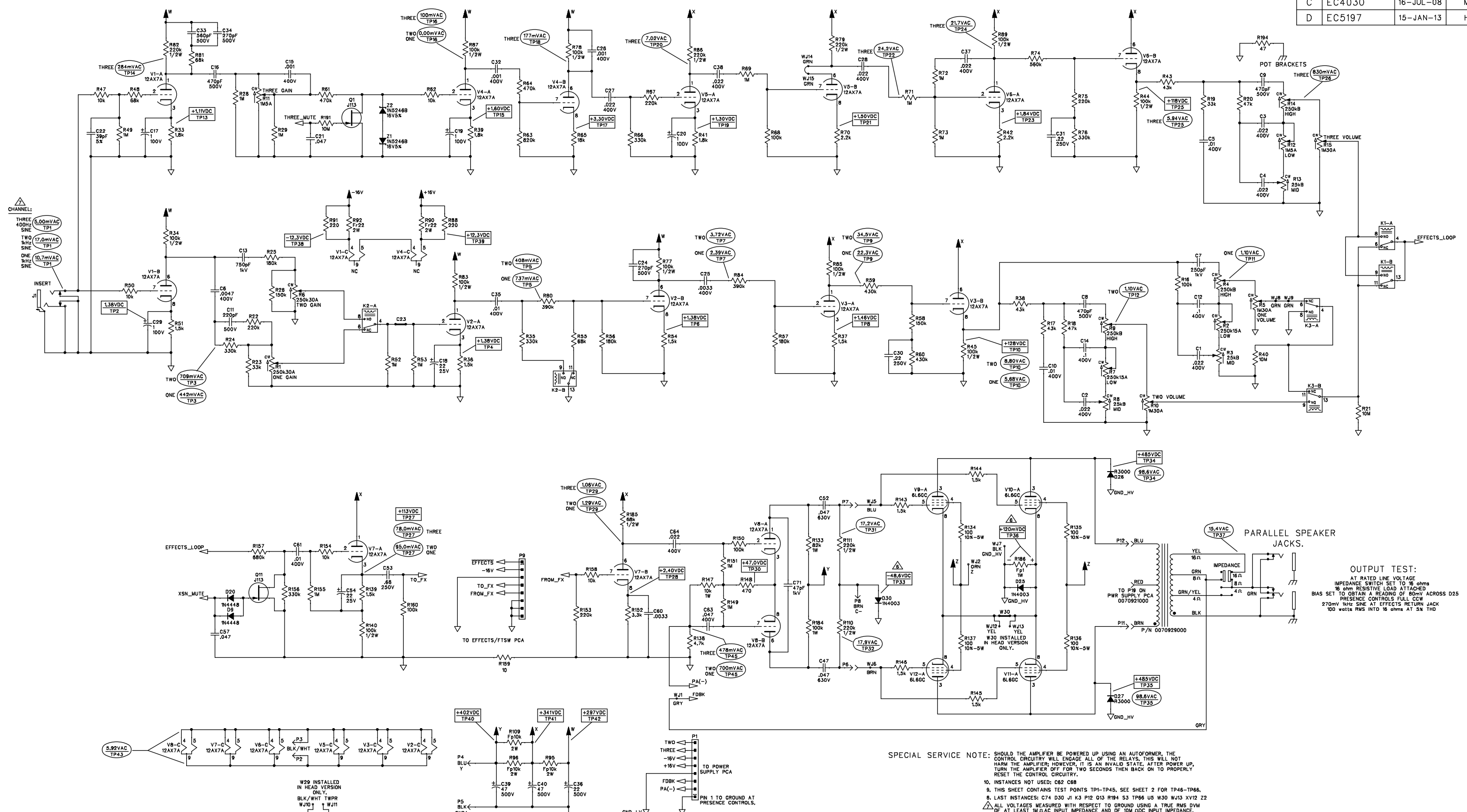


REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
A	PR684	04-AUG-06	MCU
B	EC3914	25-SEP-07	MCU
C	EC4030	16-JUL-08	MCU
D	EC5197	15-JAN-13	HBK



OUTPUT TEST:
 AT RATED LINE VOLTAGE
 IMPEDANCE SWITCH SET TO 16 ohms
 16 ohm RESISTIVE LOAD ATTACHED
 BIAS SET TO OBTAIN A READING OF 80mV ACROSS D25
 PRESENCE CONTROLS FULL CCW
 270mV 1kHz SINE AT EFFECTS RETURN JACK
 100 watts RMS INTO 16 ohms AT 5% THD

SPECIAL SERVICE NOTE:
 SHOULD THE AMPLIFIER BE POWERED UP USING AN AUTOFORMER, THE CONTROL CIRCUITRY WILL ENGAGE ALL OF THE RELAYS. THIS WILL NOT HARM THE AMPLIFIER; HOWEVER, IT IS AN INVALID STATE. AFTER POWER UP, TURN THE AMPLIFIER OFF FOR TWO SECONDS THEN BACK ON TO PROPERLY RESET THE CONTROL CIRCUITRY.
 10. INSTANCES NOT USED: C62 C88
 9. THIS SHEET CONTAINS TEST POINTS TP1-TP45, SEE SHEET 2 FOR TP46-TP86.
 8. LAST INSTANCES: C74 D30 J1 K3 P12 O13 R194 S3 TP86 U5 W30 WJ13 XV12 Z2
 7. ALL VOLTAGES MEASURED WITH RESPECT TO GROUND USING A TRUE RMS DVM OF AT LEAST 1MΩ INPUT IMPEDANCE AND OF 10MΩ DC INPUT IMPEDANCE. VOLTAGES MAY VARY +/-20%, TEST CONDITIONS:
 UNIT OPERATING AT RATED LINE VOLTAGE.
 BIAS SET TO 20mA PER OUTPUT TUBE. SEE NOTE 6.
 ALL DC AND SUPPLY MEASUREMENTS MADE WITH NO SIGNAL.
 ALL CONTROLS AT 50% ROTATION EXCEPT AS NOTED BELOW.
 R6 TWO GAIN AND R11 THREE GAIN AT 20% ROTATION (9 O'CLOCK).
 APPLIED SIGNAL AS SPECIFIED AT TP1 TO TEST EACH CHANNEL.
 6. BIAS ADJUSTMENT - NO SIGNAL APPLIED, RATED LINE VOLTAGE AT POWER TRANSFORMER PRIMARY, UNIT ON AND WARMED UP FOR AT LEAST TWO MINUTES: SET BIAS ADJUSTMENT R8 ON POWER SUPPLY PCA 007092000 TO OBTAIN A READING OF +120mV AT TP36. VOLTAGE SHOWN AT TP33 IS FOR REFERENCE ONLY AND WILL VARY FROM UNIT TO UNIT.
 5. THIS SCHEMATIC IS FOR PCB FABRICATION P/N 0070918000 AND PCB ASSEMBLY P/N 0070920000.
 4. ALL DOSES ARE 1N4448S.
 3. ALL POLARIZED CAPACITORS IN uF, 20%; 50V 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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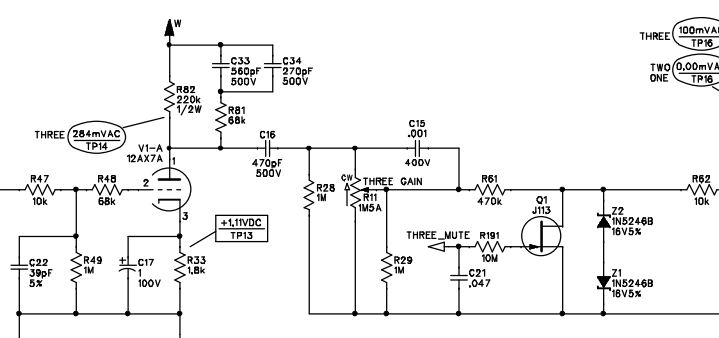
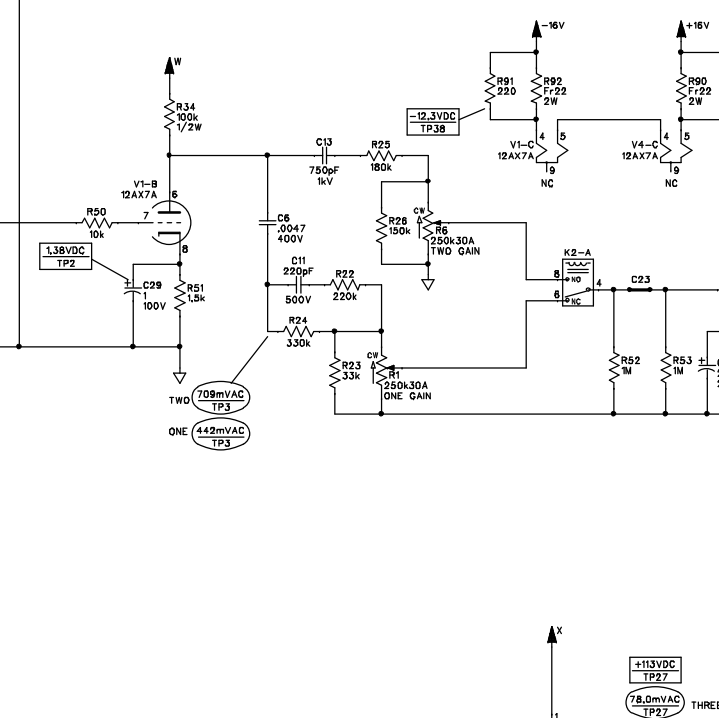
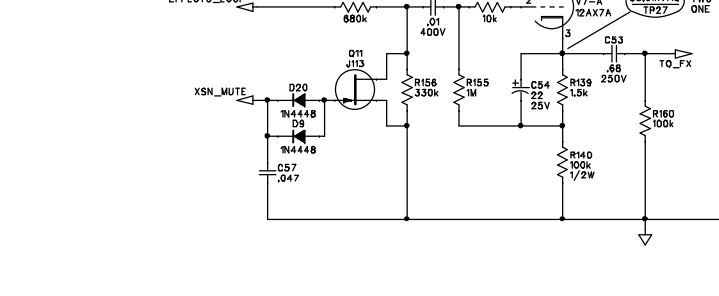
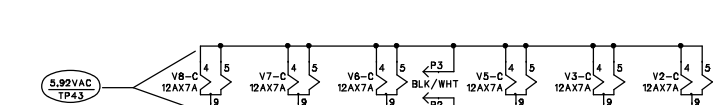
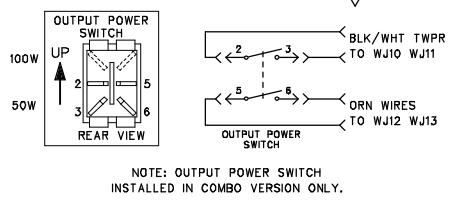
Fender MUSICAL INSTRUMENTS
 Corona, CA U.S.A.

TITLE: SERVICE DIAGRAM, COMBINED (schematic)
 EVH 5150-III AMPLIFIER
 MAIN PCA

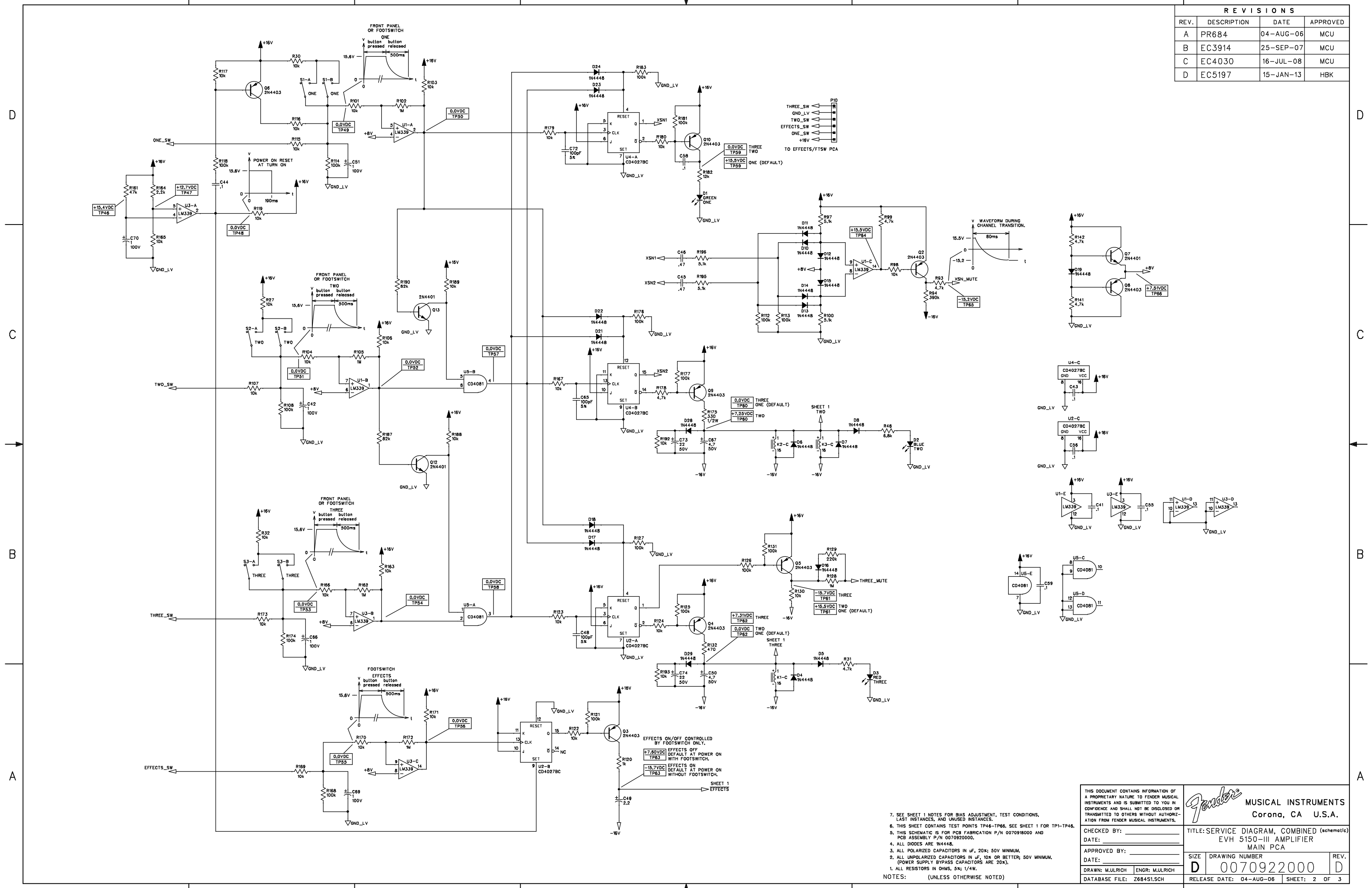
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 DATE: _____
 DRAWN: M.LURICH ENGR: M.LURICH
 DATABASE FILE: Z684S1.SCH

SIZE: **D** DRAWING NUMBER: 0070922000 REV. **D**

RELEASE DATE: 04-AUG-06 SHEET: 1 OF 3



REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
A	PR684	04-AUG-06	MCU
B	EC3914	25-SEP-07	MCU
C	EC4030	16-JUL-08	MCU
D	EC5197	15-JAN-13	HBK



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

TITLE: SERVICE DIAGRAM, COMBINED (schematic)
EVH 5150-III AMPLIFIER
MAIN PCA

CHECKED BY: _____
DATE: _____

APPROVED BY: _____
DATE: _____

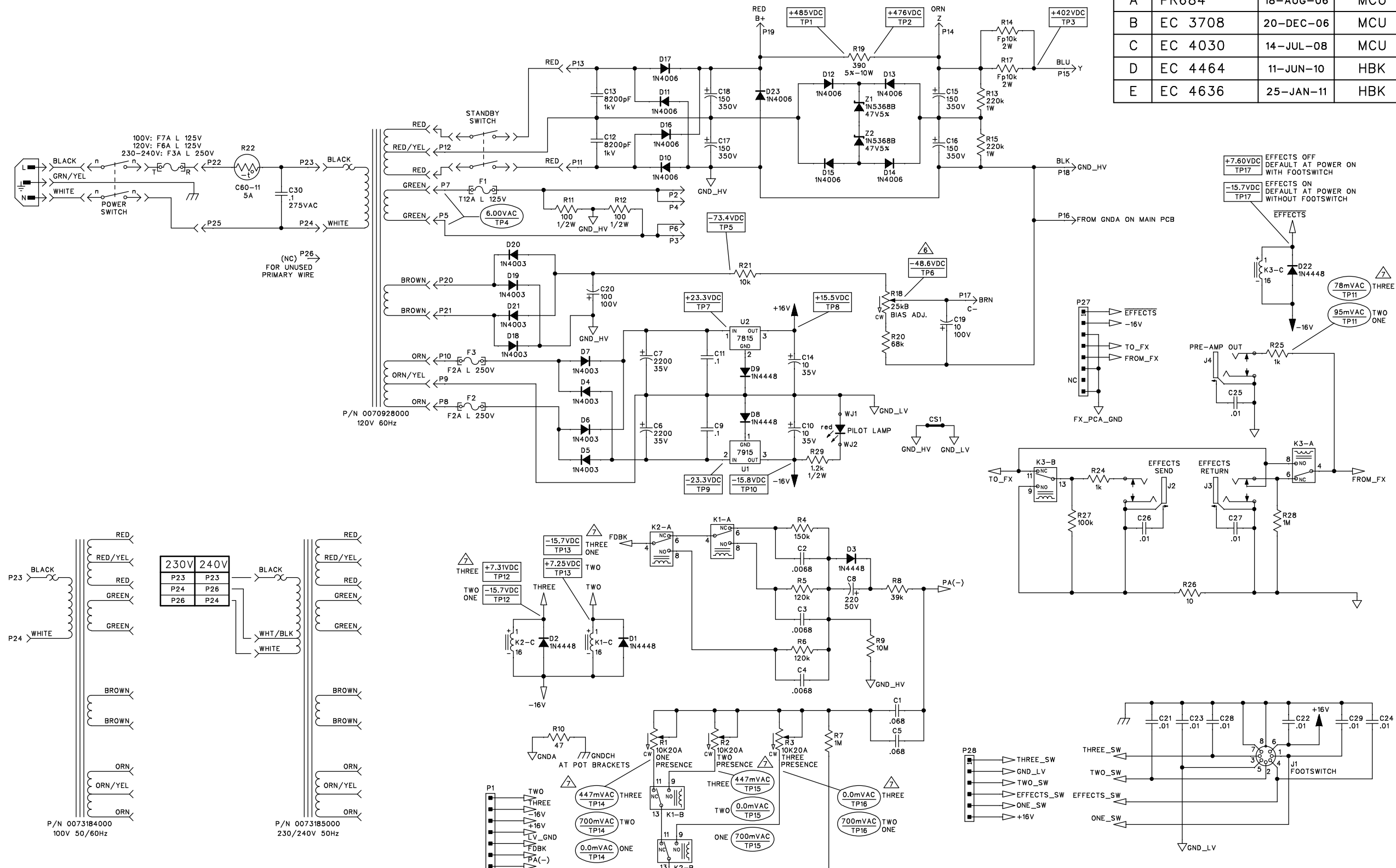
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DATABASE FILE: Z684S1.SCH

SIZE: **D** DRAWING NUMBER: 0070922000 REV. **D**

RELEASE DATE: 04-AUG-06 SHEET: 2 OF 3

- SEE SHEET 1 NOTES FOR BIAS ADJUSTMENT, TEST CONDITIONS, LAST INSTANCES, AND UNUSED INSTANCES.
 - THIS SHEET CONTAINS TEST POINTS TP46-TP66. SEE SHEET 1 FOR TP1-TP45.
 - THIS SCHEMATIC IS FOR PCB FABRICATION P/N 0070918000 AND PCB ASSEMBLY P/N 0070920000.
 - ALL DIODES ARE 1N4448.
 - ALL POLARIZED CAPACITORS IN μ F, 20% OR BETTER; 50V MINIMUM. (POWER SUPPLY BYPASS CAPACITORS ARE 20%).
 - ALL UNPOLARIZED CAPACITORS IN μ F, 10% OR BETTER; 50V MINIMUM. (POWER SUPPLY BYPASS CAPACITORS ARE 20%).
 - ALL RESISTORS IN OHMS, 5% 1/4W.
- NOTES: (UNLESS OTHERWISE NOTED)

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
A	PR684	18-AUG-06	MCU
B	EC 3708	20-DEC-06	MCU
C	EC 4030	14-JUL-08	MCU
D	EC 4464	11-JUN-10	HBK
E	EC 4636	25-JAN-11	HBK

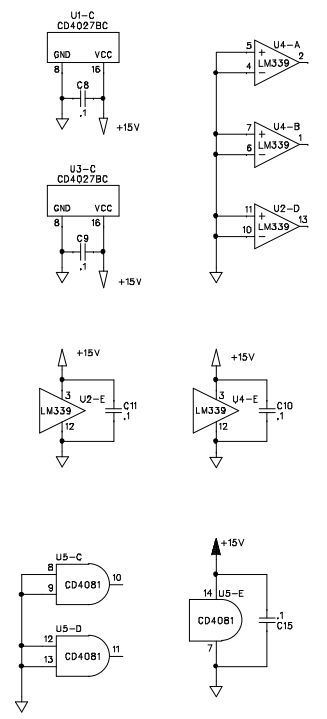
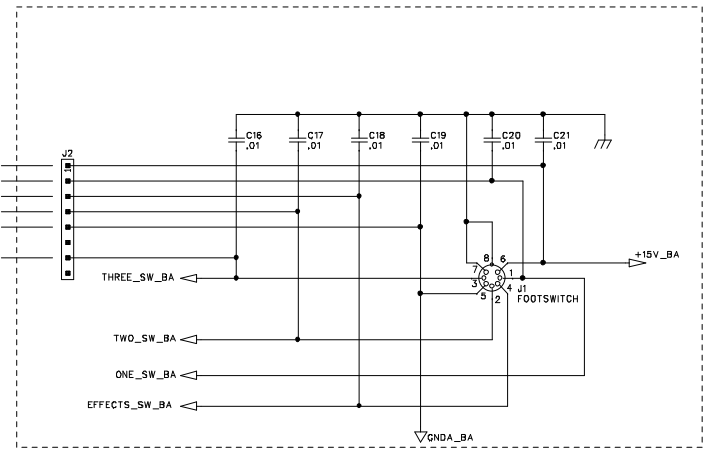
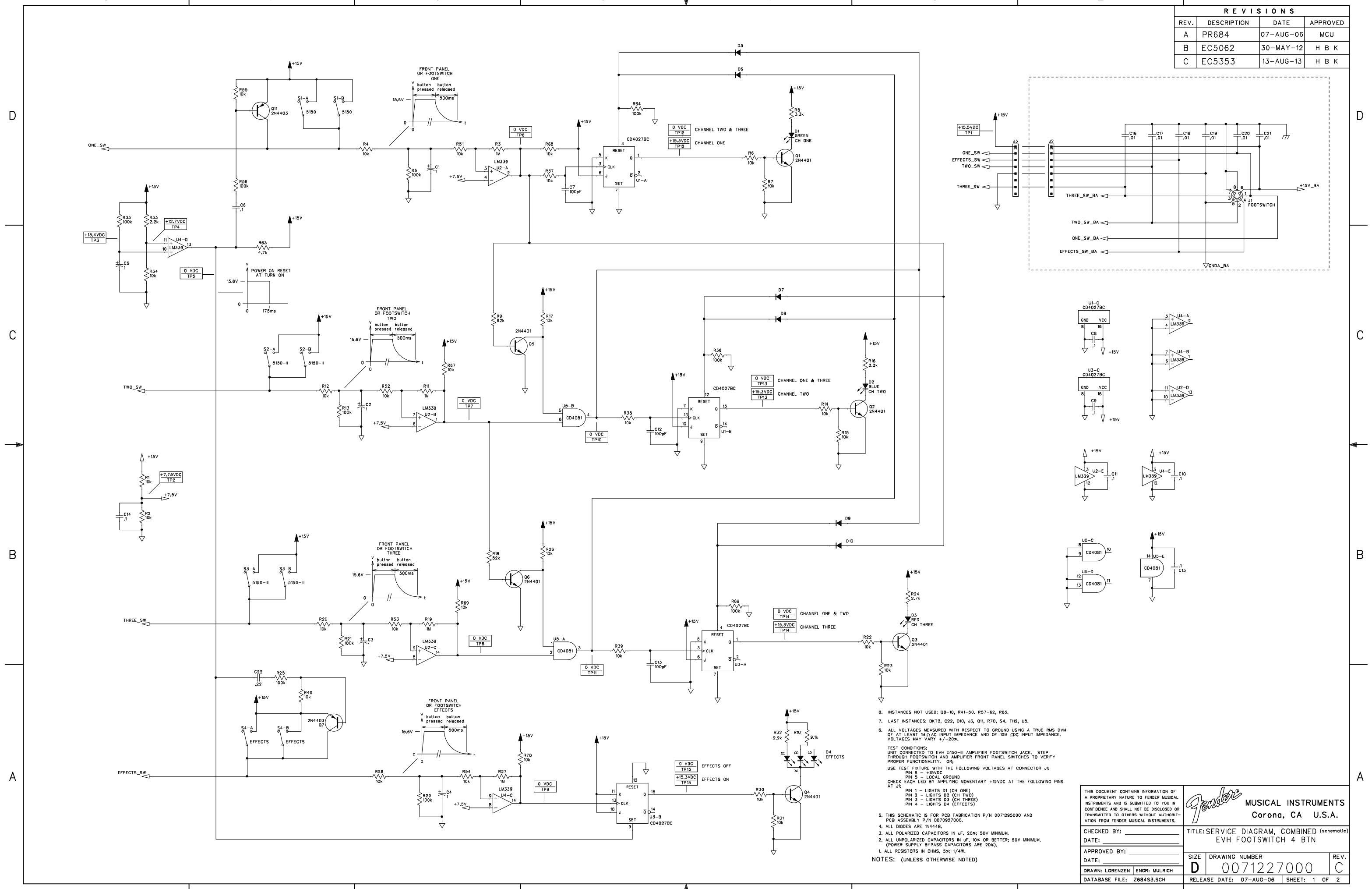


9. INSTANCES NOT USED: R23
8. LAST INSTANCES: C29 D23 F4 J4 K3 P29 R29 U7 U2 W2 WJ2 Z2
- SEE SCHEMATIC 0070922000 SHEET 1 NOTE 7 FOR TESTING CONDITIONS. NOTE THE DIFFERENT INPUT SIGNAL VOLTAGES AND FREQUENCIES USED FOR TESTING EACH CHANNEL.
- SEE SCHEMATIC 0070922000 SHEET 1 NOTE 6 FOR BIASING INSTRUCTIONS. VOLTAGE SHOWN AT TP6 IS FOR REFERENCE ONLY AND WILL VARY FROM UNIT TO UNIT.
5. THIS SCHEMATIC IS FOR PCB FABRICATION P/N 0070919000 AND PCB ASSEMBLY P/N 0070921000.
4. ALL DIODES ARE 1N4448.
3. ALL POLARIZED CAPACITORS IN μ F, 20%; 50V MINIMUM.
2. ALL UNPOLARIZED CAPACITORS IN μ F, 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: _____	TITLE: SERVICE DIAGRAM, COMBINED (schematic) EVH 5150-III AMPLIFIER PWR SUPPLY PCA	
APPROVED BY: _____	DATE: _____	SIZE: C	DRAWING NUMBER: 0070916000
DRAWN: M.ULRICH	ENGR: M.ULRICH	RELEASE DATE: 18-AUG-06	REV. E
DATABASE FILE: Z684S2.SCH		SHEET: 1 OF 2	

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
A	PR684	07-AUG-06	MCU
B	EC5062	30-MAY-12	H B K
C	EC5353	13-AUG-13	H B K



8. INSTANCES NOT USED: O8-10, R41-50, R57-62, R65.
7. LAST INSTANCES: BKT2, C22, D10, J3, Q11, R70, S4, TH2, U5.
6. ALL VOLTAGES MEASURED WITH RESPECT TO GROUND USING A TRUE RMS DVM OF AT LEAST 1M Ω AC INPUT IMPEDANCE AND OF 10M Ω DC INPUT IMPEDANCE. VOLTAGES MAY VARY +/-20%.
TEST CONDITIONS:
UNIT CONNECTED TO EVH 5150-II AMPLIFIER FOOTSWITCH JACK. STEP THROUGH FOOTSWITCH AND AMPLIFIER FRONT PANEL SWITCHES TO VERIFY PROPER FUNCTIONALITY. OR;
USE TEST FIXTURE WITH THE FOLLOWING VOLTAGES AT CONNECTOR J1:
PIN 6 - +15VDC
PIN 5 - LOCAL GROUND
CHECK EACH LED BY APPLYING MOMENTARY +12VDC AT THE FOLLOWING PINS AT J5:
PIN 1 - LIGHTS D1 (CH ONE)
PIN 2 - LIGHTS D2 (CH TWO)
PIN 3 - LIGHTS D3 (CH THREE)
PIN 4 - LIGHTS D4 (EFFECTS)
5. THIS SCHEMATIC IS FOR PCB FABRICATION P/N 0071295000 AND PCB ASSEMBLY P/N 0070927000.
4. ALL DIODES ARE 1N4448.
3. ALL UNPOLARIZED CAPACITORS IN μ F, 20%; 50V MINIMUM.
2. ALL POLARIZED CAPACITORS IN μ F, 10% OR BETTER; 50V MINIMUM. (POWER SUPPLY BYPASS CAPACITORS ARE 20%).
1. ALL RESISTORS IN OHMS, S Ω ; 1/4W.
NOTES: (UNLESS OTHERWISE NOTED)

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CHECKED BY: _____ DATE: _____				TITLE: SERVICE DIAGRAM, COMBINED (schematic) EVH FOOTSWITCH 4 BTN
APPROVED BY: _____ DATE: _____		SIZE: D	DRAWING NUMBER: 0071227000	REV. C
DRAWN: LORENZEN ENGR: MULRICH DATABASE FILE: Z68453.SCH		RELEASE DATE: 07-AUG-06	SHEET: 1 OF 2	