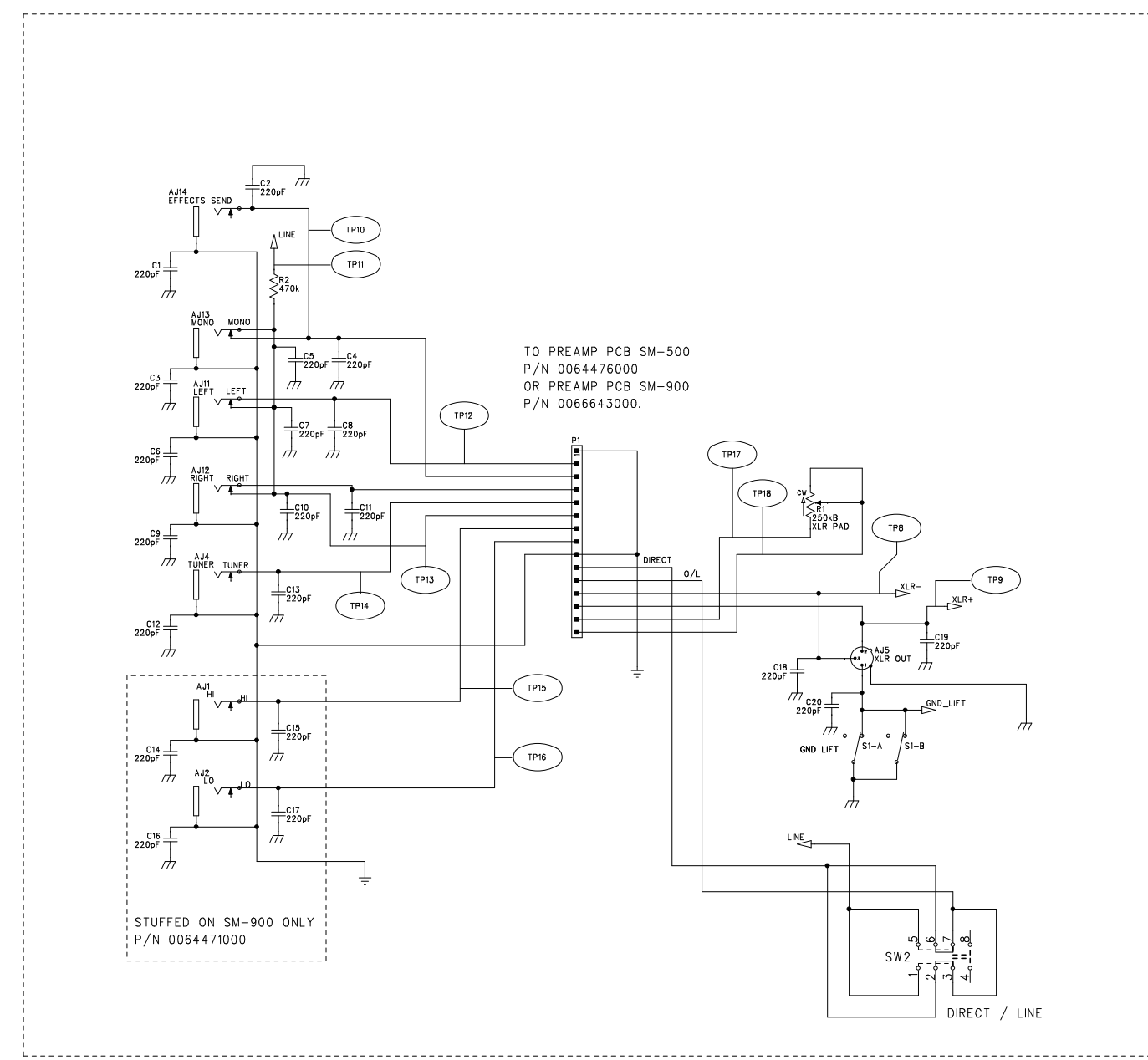
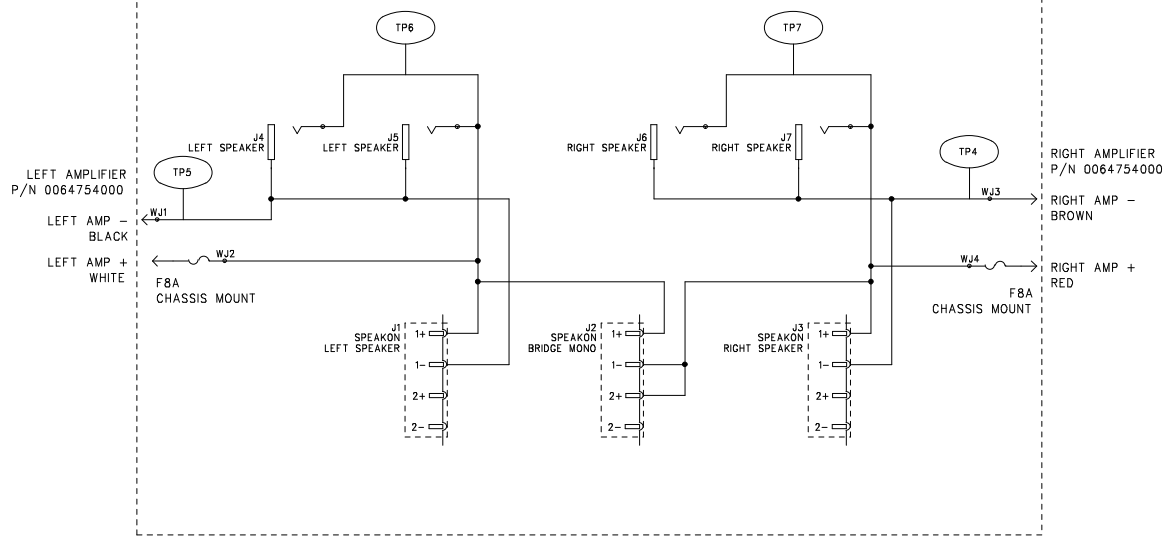
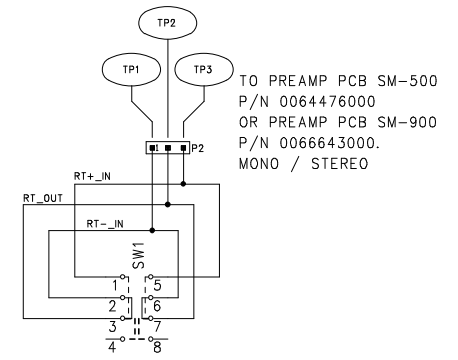


REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
A	EC3166	11-NOV-04	G A R



T/P	SM-500	SM-900
TP1	550mVAC	TBD
TP2	550mVAC	TBD
TP3	550mVAC	TBD
TP4	0 VAC	TBD
TP5	0 VAC	TBD
TP6	14.5 VAC	TBD
TP7	14.5 VAC	TBD
TP8	400mVAC	TBD
TP9	400mVAC	TBD
TP10	1.5 VAC	TBD
TP11	1.5 VAC	TBD
TP12	1.5 VAC	TBD
TP13	1.5 VAC	TBD
TP14	300mVAC	TBD
TP15	N/A	TBD
TP16	N/A	TBD
TP17	10mVAC	TBD
TP18	400mVAC	TBD

5. FOR TEST CONDITIONS AND MEASUREMENTS REFERENCE DRAWING # 0065402000 FOR SM-500 AND DRAWING # 0065412000 FOR SM-900.
4. THIS SCHEMATIC IS FOR PCB FABRICATION P/N 0064489000 AND PCB ASSEMBLY P/N 0064470000 (SM-500) OR P/N 0064471000 (SM-900).
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)

THIS DOCUMENT CONTAINS INFORMATION OF A PROPRIETARY NATURE TO FENDER MUSICAL INSTRUMENTS AND IS SUBMITTED TO YOU IN CONFIDENCE AND SHALL NOT BE DISCLOSED OR TRANSMITTED TO OTHERS WITHOUT AUTHORIZATION FROM FENDER MUSICAL INSTRUMENTS.		 <b>SWR SOUND</b> Corona, CA U.S.A.
CHECKED BY: _____	TITLE: SERVICE DIAGRAM, COMBINED (schematic)	
DATE: _____	SM-500 / SM-900 IO/SPKR	
APPROVED BY: _____	SIZE DRAWING NUMBER	
DATE: _____	<b>D 0069128000</b>	
DRAWN: ROCHELEAU ENGR; ROCHELEAU	RELEASE DATE: 18-NOV-04 SHEET: 1 OF 2	
DATABASE FILE: Z629S2.SCH	REV. <b>A</b>	

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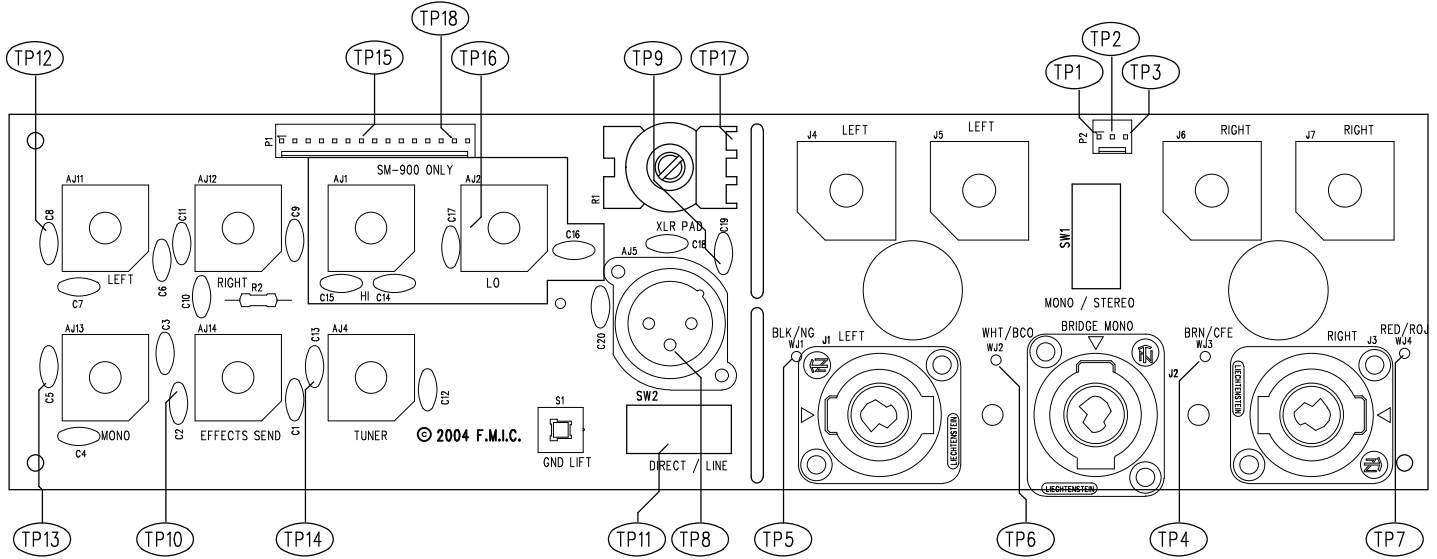
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REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
A	EC3166	11-NOV-04	G A R



FILM/DWG: SERVICE DIAGRAM  
 DATABASE: Z629P2.PCB DATE: 11-NOV-04

3. PCB SHOWN AS FABRICATED BEFORE  
 BREAKAWAYS ARE INSTALLED  
 IN CHASSIS.  
 2. WIRES NOT SHOWN FOR CLARITY.  
 1. SEE SHEET 1 FOR PRIMARY WIRING, TEST  
 CONDITIONS, AND TEST POINT VALUES  
 NOTES: (UNLESS OTHERWISE NOTED)

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		CHECKED BY: _____ DATE: _____	APPROVED BY: _____ DATE: _____	<b>C</b>
DRAWN: G Rocheleau    ENGR: G Rocheleau DATABASE FILE: Z629P2.PCB	RELEASE DATE: 11-NOV-04	SHEET 2 OF 2		

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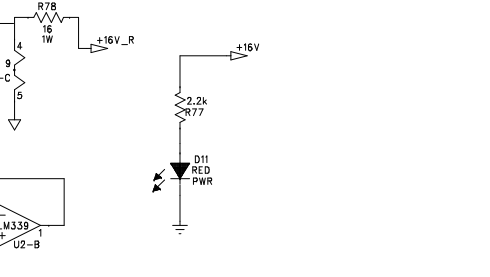
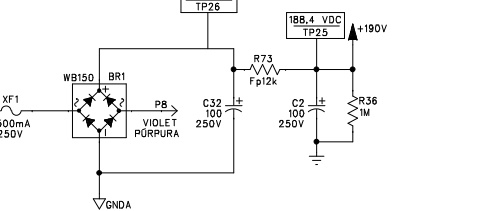
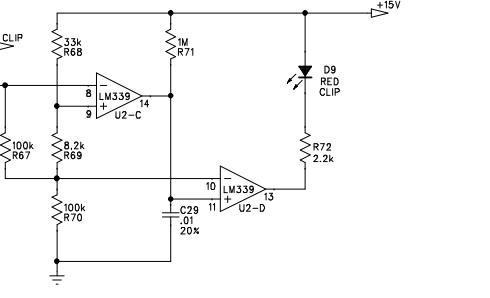
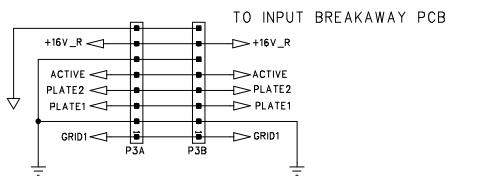
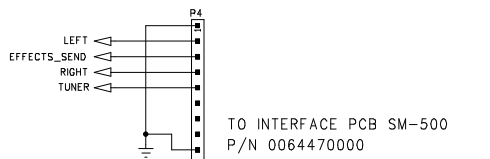
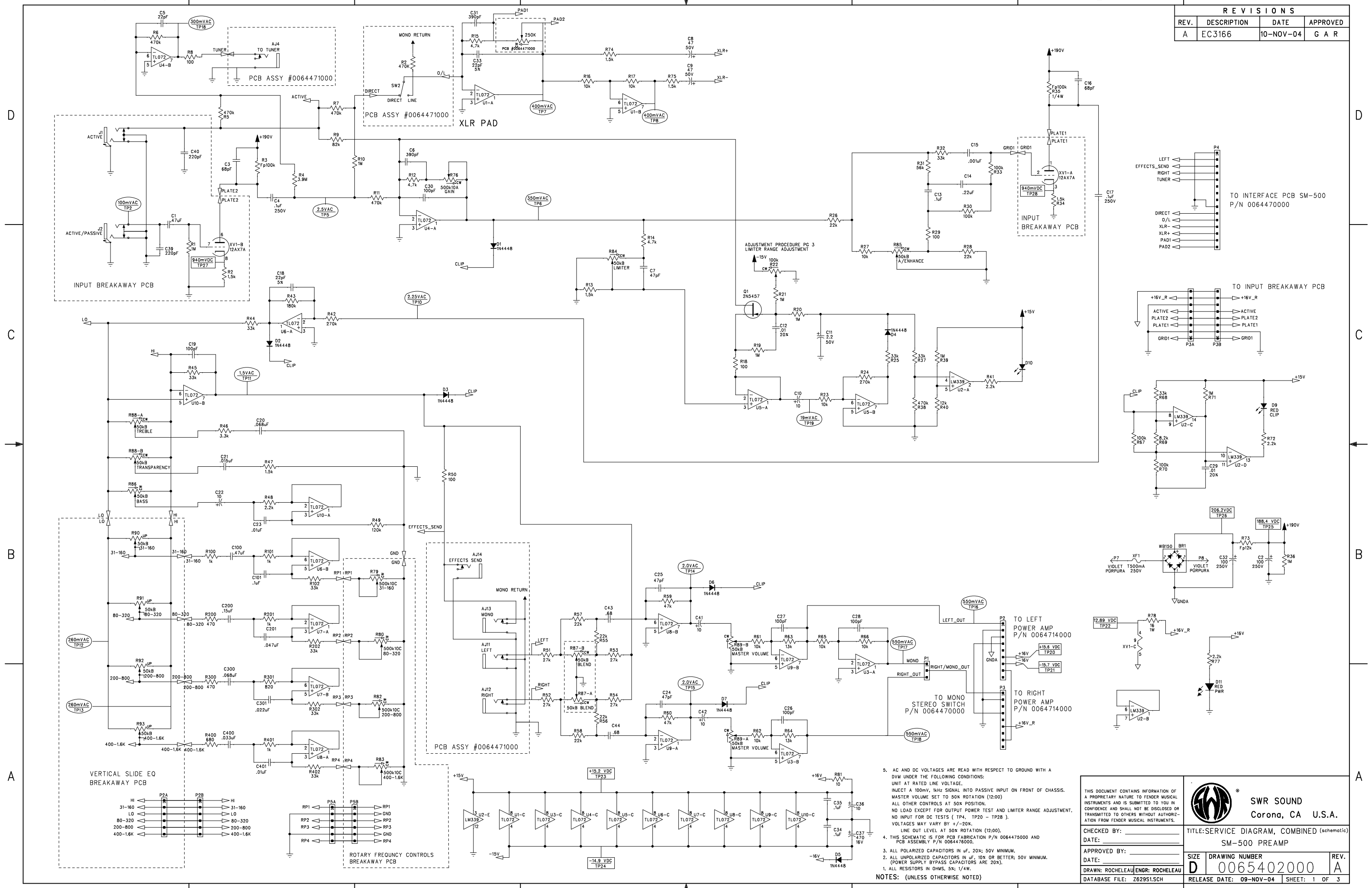
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REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
A	EC3166	10-NOV-04	G A R



5. AC AND DC VOLTAGES ARE READ WITH RESPECT TO GROUND WITH A DVM UNDER THE FOLLOWING CONDITIONS:  
 UNIT AT RATED LINE VOLTAGE.  
 INJECT A 100mV, 1kHz SIGNAL INTO PASSIVE INPUT ON FRONT OF CHASSIS. MASTER VOLUME SET TO 50% ROTATION (12:00)  
 ALL OTHER CONTROLS AT 50% POSITION.  
 NO LOAD EXCEPT FOR OUTPUT POWER TEST AND LIMITER RANGE ADJUSTMENT. NO INPUT FOR DC TESTS ( TP4, TP20 - TP28 ).  
 VOLTAGES MAY VARY BY +/-20%.
6. LINE OUT LEVEL AT 50% ROTATION (12:00).
7. THIS SCHEMATIC IS FOR PCB FABRICATION P/N 0064475000 AND PCB ASSEMBLY P/N 0064476000.
8. ALL POLARIZED CAPACITORS IN uF, 20% 50V MINIMUM.
9. ALL UNPOLARIZED CAPACITORS IN uF, 10% OR BETTER, 50V MINIMUM. (POWER SUPPLY BYPASS CAPACITORS ARE 20%).
10. ALL RESISTORS IN OHMS, 5% 1/4W.

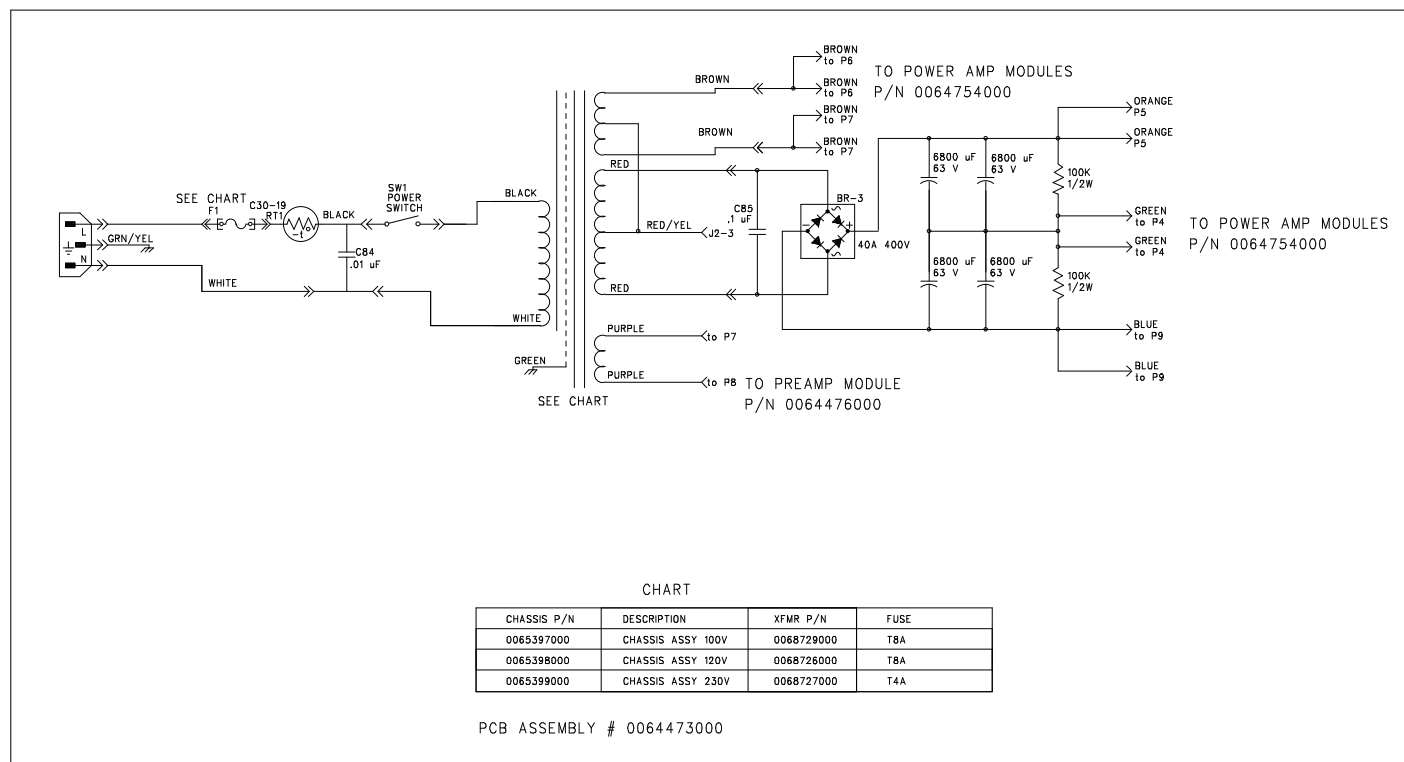
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CHECKED BY: _____ DATE: _____ APPROVED BY: _____ DATE: _____ DRAWN: ROCHELEAU ENGR: ROCHELEAU DATABASE FILE: Z629S1.SCH		
TITLE: SERVICE DIAGRAM, COMBINED (schematic) SM-500 PREAMP		SIZE: DRAWING NUMBER <b>D 0065402000</b>
RELEASE DATE: 09-NOV-04 SHEET: 1 OF 3		

VERTICAL SLIDE EQ BREAKAWAY PCB

ROTARY FREQUENCY CONTROLS BREAKAWAY PCB

NOTES: (UNLESS OTHERWISE NOTED)

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
A	EC3166	10-NOV-04	G A R



**OUTPUT POWER TEST**

SPEAKER OUT BREAKAWAY PCB'S

- \*LOAD BOTH CHANNELS WITH 4 OHMS EACH FOR TYPICAL TEST AND TROUBLESHOOTING.
- \*APPLY OUTPUT POWER MEASUREMENT DEVICE (AC DVM, OSCOPE, ETC) TO AN UNUSED SPEAKER OUTPUT JACK.
- \*POWER UNIT ON WITH RATED LINE SOURCE.
- \*APPLY 1.25Vrms, 1kHz SINE WAVE TO THE EFFECTS RETURN JACK.
- \*ROTATE MASTER VOLUME CW UNTIL OUTPUT CLIPPING IS OBSERVED.
- \*MAXIMUM OUTPUT POWER INTO 4 OHMS STEREO = 200W/CH @ 0.1%THD OR BETTER.

\*IF LEFT AT MAX POWER FOR A LONG TIME, AMP WILL INVOKE THERMAL PROTECTION CIRCUITRY.

**OUTPUT POWER AT 2 & 4 OHM LOAD**

- \*MAXIMUM OUTPUT POWER INTO 4 OHMS STEREO = 200W/CH @ 0.1%THD OR BETTER.
- \*MAXIMUM OUTPUT POWER INTO 2 OHMS STEREO = 250W/CH @ 0.1%THD OR BETTER.

NOTES: (UNLESS OTHERWISE NOTED)

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CHECKED BY: _____	DATE: _____	TITLE: SERVICE DIAGRAM, COMBINED (schematic) SWR SM-500	
APPROVED BY: _____	DATE: _____	SERVICE DIAGRAM, SM-500 PREAMP	
DRAWN: ROCHELEAU ENGR: ROCHELEAU	DATE: _____	SIZE: <b>D</b>	DRAWING NUMBER: 0065402000
DATABASE FILE: Z62951.SCH	RELEASE DATE: dd-MMM-yy	SHEET: 2 OF 3	REV. <b>A</b>

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
A	EC3166	10-NOV-04	G A R

**Limiter test & adjustment**

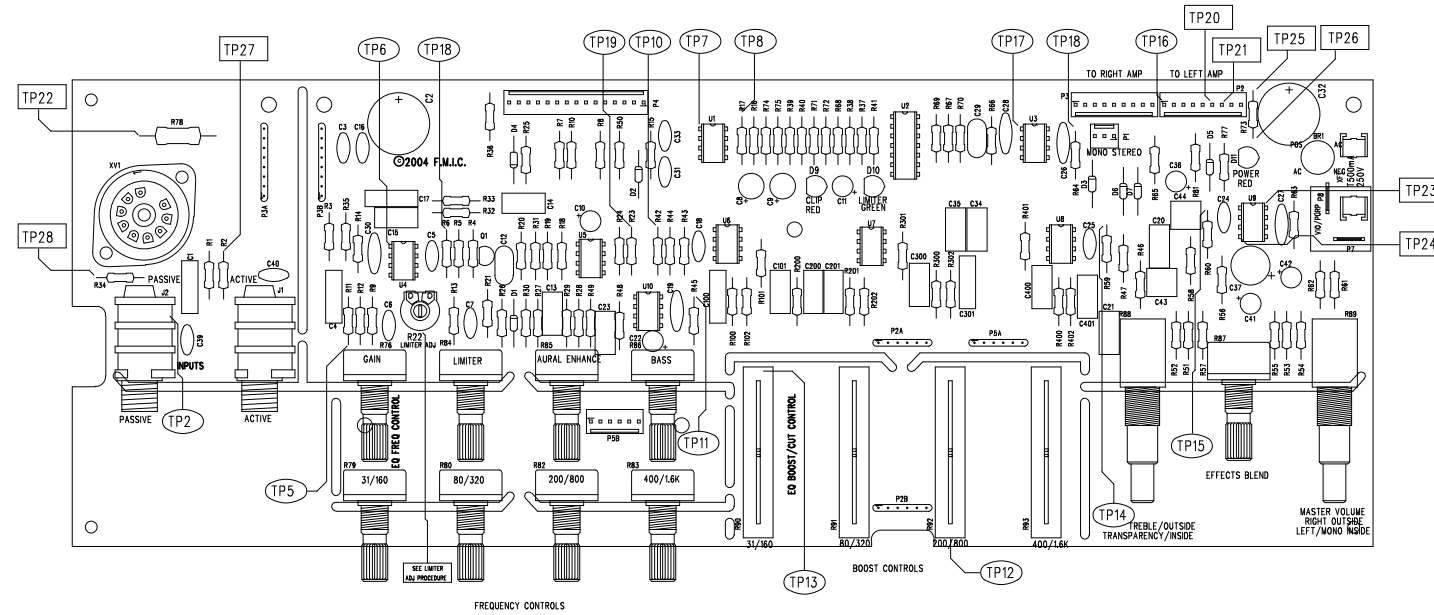
This amplifier has an adjustable limiter circuit that needs to be set before final sound testing of the unit. Use the following procedure to test and set the limiter circuit.

**Test Conditions:**

1. Load both channels with 4 Ohms each.
2. Amplifier running at rated line voltage. While operating the amp at full power, make sure there is not excessive voltage "sag" at the power outlet.
3. Limiter control at "MAX"
4. GAIN control and MASTER control fully clockwise to their maximum position.
5. All other controls should be set to center detent or 50% rotation.
6. Four Ohm load to each channel.
7. Begin with the limiter control (R22) in the clockwise position.
8. Monitor the amplifier output with an oscilloscope.


**Test Procedure:**

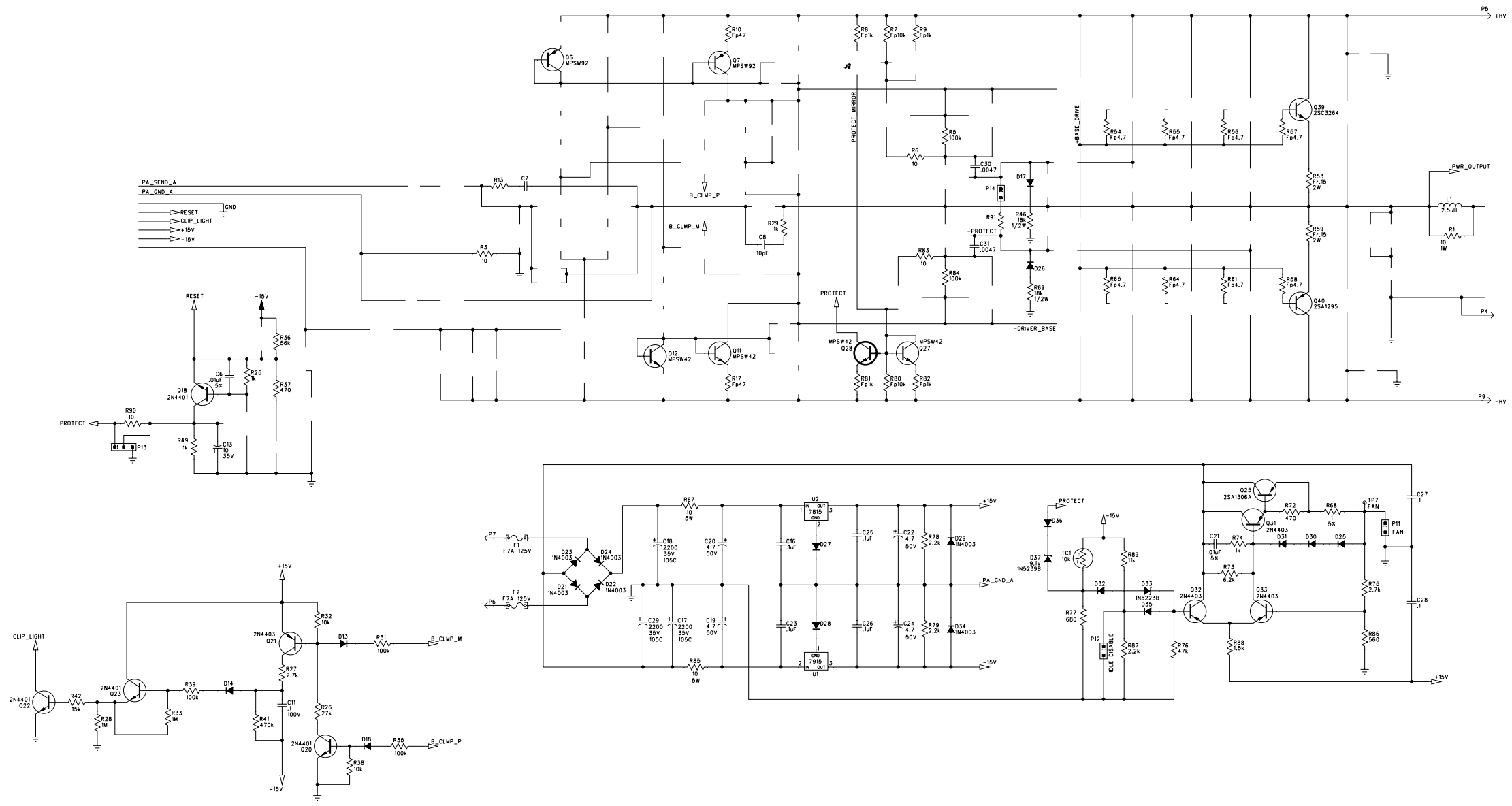
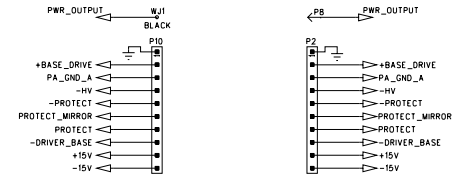
1. Apply a 1kHz, 100mV sine wave at the passive input. This will create a full power square-wave condition at the output.
2. Adjust R22 until there is no amplifier clipping observed on the oscilloscope.
3. Verify that the green Limiter Active LED is illuminated.
4. Turn the limiter control to "OFF", and verify that the Limiter Active LED turns off, and the PREAMP CLIP LED turns on.
5. Use caution and perform this test quickly, since the amplifier will be operating at full power & will heat up quickly.
6. The limiter adjustment, R22, on the SM-500 should be somewhere near 75% rotation.



FILM/DWG: SERVICE DIAGRAM  
 DATABASE: Z629P1.PCB DATE: 21-OCT-04

3. PCB SHOWN AS FABRICATED BEFORE BREAKAWAYS ARE INSTALLED IN CHASSIS.  
 2. WIRES NOT SHOWN FOR CLARITY.  
 1. SEE SHEET 1 FOR PRIMARY WIRING, TEST CONDITIONS, AND TEST POINT VALUES  
 NOTES: (UNLESS OTHERWISE NOTED)

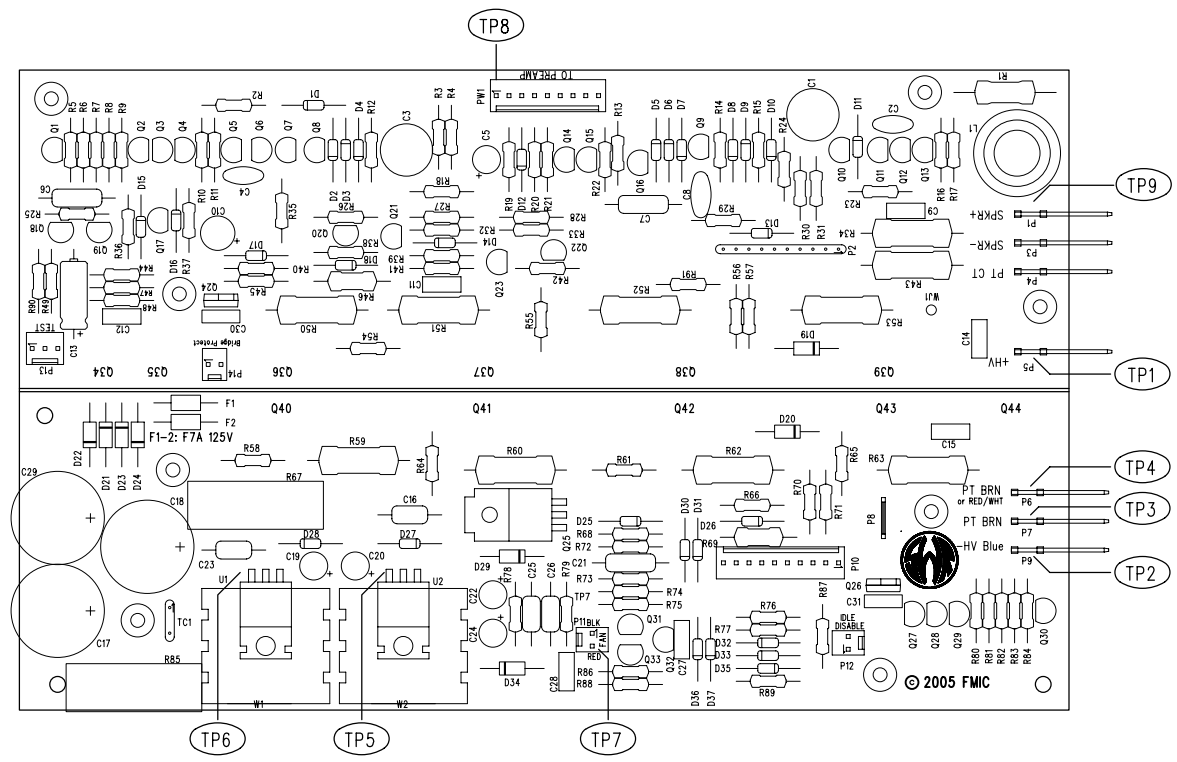
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CHECKED BY: _____ DATE: _____ APPROVED BY: _____ DATE: _____ DRAWN: G Rocheleau ENGR: G Rocheleau DATABASE FILE: Z629P1.PCB		
TITLE: SERVICE DIAGRAM, COMBINED (PCB assy) SM-500 PREAMP PCB		SIZE: <b>D</b> DRAWING NUMBER: <b>0065402000</b> REV: <b>A</b>
RELEASE DATE: 21-OCT-04 SHEET 3 OF 3		



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REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
A	PR632	30-JUL-04	S.M.B.
B	EC3147	30-SEP-04	S.M.B.
C	EC3174	07-JAN-05	S.M.B.
D	EC3213	14-APR-05	S.M.B.

D  
C  
B  
A



FILM/DWG: SERVICE DIAGRAM  
 DATABASE: z632p5.PCB DATE: 14-APR-05

1. SEE SHEET 1 FOR TEST CONDITIONS & TEST POINT VALUES  
 NOTES: (UNLESS OTHERWISE NOTED)

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CHECKED BY: _____ DATE: _____		TITLE: SERVICE DIAGRAM, COMBINED (PCB assy) SWR 500/1000 POWER AMP	
APPROVED BY: _____ DATE: _____		SIZE <b>C</b>	DRAWING NUMBER <b>0064549000</b>
DRAWN: R.MURRAY ENGR: B.HUGHES DATABASE FILE: z632p5.PCB	REV. <b>D</b>	RELEASE DATE: 30-JUL-04	SHEET 2 OF 2

8 7 6 5 4 3 2 1