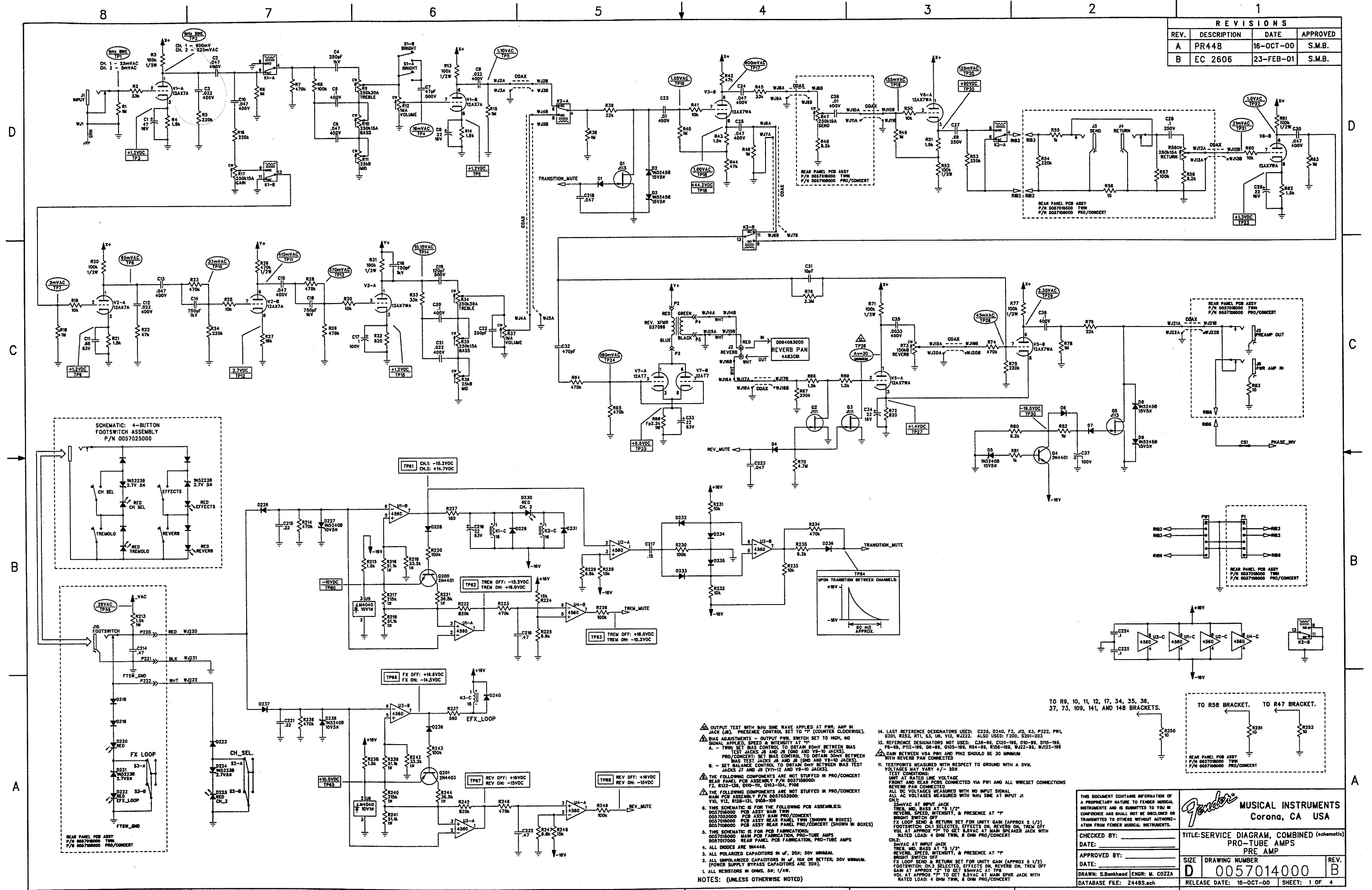


REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
A	PR448	16-OCT-00	S.M.B.
B	EC 2606	23-FEB-01	S.M.B.



- OUTPUT TEST WITH MHz SINE WAVE APPLIED AT PWR. AMP IN JACK (J6). PRESENCE CONTROL SET TO "T" (COUNTER CLOCKWISE). SIGNAL APPLIED: SPEED & INTENSITY AT "H".
- BIAS ADJUSTMENTS - OUTPUT PWR. SWITCH SET TO HIGH, NO SIGNAL APPLIED: SPEED & INTENSITY AT "H".
- A. - TWN: SET BIAS CONTROL TO OBTAIN 80mV BETWEEN BIAS TEST JACKS J8 AND J9 (GND AND V8-10 JACKS). PRO/CONCERT: SET BIAS CONTROL TO OBTAIN 30mV BETWEEN BIAS TEST JACKS J8 AND J9 (GND AND V8-10 JACKS).
- B. - SET BALANCE CONTROL TO OBTAIN 0mV BETWEEN BIAS TEST JACKS J7 AND J8 (V11-12 AND V8-10 JACKS).
- THE FOLLOWING COMPONENTS ARE NOT STUFFED IN PRO/CONCERT REAR PANEL PCB ASSEMBLY P/N 005708000: F2, R133-134, D10-101, G103-104, P108
- THE FOLLOWING COMPONENTS ARE NOT STUFFED IN PRO/CONCERT MAIN PCB ASSEMBLY P/N 0057052000: V12, V12, R128-131, D108-109
- THIS SCHEMATIC IS FOR THE FOLLOWING PCB ASSEMBLIES: 005708000 PCB ASSY MAIN TWN 0057052000 PCB ASSY MAIN PRO/CONCERT 005708000 PCB ASSY REAR PANEL TWN (SHOWN IN BOXES) 005708000 PCB ASSY REAR PANEL PRO/CONCERT (SHOWN IN BOXES)
- THIS SCHEMATIC IS FOR PCB FABRICATIONS: 005705000 MAIN PCB FABRICATION, PRO-TUBE AMPS 0057017000 REAR PANEL PCB FABRICATION, PRO-TUBE AMPS
- ALL DIODES ARE 1N4448.
- ALL POLARIZED CAPACITORS IN  $\mu$ F, 20% 50V MINIMUM.
- ALL UNPOLARIZED CAPACITORS IN  $\mu$ F, 10% OR BETTER, 50V MINIMUM. (POWER SUPPLY BYPASS CAPACITORS ARE 20%).
- ALL RESISTORS IN OHMS, S%: 1/4W.
- NOTES: (UNLESS OTHERWISE NOTED)
14. LAST REFERENCE DESIGNATORS USED: C225, D240, F2, J12, K3, P222, PW1, Q201, R152, R11, S3, U6, V12, R222. ALSO USED: Z20, S201-203
15. REFERENCE DESIGNATORS NOT USED: C38-89, C120-129, D10-109, D115-119, P8-89, P112-119, D8-89, O105-109, R84-89, R150-159, WJ22-89, WJ22-109
16. GAIN BETWEEN V5A PH1 AND PH2 SHOULD BE 30 MINIMUM WITH REVERB PAN CONNECTED.
17. TESTPOINTS MEASURED WITH RESPECT TO GROUND WITH A DVM. VOLTAGES MAY VARY +/- 20%
18. TEST CONDITIONS: UNIT AT RATED LINE VOLTAGE FRONT AND REAR PCBs CONNECTED VIA PW1 AND ALL WRESET CONNECTIONS REVERB PAN CONNECTED ALL DC VOLTAGES MEASURED WITH NO INPUT SIGNAL ALL AC VOLTAGES MEASURED WITH MHz SINE AT INPUT J1 CH1: 25mVAC AT INPUT JACK TREE MD, BASS AT "S 1/2" REVERB, SPEED, INTENSITY, & PRESENCE AT "T" BRIGHT SWITCH OFF FX LOOP SEND & RETURN SET FOR UNITY GAIN (APPROX 5 1/2) FOOTSWITCH: CH1 SELECTED, EFFECTS ON, REVERB ON, TREM OFF VOL AT APPROX "7" TO GET 8.0VAC AT MAIN SPEAKER JACK WITH RATED LOAD: 4 OHM TWN, 8 OHM PRO/CONCERT
19. 8mVAC AT INPUT JACK TREE MD, BASS AT "S 1/2" REVERB, SPEED, INTENSITY, & PRESENCE AT "T" BRIGHT SWITCH OFF FX LOOP SEND & RETURN SET FOR UNITY GAIN (APPROX 5 1/2) FOOTSWITCH: CH1 SELECTED, EFFECTS ON, REVERB ON, TREM OFF VOL AT APPROX "7" TO GET 8.0VAC AT MAIN SPEAKER JACK WITH RATED LOAD: 4 OHM TWN, 8 OHM PRO/CONCERT

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CHECKED BY: \_\_\_\_\_

DATE: \_\_\_\_\_

APPROVED BY: \_\_\_\_\_

DATE: \_\_\_\_\_

DRAWN: S.Banhead ENCR: M. COZZA

DATABASE FILE: Z4485.sch

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Corona, CA USA

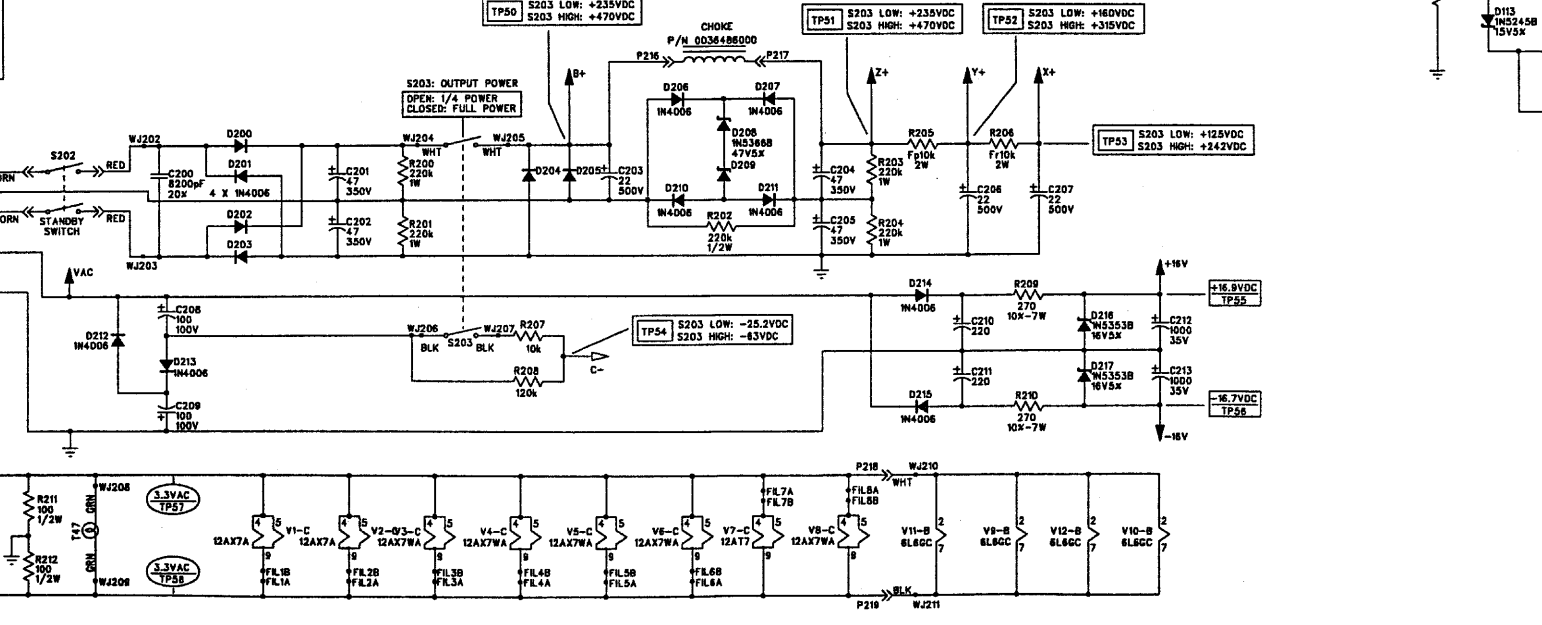
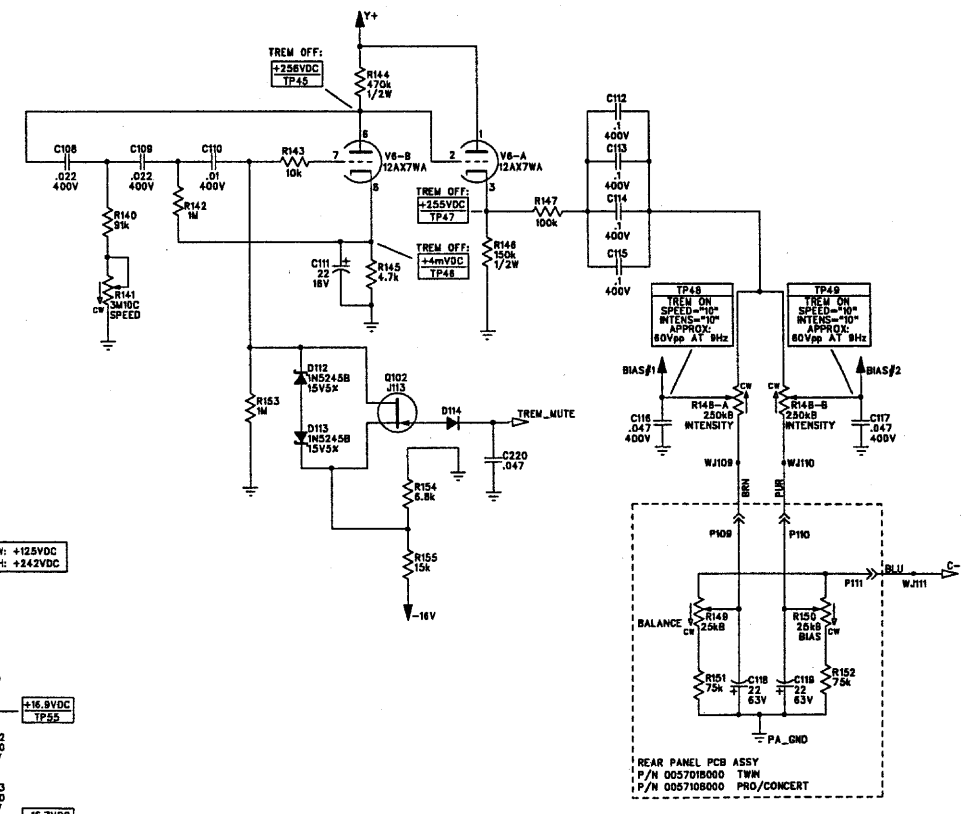
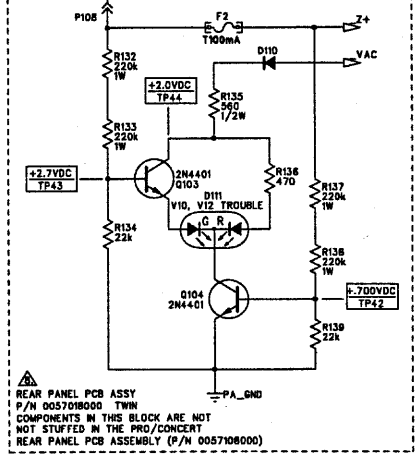
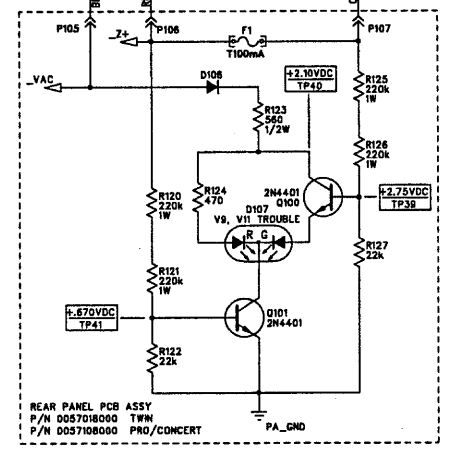
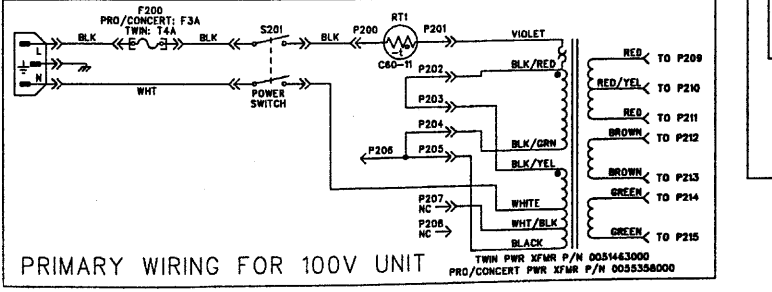
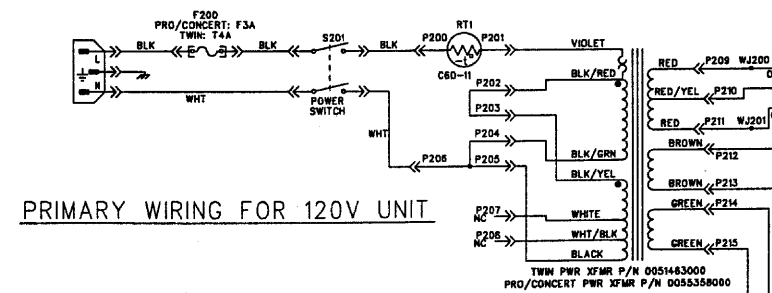
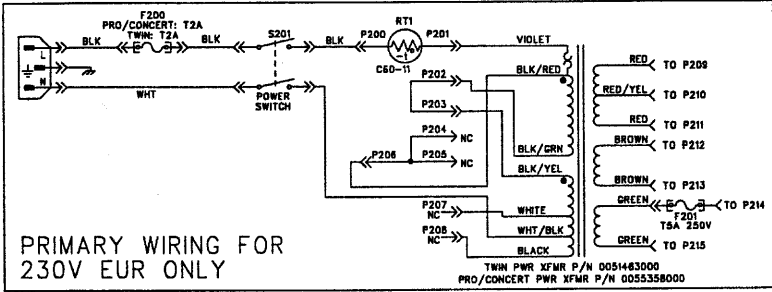
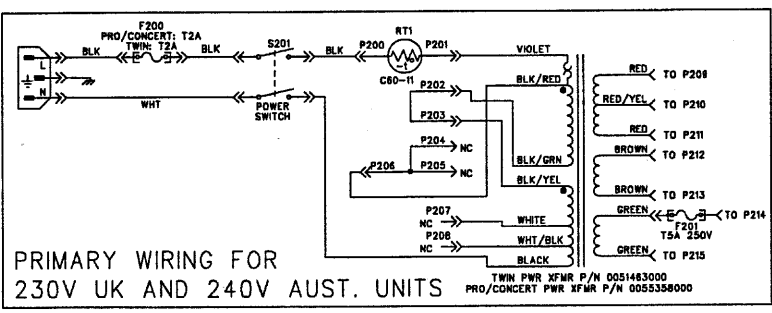
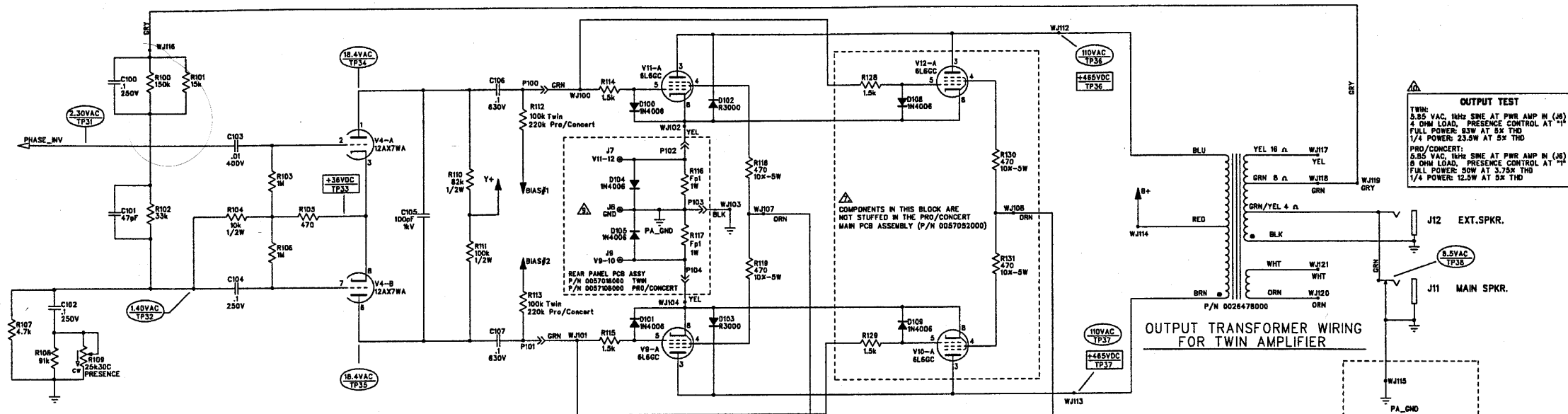
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PRO-TUBE AMPS  
REAR AMP

SIZE: DRAWING NUMBER  
**D** 0057014000

REV. **B**

RELEASE DATE: 16-OCT-00 SHEET: 1 OF 4

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
A	PR448	16-OCT-00	S.M.B.
B	EC 2606	23-FEB-01	S.M.B.



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**Fender** MUSICAL INSTRUMENTS  
Corona, CA USA

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DATE: \_\_\_\_\_

APPROVED BY: \_\_\_\_\_  
DATE: \_\_\_\_\_

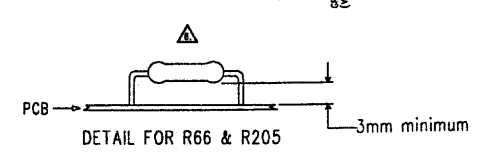
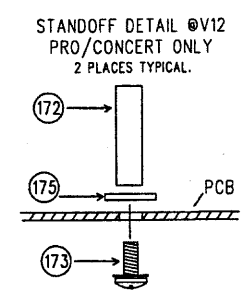
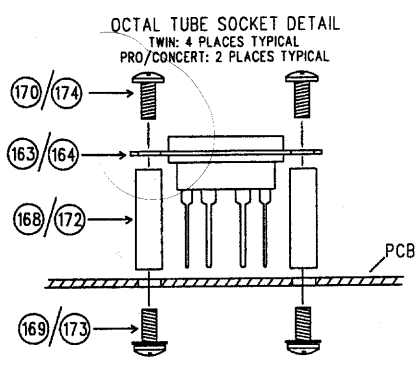
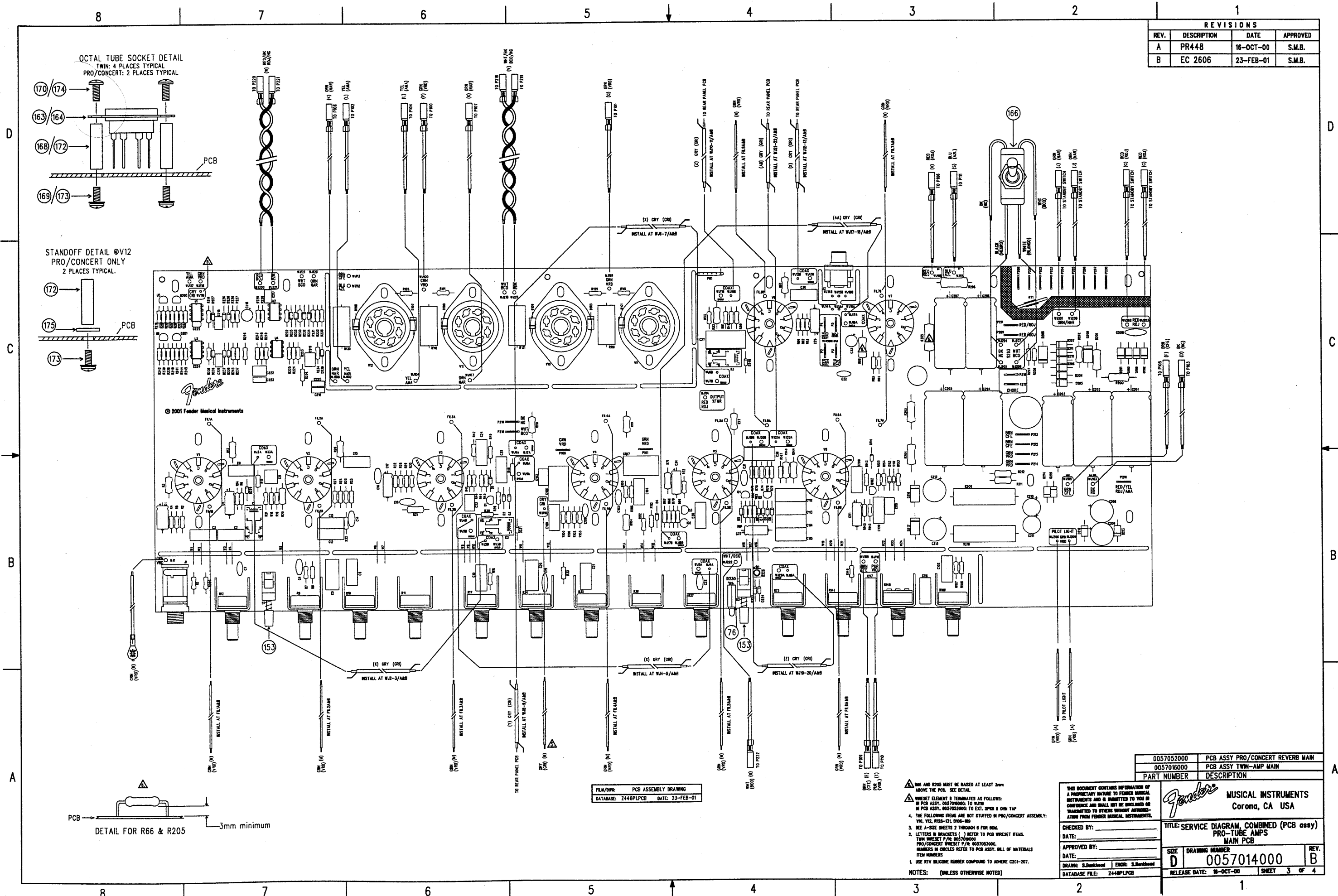
DRAWN: S.Bankhead ENGR: M. COZZA  
DATABASE FILE: 24485.sch

TITLE: SERVICE DIAGRAM, COMBINED (schematic)  
PRO-TUBE AMPS  
POWER AMP

SIZE: D  
DRAWING NUMBER: 0057014000  
RELEASE DATE: 16-OCT-00

REV. B  
SHEET: 2 OF 4

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
A	PR448	16-OCT-00	S.M.B.
B	EC 2606	23-FEB-01	S.M.B.



FILM/PPR: PCB ASSEMBLY DRAWING  
 DATABASE: Z448PLPCB DATE: 23-FEB-01

- RES AND R205 MUST BE BASED AT LEAST 3mm ABOVE THE PCB. SEE DETAIL.
- WIRESET ELEMENT 8 TERMINATES AS FOLLOWS:  
 IN PCB ASSY, 0057016000; TO EXT. SPIR 8 OHM TAP  
 IN PCB ASSY, 0057052000; TO EXT. SPIR 8 OHM TAP
- THE FOLLOWING ITEMS ARE NOT STUFFED IN PRO/CONCERT ASSEMBLY:  
 V12, V12B, V12C, V12D, V12E
  - SEE A-SIZE SHEETS 2 THROUGH 6 FOR ROL.
  - LETTERS IN BRACKETS ( ) REFER TO PCB WIRESET ITEMS.  
 TWIN WIRESET P/N: 0057050000  
 PRO/CONCERT WIRESET P/N: 0057053000.  
 NUMBERS IN CIRCLES REFER TO PCB ASSY. BILL OF MATERIALS ITEM NUMBERS
  - USE RTV SILICONE RUBBER COMPOUND TO ADHERE C201-207.
- NOTES: (UNLESS OTHERWISE NOTED)

0057052000	PCB ASSY PRO/CONCERT REVERB MAIN
0057016000	PCB ASSY TWIN-AMP MAIN
PART NUMBER	DESCRIPTION

**Fender** MUSICAL INSTRUMENTS  
 Corona, CA USA

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APPROVED BY: \_\_\_\_\_  
 DATE: \_\_\_\_\_

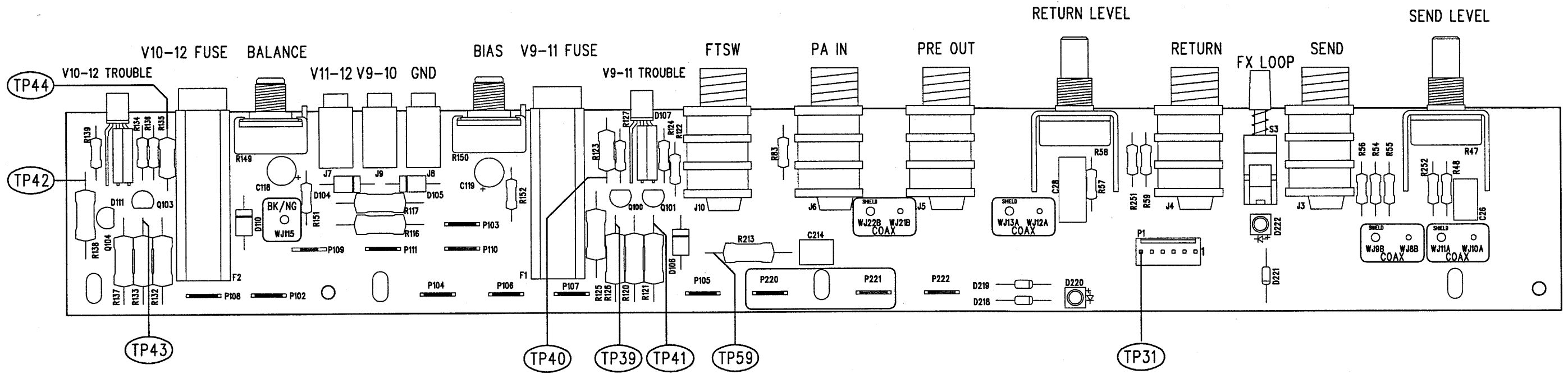
DRAWN: S.Barthelme ENGR: S.Barthelme  
 DATABASE FILE: Z448PLPCB

TITLE: SERVICE DIAGRAM, COMBINED (PCB assy) PRO-TUBE AMPS MAIN PCB

SIZE: **D** DRAWING NUMBER: **0057014000** REV: **B**


RELEASE DATE: 16-OCT-00 SHEET 3 OF 4

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
A	PR 448	16-OCT-00	S.M.B.
B	EC 2606	23-FEB-01	S.M.B.



FILM/DWG: SERVICE DIAGRAM  
 DATABASE: Z448P2.PCB DATE: 16-OCT-00

2. SEE PAGE 1 FOR NOTES AND TEST CONDITIONS  
 1. WIRES NOT SHOWN FOR CLARITY  
 NOTES: (UNLESS OTHERWISE NOTED)

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CHECKED BY: _____ DATE: _____		TITLE: SERVICE DIAGRAM, COMBINED (PCB assy) PRO-TUBE AMPS REAR PANEL PCB	
APPROVED BY: _____ DATE: _____		SIZE <b>B</b>	DRAWING NUMBER 0057014000
DRAWN: S.Bankhead ENGR: S.Bankhead	DATABASE FILE: Z448P2.PCB	RELEASE DATE: 16-OCT-00	REV. <b>B</b> SHEET 4 OF 4