



TECH NOTES

Fender Musical Instruments Corp.
7975 North Hayden Road Scottsdale, Arizona 85258

TECH NOTE # TN 99-1

ISSUE DATE: March, 1999
ISSUED BY: J. Benson
PAGE: 1 of 6

PRODUCT(S) AFFECTED:

SUNN 1200S

SYMPTOMS:

Non-musical distortion, particularly at high volume. Other symptoms vary, depending on condition.

CONDITION:

By making changes to various circuits, potential problems caused by component tolerances and/or thermal drift can be avoided. These may include:

1. Operation of compression circuitry can be improved;
2. Input level LED operation can be improved;
3. The chance of preamp instability will be reduced;
4. The chance of thermal problems in the power amp will be reduced.

PARTS REQUIRED:

QTY	REF. NO.	PART NO.	DESCRIPTION
4	CR50-53	025821	DIODE, 200PRV SIGNAL FDH400 (WERE 75PRV)
1	C16	051445	CAP CD 500V 22PF 5% (WAS C18)
1	C18	051409	CAP CD 500V 68PF 5% (WAS C16)
1	R184	029596	RES CF 1/4W 62Ω 5% (WAS R185)
1	R185	029592	RES CF 1/4W 43Ω 5% (WAS R184)
1	R282	028153	RES CF 1/4W 75KΩ 5% (WAS R283)
1	R283	024997	RES CF 1/4W 100KΩ 5% (WAS R282)

PARTS REQUIRED: (cont)

QTY	REF. NO.	PART NO.	DESCRIPTION
2	R89,R99	024975	RES CF 1/4W 3.9K Ω 5% (WERE 10K Ω)
2	R108,R111	024989	RES CF 1/4W 33K Ω 5% (WERE 47K Ω)
1	R112	024991	RES CF 1/4W 39K Ω (WAS 47K Ω)
2	R194-195	024947	RES CF 1/4W 47 Ω (MAY BE DAMAGED)
2	R200-201	036960	RES FUSE MF 1/4W 5% 47 Ω T/R (MAY BE DAMAGED)

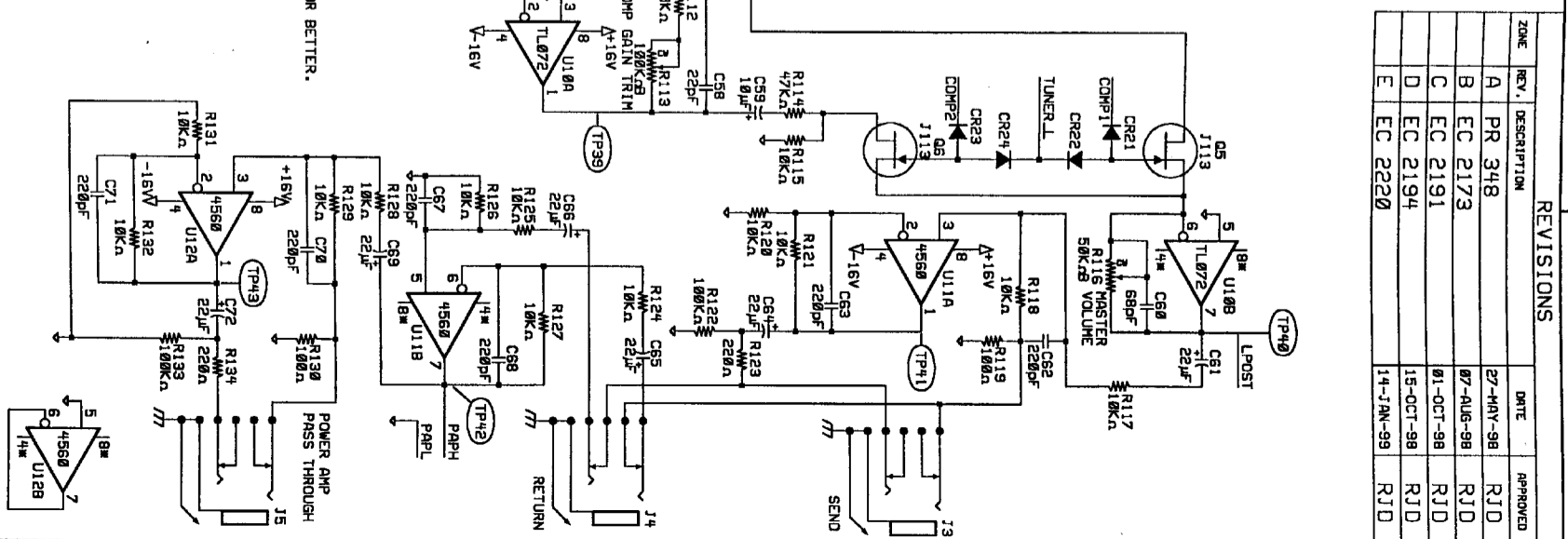
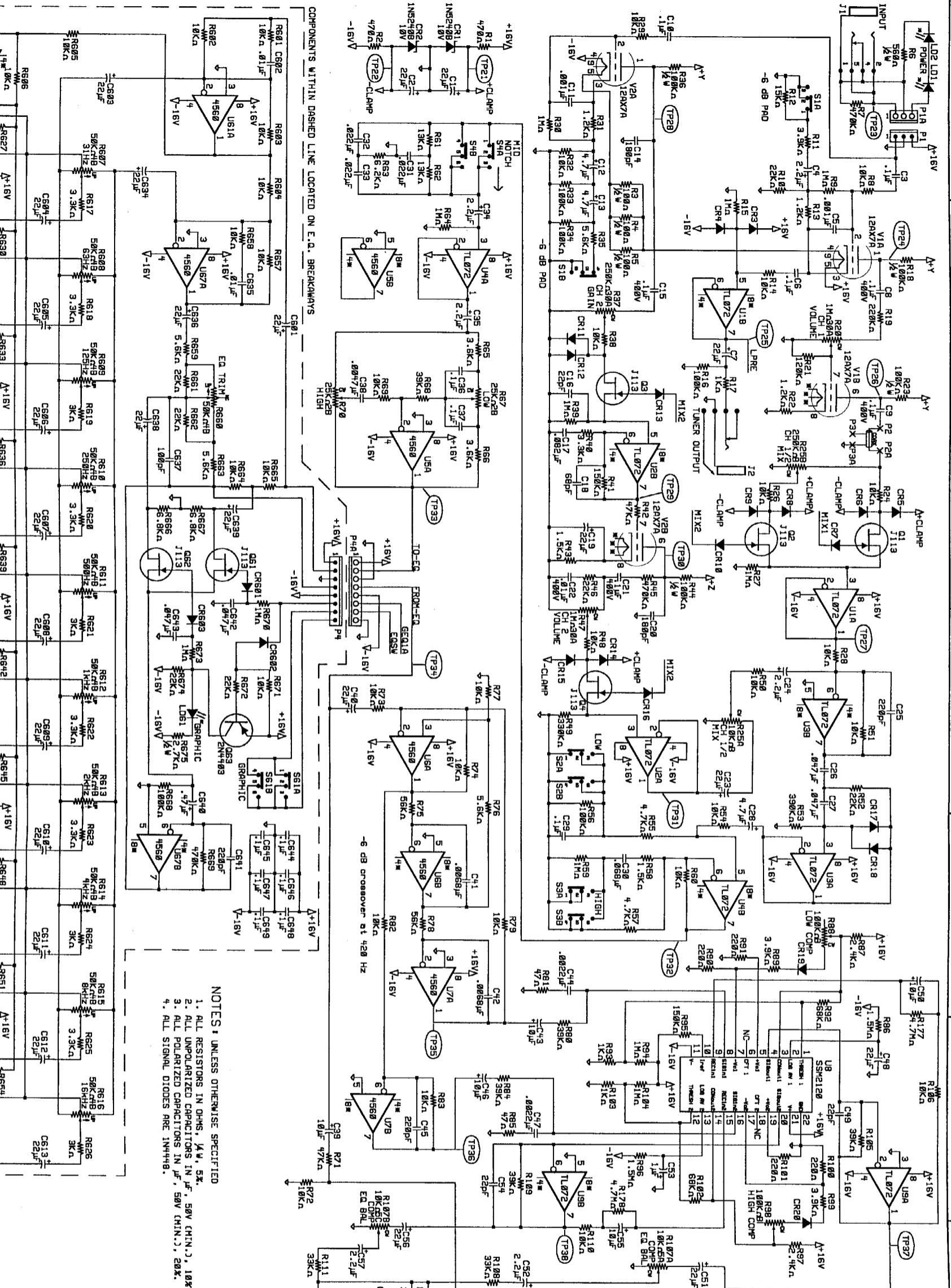
REQUIRED ACTION:

- 1) Change CR50-53 to FDH400 200PRV. (Sheet 2 of 4, zones B3, C3)
- 2) Swap cap values on C16, C18. (Sheet 1 of 4, zones C6, C7)
- 3) Swap resistor values on R184, R185. (Sheet 2 of 4, zone C3)
- 4) Swap resistor values on R282, R283. (Sheet 3 of 5, zones C5, D5)
- 5) Change resistors R89, R99 to 3.9k Ω . (Sheet 1 of 4, zones D3, D4)
- 6) Change resistors R108, R111 to 33k Ω . (Sheet 1 of 4, zones B2, C2)
- 7) Change resistor R112 to 39k Ω . (Sheet 1 of 4, zone B2)
- 8) Check resistors R194-R195, and replace as necessary. (Sheet 2 of 4, zones B3, C3)
- 9) Check resistors R200-R201, and replace as necessary. (Sheet 2 of 4, zones B3, C3)

WARRANTY CLAIM INSTRUCTIONS:

The above modifications should be performed on any **SUNN 1200S** bass amp that is in warranty, and exhibiting the above symptoms (and does not have these changes). **Note: Most units have already had these changes installed at the factory - quick check: look to see if R801, R808, & R814 (zone C 5-6 on sheet 4 of service diagram are 4.7 Ω /7W. If so, this tech-note does not apply)** For proper labor reimbursement, please indicate the Tech Note Number TN99-1 in the Authorization Code Box (Box # 12) on the Warranty Reimbursement Form. Labor reimbursement = 2 Hours (U.S. only).

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
A	PR 348	27-MAY-98	R10
B	EC 2173	07-AUG-98	R10
C	EC 2191	01-OCT-98	R10
D	EC 2194	15-OCT-98	R10
E	EC 2220	14-JAN-99	R10

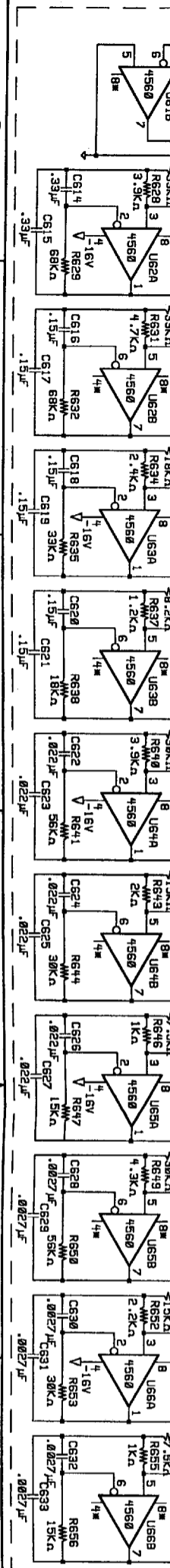


MUSICAL INSTRUMENTS
2621 Research Drive
Corona, CA 91720 USA

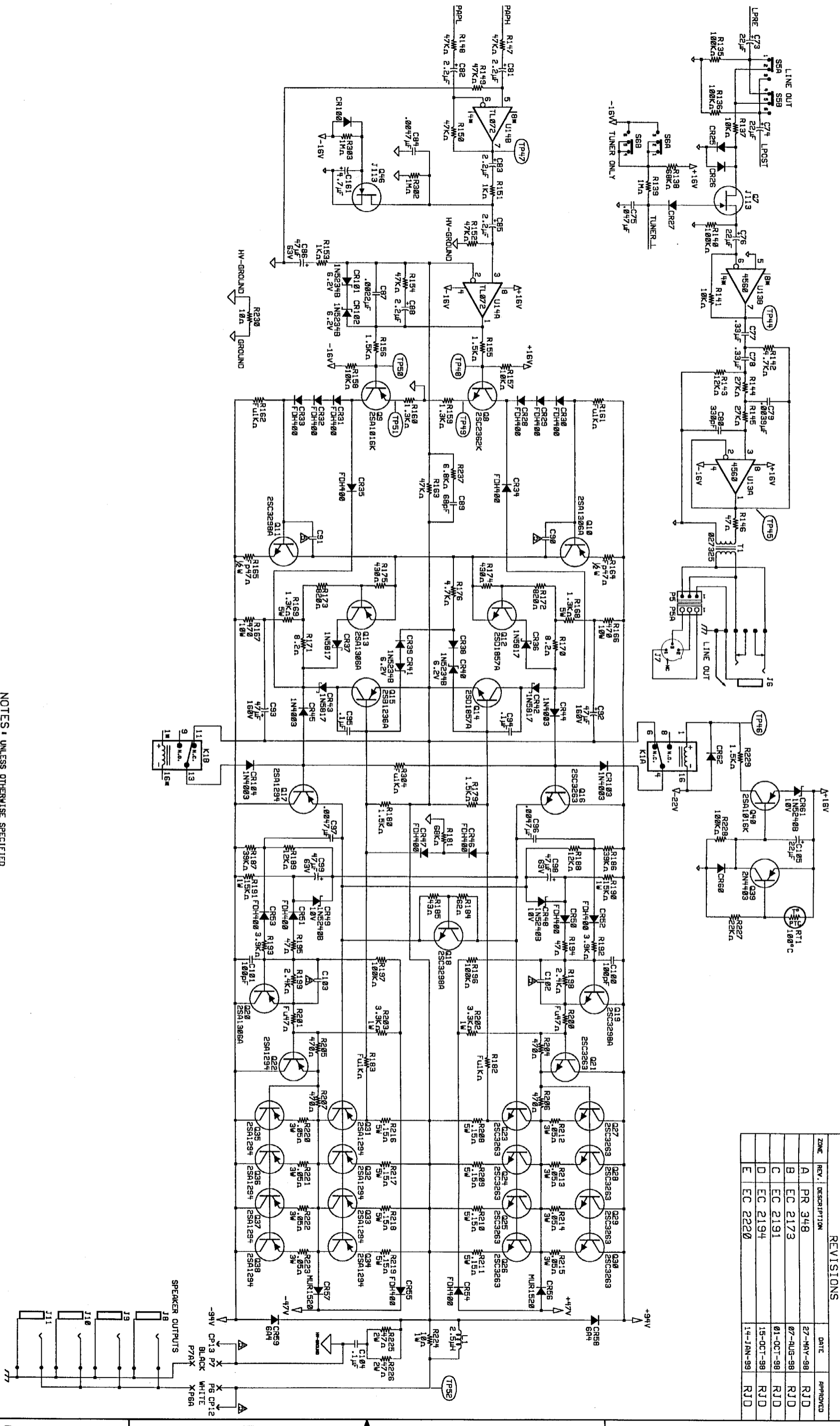
PROPRIETARY

DATE: 11-FEB-97
SCALE: 1 OF 4

REVISIONS



REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
A	PR 348		27-MAY-98	RJD
B	EC 2173		07-AUG-98	RJD
C	EC 2191		01-OCT-98	RJD
D	EC 2194		15-OCT-98	RJD
E	EC 2220		14-JAN-99	RJD



NOTES: UNLESS OTHERWISE SPECIFIED

1. ALL RESISTORS IN OHMS, K Ω , M Ω , 5%. 10% OR BETTER.
2. ALL UNPOLARIZED CAPACITORS IN μ F, 50V (MIN.), 10% OR BETTER.
3. ALL POLARIZED CAPACITORS IN μ F, 50V (MIN.), 20%.
4. ALL SIGNAL DIODES ARE 1N4448.

MUSICAL INSTRUMENTS
 2821 Research Drive
 Corona, CA 91728 USA

SUNN 1200S BASS AMPLIFIER

DATE: 11-FEB-97
 CHECKED BY: RJD
 DATE: 14-MAY-98
 APPROVED BY: RJD

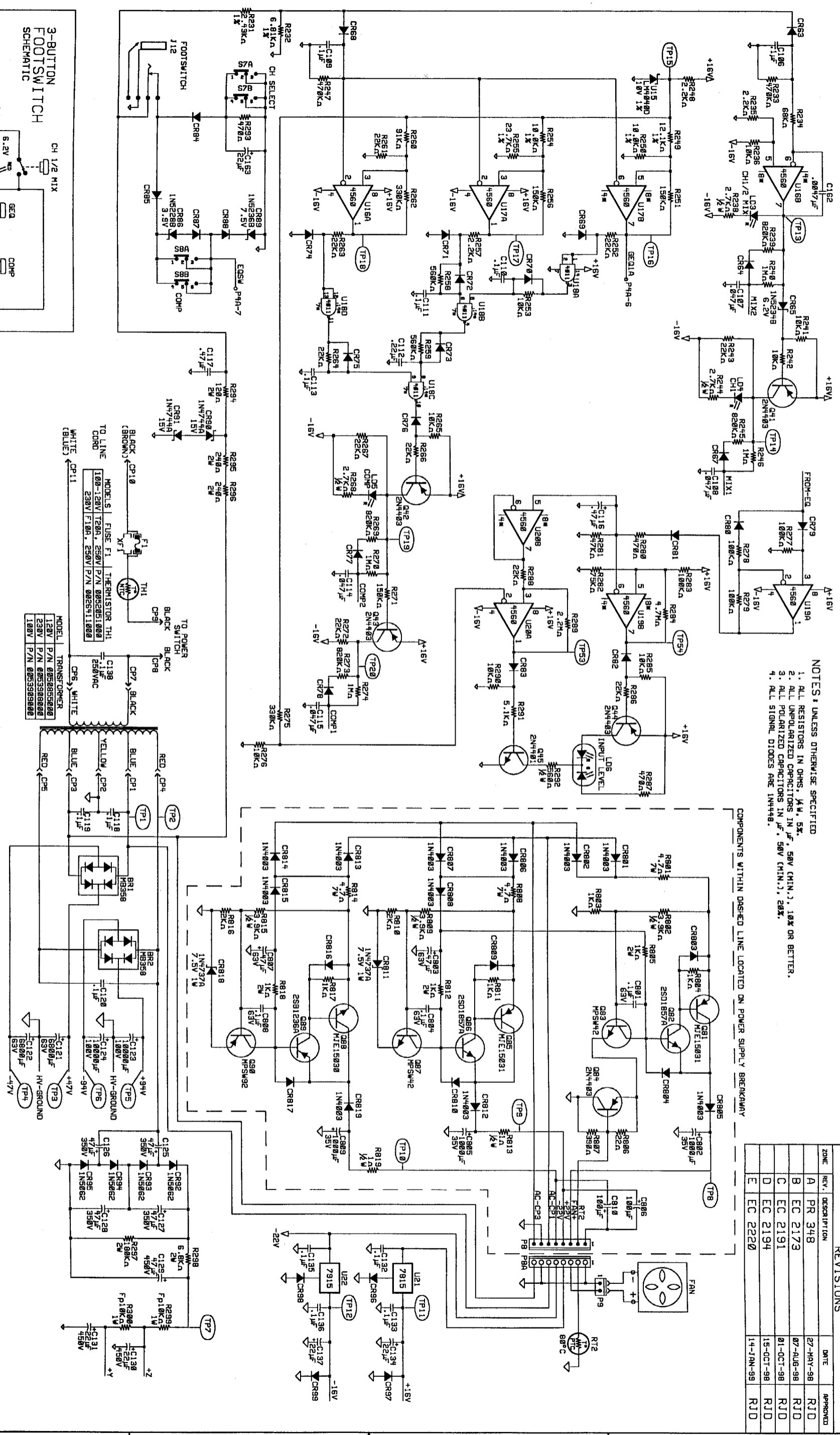
PROPRIETARY

SIZE: DRAWING NUMBER: 0053905000
 ENGR: HUGHES
 SCALE: 1:1
 SHEET 2 OF 4

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
A	PR 348		27-MAY-98	RJD
B	EC 2173		07-AUG-98	RJD
C	EC 2191		01-OCT-98	RJD
D	EC 2194		15-OCT-98	RJD
E	EC 2220		14-JAN-99	RJD

NOTES * UNLESS OTHERWISE SPECIFIED
 1. ALL RESISTORS IN OHMS, 1/4 W, 5%.
 2. ALL UNPOLARIZED CAPACITORS IN μ F, 50V (MIN.), 10% OR BETTER.
 3. ALL POLARIZED CAPACITORS IN μ F, 50V (MIN.), 20%.
 4. ALL SIGNAL DIODES ARE 1N4148.

COMPONENTS WITHIN DASHED LINE LOCATED ON POWER SUPPLY BREAKAWAY



MODEL	TRANSFORMER	CP5	WHITE
120V	P/N 0050855000		
230V	P/N 0053980000		
100V	P/N 0053989000		

TO LINE	FUSE F1	THERMISTOR TH1	TO POWER SWITCH
100-120V	T20A, 250V P/N 0052551000		
230V	F10A, 250V P/N 0025611000		

MODEL	P/N	RESISTOR	TRANSFORMER
120V	P/N 0050855000		
230V	P/N 0053980000		
100V	P/N 0053989000		

3-BUTTON FOOTSWITCH SCHEMATIC

CH 1/2 MIX

COMP

6.2V

2.7V

6.2V

2.7V

CH SELECT

EGSV P4H-7

CR801

CR802

CR803

CR804

CR805

CR806

CR807

CR808

CR809

CR810

CR811

CR812

CR813

CR814

CR815

CR816

CR817

CR818

CR819

CR820

CR821

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CR1000

PROPRIETARY

MUSICAL INSTRUMENTS

2621 Research Drive
 Corona, CA 91728 USA

SUNN 1200S BASS AMP/LIMITER

DATE: 11-FEB-97

SCALE: 1:1

CREATED: 11-FEB-97

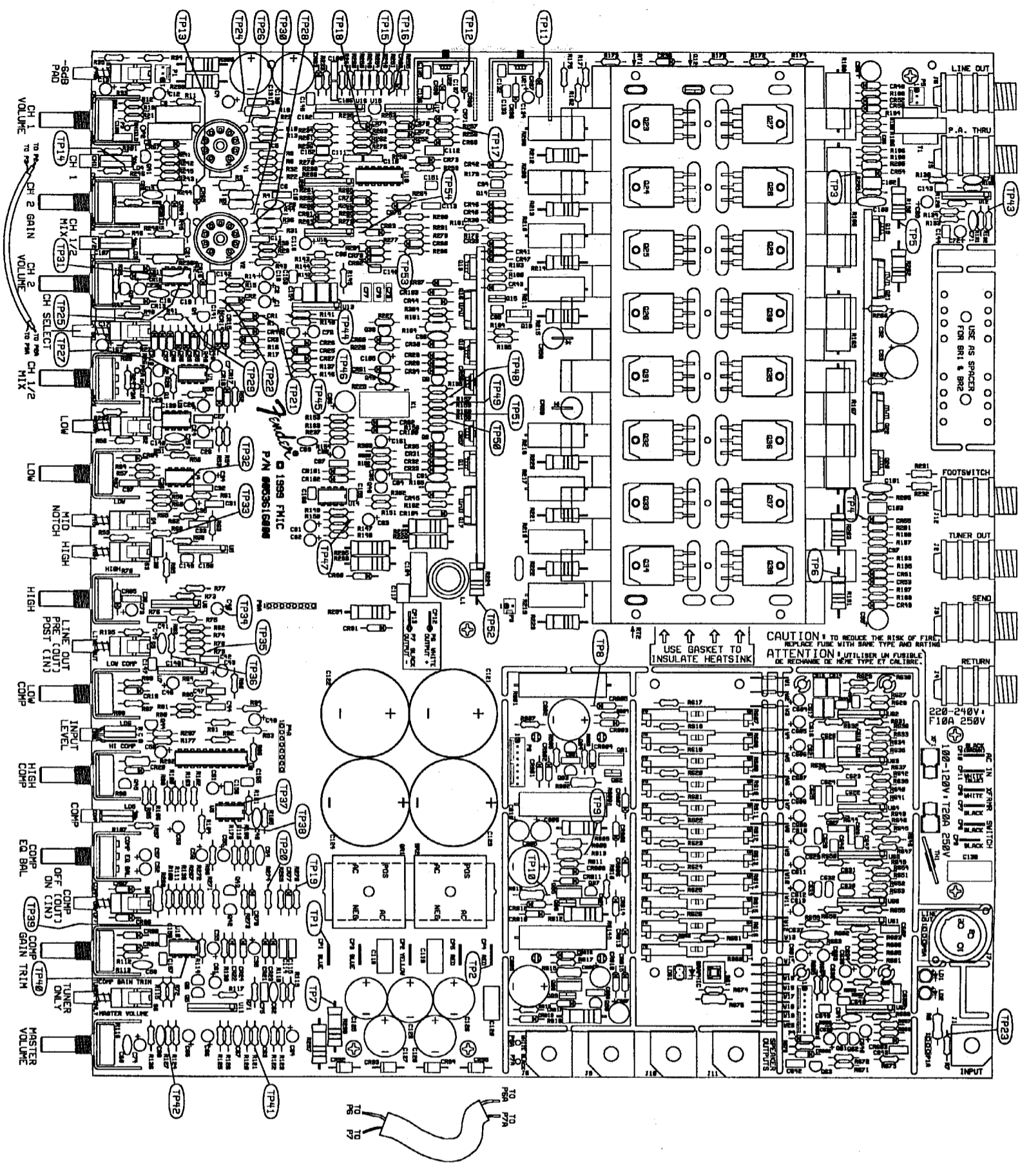
MODIFIED: 11-FEB-97

SHEET 3 OF 4

REVISIONS		
ZONE	REV. DESCRIPTION	DATE
A	PR 348	27-MAY-98
B	EC 2173	07-AUG-98
C	EC 2191	01-OCT-98
D	EC 2194	15-OCT-98
E	EC 2220	14-JAN-99

- ALL AC AND DC VOLTAGES READ TO GROUND WITH A DVM UNDER THE FOLLOWING CONDITIONS: (UNLESS OTHERWISE NOTED)
1. UNIT AT RATED LINE VOLTAGE.
 2. 8 OHM RESISTIVE LOAD CONNECTED AT SPEAKER OUTPUTS (TP22).
 3. 12AX7A TUBES INSTALLED IN SOCKETS LABELED V1 AND V2.
 4. ALL CONTROLS AT CENTER ROTATION (S 1/2).
 5. ALL SWITCHES OUT.
 6. 25.8 mV 420Hz SINEWAVE APPLIED TO J1 (TP22).
 7. NO FOOTSWITCH CONNECTED.

TP#	DC VOLTS	AC VOLTS	ADDITIONAL CONDITIONS/NOTES
1		33	
2		66	
3	+4.7		
4	-4.7		
5	+9.4		
6	-9.4		
7	+356		
8	+10		CAN VARY DEPENDENT UPON MAIN HEATSINK TEMPERATURE
9	+22		
10	-22		
11	+16		
12	-16		
13	-15		
14	+15		
15	-15		
16	+15		
17	-15		
18	+15		
19	-15		
20	+15		
21	+10		
22	-10		
23		25.8mV	
24	+156	382mV	
25		20mV	
26	+156	1V	
27		1V	
28	+166	70.5mV	WITH S7 (CH SELECT) DEPRESSED AND 5.9mV INPUT AT J1
29		540mV	WITH S7 (CH SELECT) DEPRESSED AND 5.9mV INPUT AT J1
30	+185	30.5V	WITH S7 (CH SELECT) DEPRESSED AND 5.9mV INPUT AT J1
31		1V	WITH S7 (CH SELECT) DEPRESSED AND 5.9mV INPUT AT J1
32		1V	
33		1V	
34		1V	
35		500mV	
36		500mV	
37		1V	MAXIMUM
38		1V	MAXIMUM
39		500mV	MAXIMUM
40		500mV	
41		500mV	
42		500mV	
43		25.8mV	
44		25.8mV	
45		25.8mV	
46	+3		5 SECONDS AFTER POWER ON
47		500mV	
48	+2.0		NO INPUT SIGNAL
49	+1.5		NO INPUT SIGNAL
50	-2.0		NO INPUT SIGNAL
51	-1.5		NO INPUT SIGNAL
52		24V	
53	-15		NO INPUT SIGNAL
54	+15		
55	+15		



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SUNN 1200S BASS AMPLIFIER

DATE: 14-JAN-99
 DRAWN: B. DESI
 CHECKED: J. DESI
 TOLERANCES: UNLESS OTHERWISE SPECIFIED
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SCALE: 4 OF 4
 SHEET: 4 OF 4