SELECT ON (LOOSE "RED")
 WITH FRONT PANEL SWITCHES (S1/S2) - - -
 < -4.23VDC S1 IN, S2 OUT (NORM CH)
 -8.70VDC S1 IN, S2 OUT (DIRTY "YEL")
 -12.9VDC S1 IN, S2 IN (LOOSE "RED")

TP35 (REF PNL LOOSE SELECT):
 -10.2VDC LOOSE SELECT OFF
 -9.32VDC LOOSE SELECT ON

- DO NOT STUFF C109.
- TP41 VARY DEPENDENT ON SETTING OF LEVEL AND TIME/RATE CONTROLS.
- ADDITIONAL CONDITION FOR TP12-14: LOOSE (S2) IN "RED".

7. AC AND DC VOLTAGES READ TO GROUND WITH A DVM UNDER THE FOLLOWING CONDITIONS:
 UNIT AT RATED LINE VOLTAGE
 NO INPUT SIGNAL (TP23-TP42 ONLY)
 VOLTAGES MAY VARY +/-20%
8. LAST REFERENCE DESIGNATORS: C109, D47, J1, PW102, Q16, R166, S4, U15.
9. THIS SCHEMATIC IS FOR PCB FABRICATION P/N 0064727000 AND PCB ASSEMBLY P/N 0064726000.
10. ALL DIODES ARE 1N4448.
11. ALL POLARIZED CAPACITORS IN Uf, 20% OR BETTER; 50V MINIMUM.
12. ALL UNPOLARIZED CAPACITORS IN nF, 10% OR BETTER; 50V MINIMUM. (POWER SUPPLY BYPASS CAPACITORS ARE 20%).
13. ALL RESISTORS IN OHMS, 5% 1/4W.

THIS DOCUMENT CONTAINS INFORMATION OF A PROPRIETARY NATURE TO FENDER MUSICAL INSTRUMENTS AND IS SUBMITTED TO YOU IN CONFERENCE AND SHALL NOT BE DISCLOSED OR TRANSMITTED TO OTHERS WITHOUT AUTHORIZATION FROM FENDER MUSICAL INSTRUMENTS.

Fender MUSICAL INSTRUMENTS
Corona, CA U.S.A.

CHECKED BY: _____
 DATE: _____
 APPROVED BY: _____
 DATE: _____

TITLE: SERVICE DIAGRAM, COMBINED (schematic)
 METALHEAD PRE-AMPLIFIER

SIZE DRAWING NUMBER REV.
D 0068747000 **A**

DRAWN: MULRICH ENGR: MULRICH
 DATABASE FILE: Z616S1SCH
 RELEASE DATE: 10-SEP-04 SHEET: 1 OF 2

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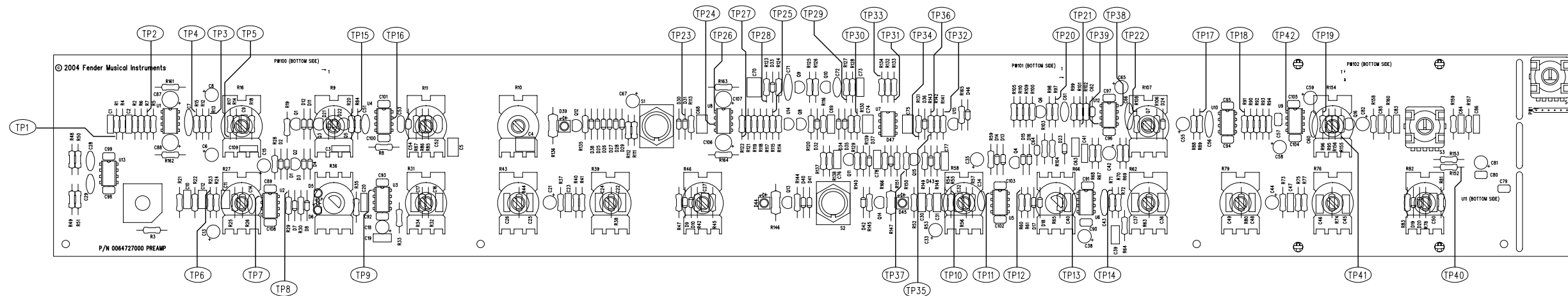
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REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
A	PR 616	08-SEP-04	MCU



FILM/DWG: SERVICE DIAGRAM
 DATABASE: Z616P1.PCB DATE: 23-SEP-04

1. SEE SHEET 1 FOR TEST CONDITIONS, TEST POINT VALUES, AND POWER AMP INTERCONNECTION.
 NOTES: (UNLESS OTHERWISE NOTED)

TOLERANCES (UNLESS OTHERWISE SPECIFIED)
 X.XXX = +/- .005"
 X.XX = +/- .010"
 X.X = +/- .025"
 ANGLE = +/- .10°

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CHECKED BY: _____ DATE: _____		TITLE: SERVICE DIAGRAM, COMBINED (PCB assy) MH-500 PRE-AMPLIFIER	
APPROVED BY: _____ DATE: _____		SIZE: D	DRAWING NUMBER: 0068747000
DRAWN: R. HAACK	ENGR: M. ULRICH	RELEASE DATE: 23-SEP-04	REV. A SHEET 2 OF 2
DATABASE FILE: Z616P1.PCB			

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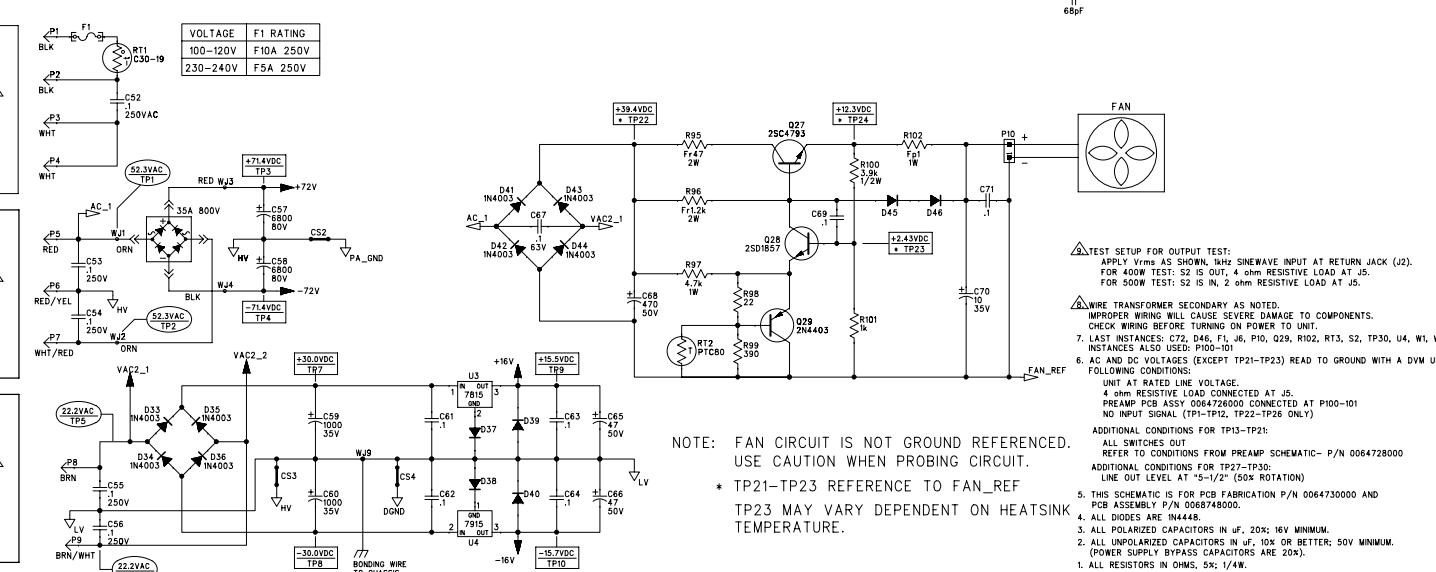
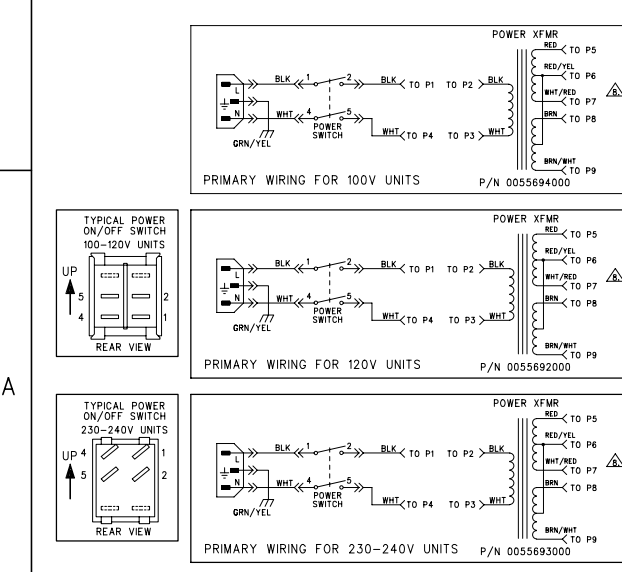
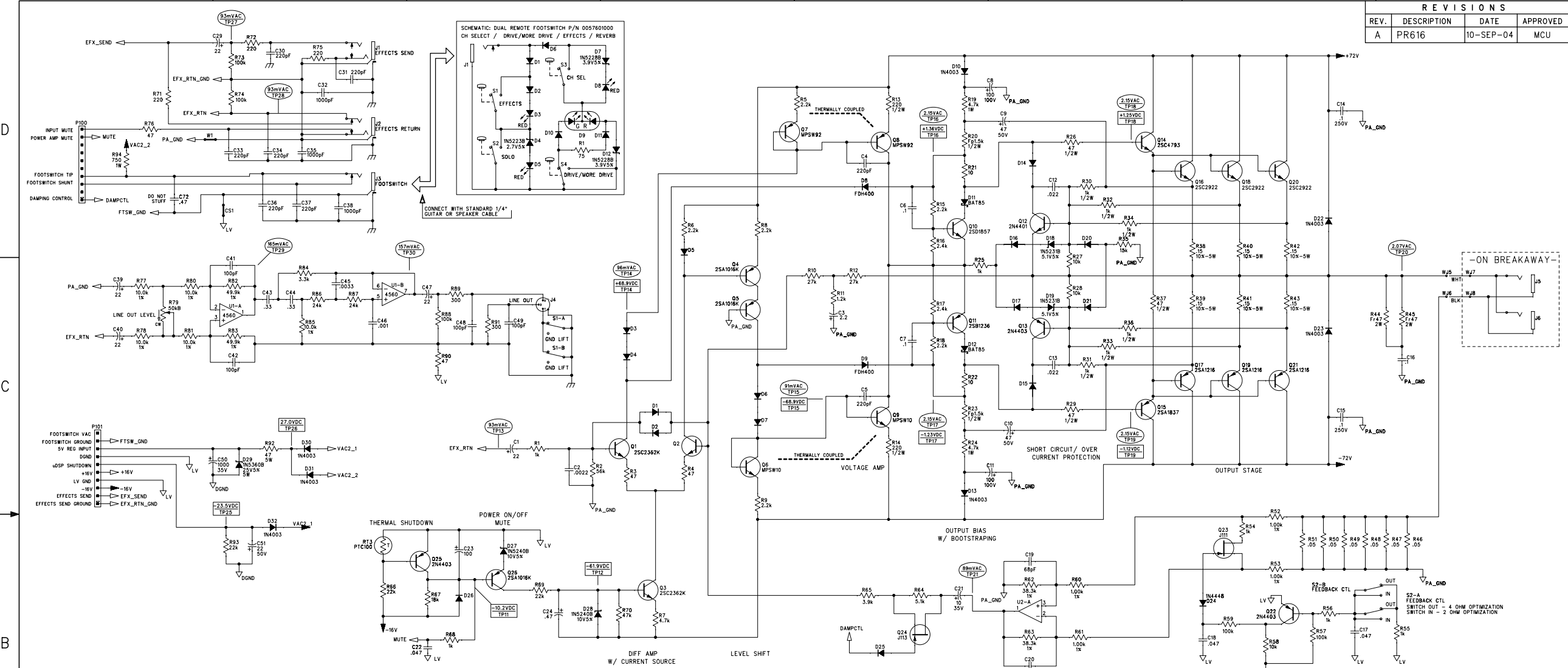
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REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
A	PR616	10-SEP-04	MCU



TEST SETUP FOR OUTPUT TEST:
 APPLY Vrms AS SHOWN, 1kHz SINEWAVE INPUT AT RETURN JACK (J2).
 FOR 400W TEST: S2 IS OUT, 4 ohm RESISTIVE LOAD AT J5.
 FOR 500W TEST: S2 IS IN, 2 ohm RESISTIVE LOAD AT J5.

WIRE TRANSFORMER SECONDARY AS NOTED.
 IMPROPER WIRING WILL CAUSE SEVERE DAMAGE TO COMPONENTS.
 CHECK WIRING BEFORE TURNING ON POWER TO UNIT.

7. LAST INSTANCES: C72, D46, F1, J6, P10, Q29, R102, R13, S2, TP30, U4, W1, W49
 INSTANCES ALSO USED: P100-101

6. AC AND DC VOLTAGES (EXCEPT TP21-TP23) READ TO GROUND WITH A DVM UNDER THE FOLLOWING CONDITIONS:
 UNIT AT RATED LINE VOLTAGE.
 4 ohm RESISTIVE LOAD CONNECTED AT J5.
 PREAMP PCB ASSY 0064728000 CONNECTED AT P100-101
 NO INPUT SIGNAL (TP1-TP12, TP22-TP26 ONLY)

ADDITIONAL CONDITIONS FOR TP13-TP21:
 ALL SWITCHES OUT
 REFER TO CONDITIONS FOR PREAMP SCHEMATIC- P/N 0064728000

ADDITIONAL CONDITIONS FOR TP22-TP30:
 LINE OUT LEVEL AT "5-1/2" (50% ROTATION)

5. THIS SCHEMATIC IS FOR PCB FABRICATION P/N 0064730000 AND PCB ASSEMBLY P/N 0068748000.

4. ALL DIODES ARE 1N4148.

3. ALL POLARIZED CAPACITORS IN uF, 20% 16V MINIMUM.

2. ALL UNPOLARIZED CAPACITORS IN uF, 10% OR BETTER; 50V MINIMUM.

(POWER SUPPLY BYPASS CAPACITORS ARE 20%).

1. ALL RESISTORS IN OHMS, 5% 1/4W.

NOTES: (UNLESS OTHERWISE NOTED)

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CHECKED BY: _____
 DATE: _____

APPROVED BY: _____
 DATE: _____

DRAWN: BHARTMAN ENGR: MULLRICH
 DATABASE FILE: Z616S2.SCH

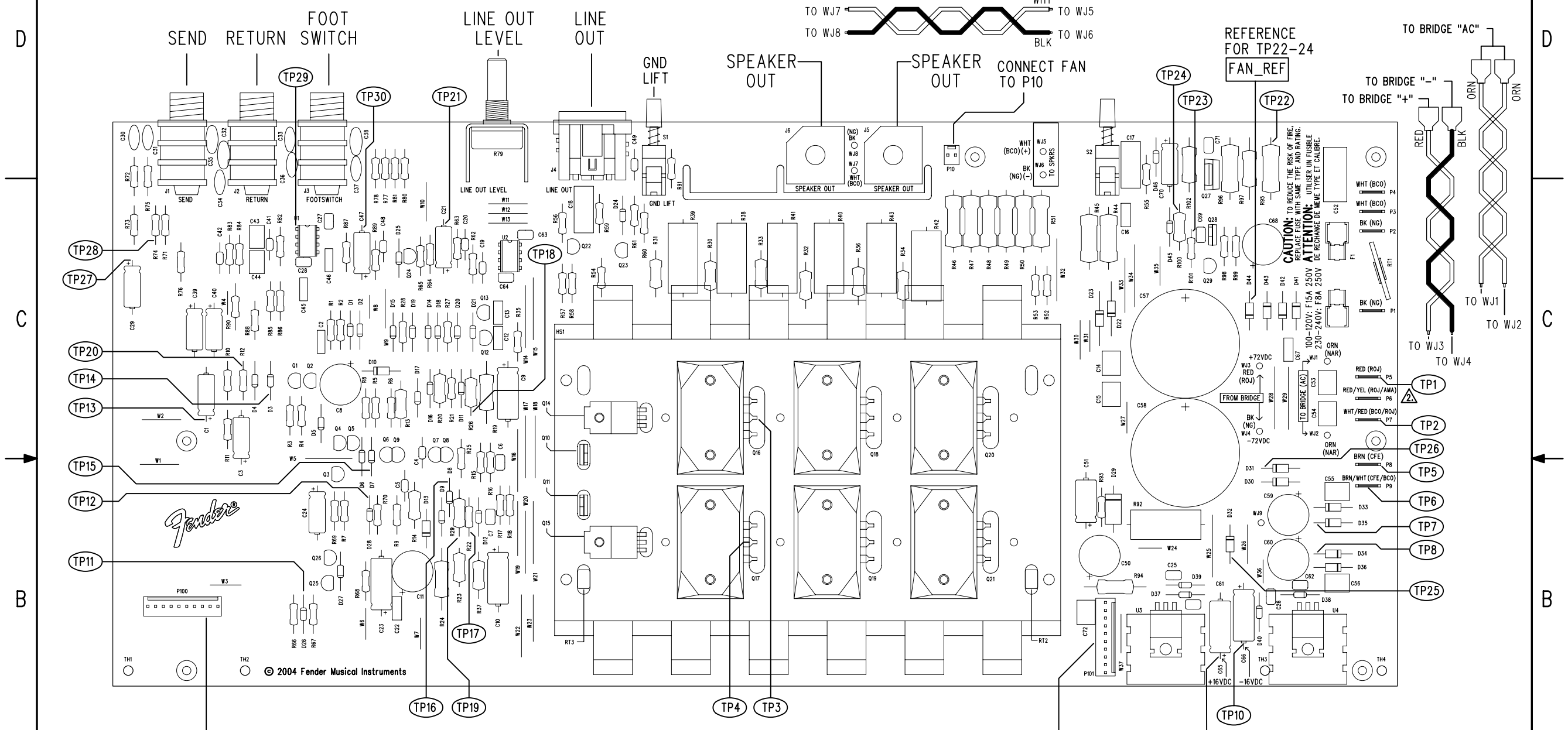
TITLE: SERVICE DIAGRAM, COMBINED (schematic)
 MH-500
 POWER AMP

SIZE: _____
 DRAWING NUMBER: 0064731000
 REV. A

RELEASE DATE: 10-SEP-04 SHEET: 1 OF 2

8 7 6 5 4 3 2 1

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
A	PR 616	10-SEP-04	MCU



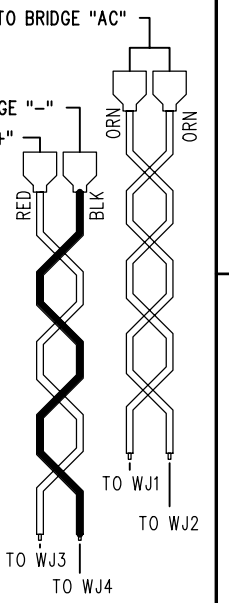
CONNECT WITH PW100 FROM PREAMP PCB ASSEMBLY

FILM/DWG: SERVICE DIAGRAM
 DATABASE: Z616P2.PCB DATE: 10-SEP-04

CONNECT WITH PW101 FROM PREAMP PCB ASSEMBLY

CAUTION: TO REDUCE THE RISK OF FIRE, REFER TO THE USER MANUAL FOR THE PROPER WIRING WITH SAME TYPE AND RATING. ATTENTION: UTILISER UN FUSIBLE DE MEME TYPE ET CALIBRE.

FROM BRIDGE
 TO BRIDGE (AC)
 TO BRIDGE "+"
 TO BRIDGE "-"



D
C
B
A

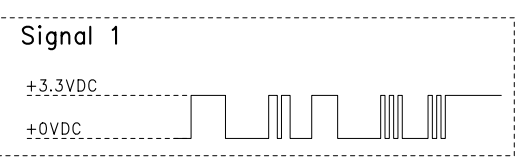
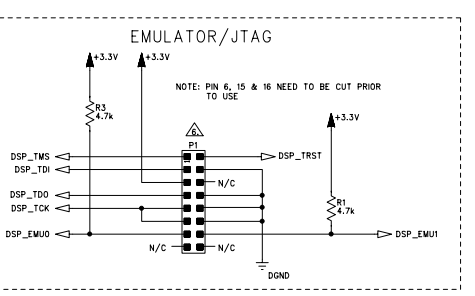
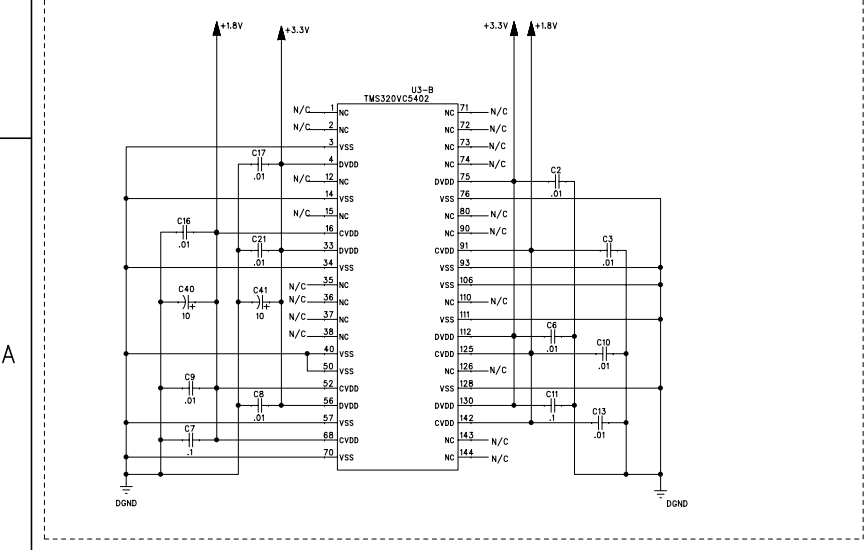
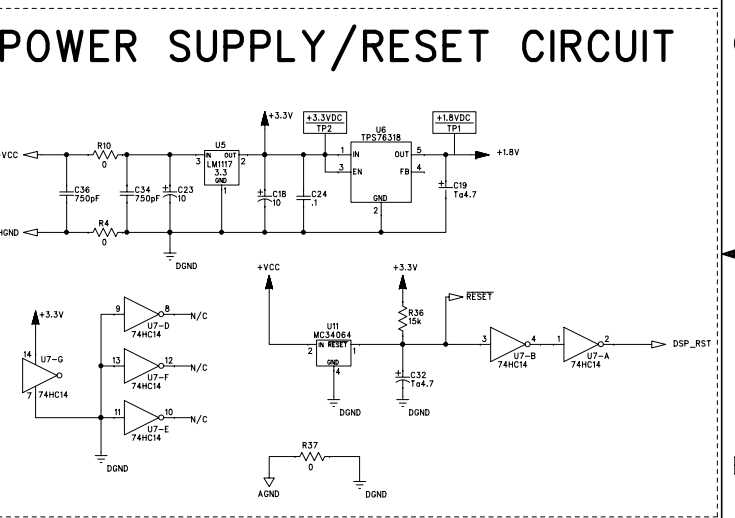
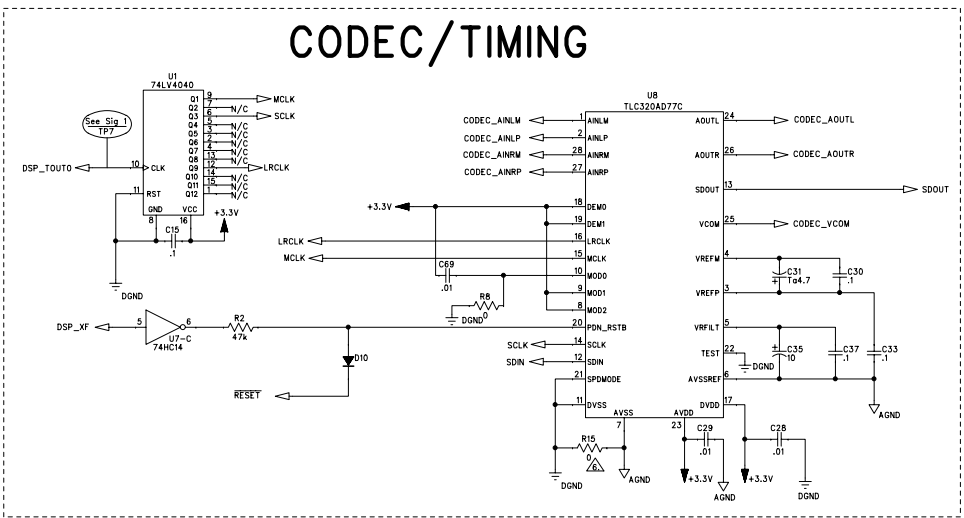
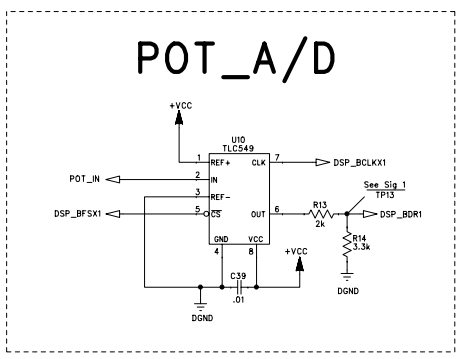
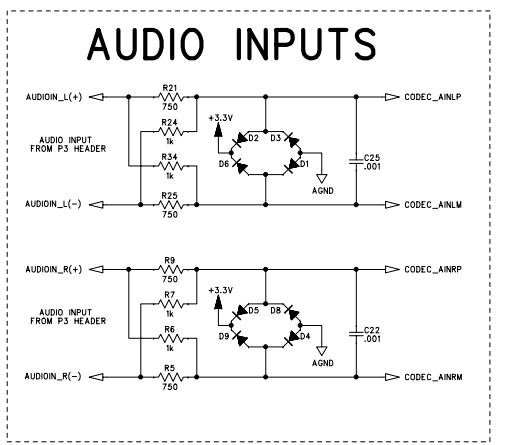
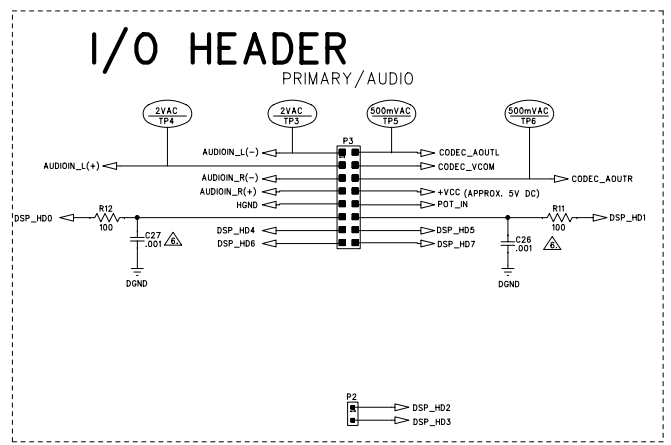
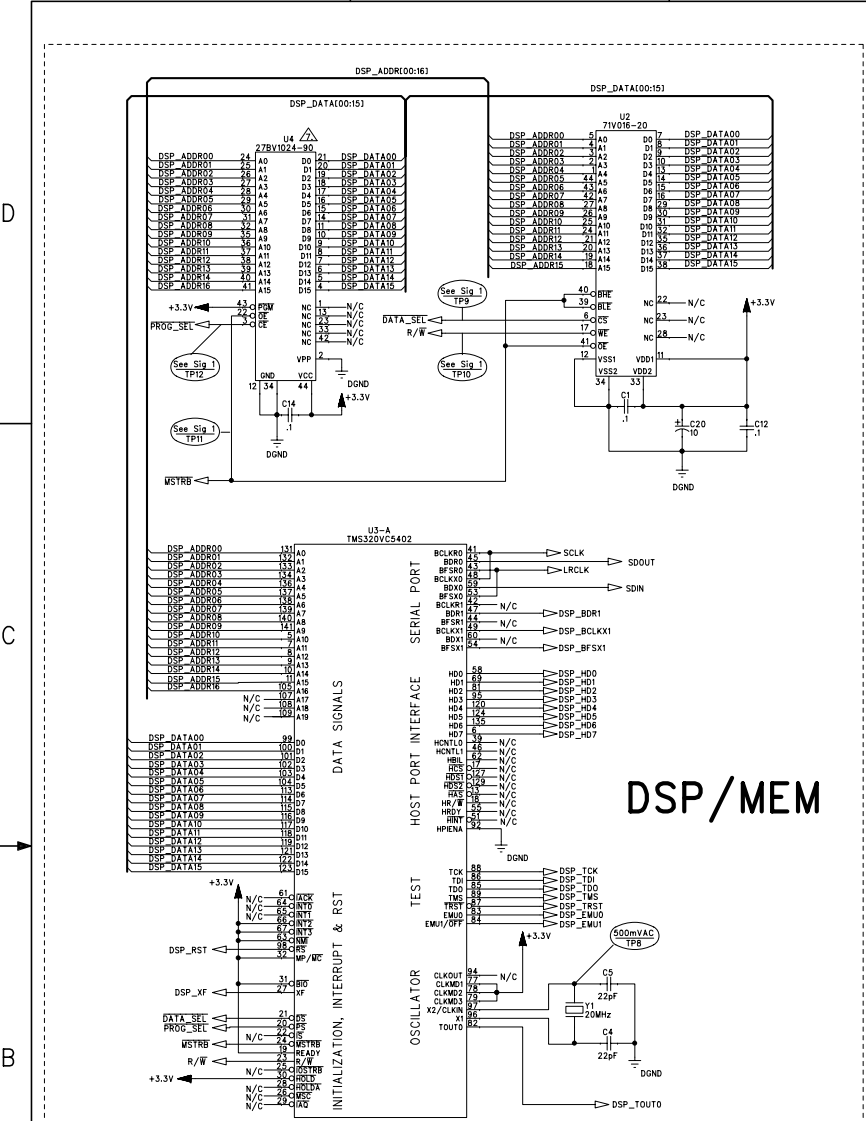
D
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8 7 6 5 4 3 2 1

REFER TO SHEET 1 FOR PROPER SECONDARY WIRING.
 1. SEE SHEET 1 FOR PRIMARY WIRING, TEST CONDITIONS, TEST POINT VALUES, AND OUTPUT POWER TEST SETUP.
 NOTES: (UNLESS OTHERWISE NOTED)

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CHECKED BY: _____ DATE: _____		TITLE: SERVICE DIAGRAM, COMBINED (PCB assy) MH-500 POWER AMP	
APPROVED BY: _____ DATE: _____		SIZE C	DRAWING NUMBER 0064731000
DRAWN: MULRICH	ENGR: MULRICH	RELEASE DATE: 10-SEP-04	REV. A
DATABASE FILE: Z616P2.PCB		SHEET 2 OF 2	

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
A	PR480	29-NOV-01	J T L
B	EC 2743	07-MAR-02	J T L
C	EC 2789	10-JUN-02	J C S
D	PR542	25-APR-03	R J D



- NOTES: (UNLESS OTHERWISE NOTED)
- INSTALL IC IN SOCKET. FENDER P/N 0056585005
 - DO NOT STUFF C26-27, P1, R15.
 - THIS SCHEMATIC IS FOR PCB FABRICATION P/N 0057284000 AND PCB ASSEMBLY P/N 0057285000.
 - ALL DIODES ARE 1N4448.
 - ALL UNPOLARIZED CAPACITORS IN uF, 20% OR BETTER; 16V MINIMUM. (POWER SUPPLY BYPASS CAPACITORS ARE 20%).
 - ALL RESISTORS IN OHMS, 5% 1/10W.

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Fender MUSICAL INSTRUMENTS
 Corona, CA U.S.A.

CHECKED BY: _____
 DATE: _____

APPROVED BY: _____
 DATE: _____

DRAWN: J. Jimenez ENGR: J. Lamb
 DATABASE FILE: Z4815.SCH

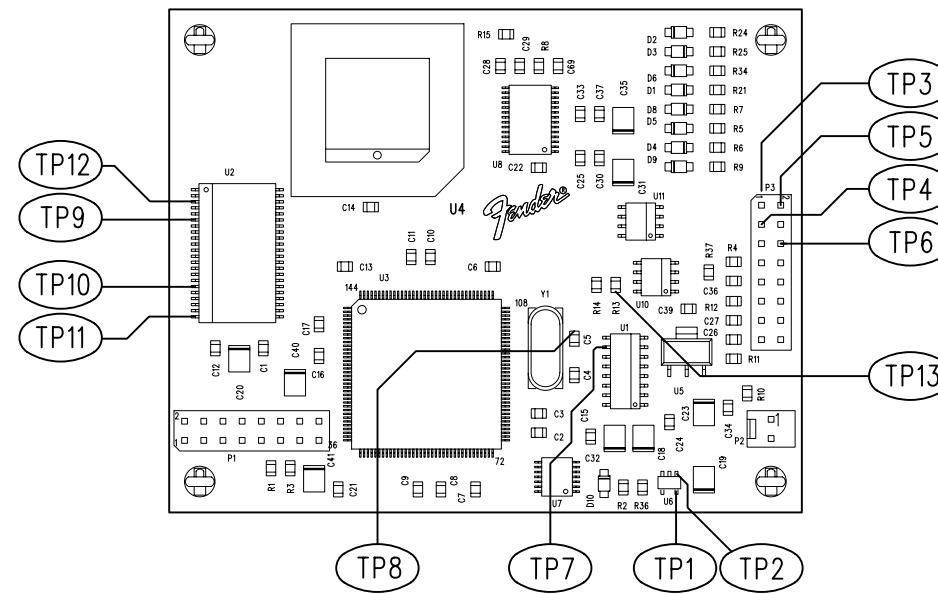
TITLE: SERVICE DIAGRAM, COMBINED (schematic) MICRO DSP

SIZE: **D** DRAWING NUMBER: **0057283000** REV. **D**

RELEASE DATE: 29-NOV-01 SHEET: 1 OF 2

REVISIONS


REV.	DESCRIPTION	DATE	APPROVED
A	PR480	30-NOV-01	J T L
B	EC 2743	07-MAR-02	J T L
C	EC 2789	10-JUN-02	J C S
D	PR542	25-APR-03	R J D



FILM/DWG: SERVICE DIAGRAM
 DATABASE: Z481P.PCB DATE: 25-APR-03

1. SEE SHEET 1 FOR TEST CONDITIONS AND TEST POINT VALUES.

NOTES: (UNLESS OTHERWISE NOTED)

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CHECKED BY: _____ DATE: _____		TITLE: SERVICE DIAGRAM, COMBINED (PCB assy) uDSP SERIES	
APPROVED BY: _____ DATE: _____		SIZE B	DRAWING NUMBER 0057283000
DRAWN: J. Jimenez	ENGR: J. Lamb	REV. D	
DATABASE FILE: Z481P.PCB		RELEASE DATE: 30-NOV-01	SHEET 2 OF 2