

# FRONTMAN 25R

p/n 022-1502-000 (120V)

# SERVICE MANUAL



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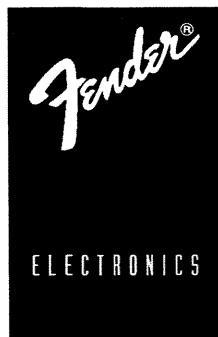
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# FRONTMAN 25R

*(This is the model name for warranty claims)*

## SERVICE MANUAL

FEBRUARY 1997

### IMPORTANT NOTICE:

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For warranty repair service, only Fender specified part numbers are to be used. It is recommended they also be used for post-warranty maintenance and repair.

Parts marked with an asterisk (\*) indicate the required use of that specific part. This is necessary for RELIABILITY and SAFETY requirements. **DO NOT USE A SUBSTITUTE!**

A coded naming convention is used in the description of certain parts. The codes and what they mean are as follows:

#### CAPACITOR CODES

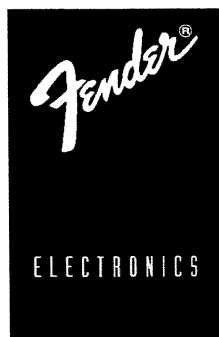
CAP AE = Aluminum Electrolytic  
 CAP CA = Ceramic Axial  
 CAP CD = Ceramic Disk  
 CAP MPF = Metalized Polyester Film  
 CAP MY = Mylar  
 CAP PFF = Polyester Film/Foil

#### RESISTOR CODES

RES CC = Carbon Comp  
 RES CF = Carbon Film  
 RES FP = Flame Proof  
 RES MF = Metal Film  
 RES WW = Wire Wound

#### HARDWARE CODES

BLX = Black Oxide  
 CR = Chrome Plated  
 HWH = Hex Washer Head  
 M = Machine Screw  
 NI = Nickel Plated  
 OHP = Oval Head Phillips  
 PB = Particle Board  
 PHP = Pan Head Phillips  
 PHPS = Pan Head Phillips Sems  
 SMA = Sheet Metal "A" Point  
 SMB = Sheet Metal "B" Point  
 SS = Stainless Steel  
 TF = Thread Forming  
 ZI = Zinc Plated



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*(This is the model name for warranty claims)*

## SPECIFICATIONS

<b>Product Release No.:</b>	PR 356 <i>(This is not a model number)</i>		
<b>Part Number:</b>	120V Version:	22-1502-000	
	240V Aust:	22-1532-000	
	230V UK:	22-1542-000	
	230V Euro:	22-1562-000	
<b>Power Specification:</b>	120V Version: 120 V AC, 60 Hz, .92A max 230V Version: 230 V AC, 50 Hz, 0.5A max		
<b>Input Impedance:</b>	> 1 megohm		
<b>Nominal Input Level:</b>	100 mV		
<b>Power Output:</b>	25 Watts RMS		
<b>Speaker:</b>	One 8 $\Omega$ special design 10" speaker		
<b>Dimensions:</b>	Height:	15-1/2"	(39.4 cm)
	Width:	17"	(43.2 cm)
	Depth:	8-1/2"	(30.5 cm)
<b>Weight:</b>	25 lbs.		(11.4 kg)

*Product specifications are subject to change without notice*



# FRONTMAN 25R

(This is the model name for warranty claims)

## PARTS LIST

NOTE: SHADED ITEMS ARE FOR REFERENCE ONLY

### PRINTED CIRCUIT BOARD

QTY	PART #	DESCRIPTION	REFERENCE DESIGNATION
1	048352	PCB UNIT "CHAMP 110/FRNTMAN 25R"	
2	038689	CAP AE AX .47 $\mu$ F 100V 20%	C12,13
4	026517	CAP AE AX 2.2 $\mu$ F 50V 20%	C4,33,35,38
3	038691	CAP AE AX 4.7 $\mu$ F 50V 20%	C34,47,48
1	038693	CAP AE AX 47 $\mu$ F 16V 20%	C37
3	025960	CAP AE AX 22 $\mu$ F 16V 20%	C6,7,29
2	028471	CAP AE RDL 47 $\mu$ F 50V 20%	C45,46
2	033607	CAP AE RDL 2200 $\mu$ F 35V 20%	C43,44
2	039255	CAP CA 10pF 100V 5%	C3,14
1	038873	CAP CA 22pF 100V 5%	C24
1	038698	CAP CA 47pF 100V 5%	C27
2	038699	CAP CA 100pF 100V 5%	C22,36
1	038701	CAP CA 470pF 50V 5%	C11
1	038874	CAP CA 560pF 50V 5%	C15
2	039268	CAP CA 4700pF 50V 5%	C1,2
3	027278	CAP MPF RDL .1 $\mu$ F 63V 10%	C39,40,41
1	033596	CAP MPF RDL .068 $\mu$ F 100V 10%	C26
2	027286	CAP MPF RDL .47 $\mu$ F 63V 10%	C30,42
2	033580	CAP PFF RDL .0022 $\mu$ F 100V 10%	C5,25
1	033581	CAP PFF RDL .0033 $\mu$ F 100V 10%	C19
1	033583	CAP PFF RDL .0047 $\mu$ F 100V 10%	C20
1	036234	CAP PFF RDL .015 $\mu$ F 100V 10%	C28
1	033590	CAP PFF RDL .022 $\mu$ F 100V 10%	C17
4	033591	CAP PFF RDL .033 $\mu$ F 100V 10%	C9,10,23,31
5	033592	CAP PFF RDL .047 $\mu$ F 100V 10%	C8,16,18,21,32
2	034719	CONTROL SNAP IN 50KB	R30,42
1	037323	CONTROL SNAP IN 50K 15A	R13
3	037324	CONTROL SNAP IN 100K 30C	R20,24,29
1	040552	CONTROL SNAP IN 250K 30C	R31
1	028104	BUTTON PUSH SWITCH BLACK	(@ S1)
11	006260	DIODE 1N4448 75PRV	CR1-11
6	064089	DIODE 1N4003 200PRV	CR12-17
2	009165	DIODE ZENER 1N4744 15V 1W 5%	CR18,19
10	025802	FASTON TAB MALE .250x.032 PCB MT	CP1,2,3,5,6,8-12
2	026000	FASTON TAB MALE .187x .032	CP4,CP7
2	025996	FUSE CLIP PCB .250" & 5mm FUSE	(@ XF1)
1	034889	FUSE QA 1-1/4"x1/4" 250V 1AMP	F1
1	020786	FUSE QA 20mmX5mm 250V .5AMP	F1
2	027408	HEADER .1 CTR 2 CKT SQ PIN	P5,6
4	016795	IC DUAL OP AMP TLO72C	U1,2,3,4
1	031611	IC DUAL OP AMP $\mu$ PC4560	U5
1	029912	IC $\mu$ PC1188H 20W (POWER AMP)	U6
1	031570	JACK PHONE PCB STEREO PREMIUM	J4

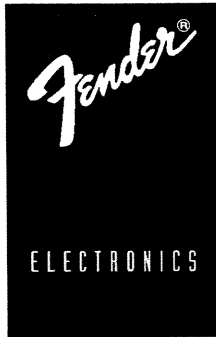


# FRONTMAN 25R

(This is the model name for warranty claims)

## PRINTED CIRCUIT BOARD ASSEMBLY CONTINUED

QTY	PART #	DESCRIPTION	REFERENCE DESIGNATION
3	037036	JACK PHONE PCB MONO PREMIUM	J1,2,3
13	020888	JUMPER WIRE 22GA .5x.175	W1-13
2	026043	JUMPER WIRE 18GA .8x.175	JP1,2
2	028039	LED 5x5mm RED SLB-55VR3	LD1,2
2	9902202281	LED RED LONG LEAD LUMEX CS02	LD3,4
1	040497	PCB FAB CHAMPION 110	
1	024942	RES CF 1/4W 22_ 5%	R45
1	029604	RES CF 1/4W 300_ 5%	R48
2	024961	RES CF 1/4W 470_ 5%	R71,72
1	024965	RES CF 1/4W 1K 5%	R7
1	024969	RES CF 1/4W 1.5K 5%	R73
1	024971	RES CF 1/4W 2.2K 5%	R12
1	024972	RES CF 1/4W 2.7K 5%	R47
3	024973	RES CF 1/4W 3.3K 5%	R19,21,40
2	024975	RES CF 1/4W 3.9K 5%	R57,63
1	028034	RES CF 1/4W 5.1K 5%	R5
1	024979	RES CF 1/4W 6.8K 5%	R3
1	025942	RES CF 1/4W 7.5K 5%	R11
1	024980	RES CF 1/4W 8.2K 5%	R18
3	024981	RES CF 1/4W 10K 5%	R39,49,51
3	024985	RES CF 1/4W 15K 5%	R1,6,35
5	024987	RES CF 1/4W 22K 5%	R8,16,17,33,44
3	024988	RES CF 1/4W 27K 5%	R56,59,60
5	024993	RES CF 1/4W 47K 5%	R27,28,32,34,55
1	026507	RES CF 1/4W 62K 5%	R64
2	029613	RES CF 1/4W 91K 5%	R14,15
1	024997	RES CF 1/4W 100K 5%	R68
1	025058	RES CF 1/4W 180K 5%	R9,
7	025059	RES CF 1/4W 220K 5%	R10,23,25,26,36,37,41
2	025065	RES CF 1/4W 470K 5%	R22,38
2	028018	RES CF 1/4W 510K 5%	R2,4
1	025067	RES CF 1/4W 680K 5%	R58
3	025069	RES CF 1/4W 1M 5%	R50,52,54
1	025073	RES CF 1/4W 1.5M 5%	R43
1	030737	RES CF 1/2W 5.6_ 5%	R61
1	026512	RES CF 1/2W 3.9K 5%	R53
1	039128	RES MF 1W 120_ 5%	R65
2	027344	RES MF 1W 270_ 5%	R69,70
2	028740	RES MF 1W 470_ 5%	R66,67
1	028029	RES MF 1W 1.5K 5%	R46



# FRONTMAN 25R

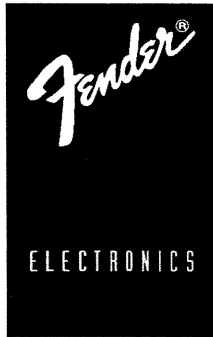
(This is the model name for warranty claims)

## PRINTED CIRCUIT BOARD ASSEMBLY CONTINUED

QTY	PART #	DESCRIPTION	REFERENCE DESIGNATION
1	032958	RES WW BT 5W .33_ 5%	R62
2	027638	SCREW TF #4-40x3/8" HWH ZI	(U6 MOUNTING)
2	032908	SCREW TF #6-32x3/8" PHP ZI	(PCB TO HEATSINK MNT)
2	9904701440	SPACER LED .7x.125 BLUE	(@ LD1,2)
1	028091	SWITCH PUSH SLFLK DPDT PC MT	S1 (WITHOUT BUTTON)
2	014689	XSTR N-CH JFET J111 TO-92	Q1,2

## CHASSIS ASSEMBLY

QTY	PART #	DESCRIPTION	REFERENCE DESIGNATION
1	051217	CHASSIS ASSY FRONTMAN 25R 120V	
1	021709	BUSHING SR .437x.062x13/32BLK	(@ SPEAKER CABLE)
1	026038	BUSHING SR .625x.062x37/64BLK 100/120V	(@ POWER CABLE)
1	010401	BUSHING SR .625x.125x37/64WHT 230V	(@ POWER CABLE)
7	033206	BUSHING KNOB SPACER	
1	051330	CABLE ASSY 120V 6 FT	(100/120V ONLY)
1	050725	CABLE ASSY PWR 230V W/.187 TABS	(PWR CABLE 230V EXPORT)
1	040992	CABLE ASSY PWR 5A U.K. .187 TABS	(PWR CABLE 230V U.K.)
1	036479	CABLE ASSY POWER AUST.W/.187 TABS	(240V AUSTRALIA ONLY)
1	051070	CHASSIS FRONTMAN 25R	(RAW CHASSIS)
1	026016	FOAM STRIP 1/8"x1"x7"	(SPRING TO SLEEVE MOUNT)
1	026017	FOAM STRIP 3/8"x1-1/4"x8" DBL STK	(SLEEVE TO CHASSIS MOUNT)
1	034885	HEATSINK BAR RAD/HOT/JAM	(HEATSINK COUPLER)
7	026403	KNOB POINTERBLACK 180 DEG	
4	069393	NUT #6-32 HEX EXT LOCK	(TRANSFORMER MOUNT)
1	051071	PANEL FRONT FRONTMAN 25R	
1	051702	PANEL REAR FRONTMAN 25R	
1	041397	REVERB SPRING PAN 1BB2E4A	
2	028500	SCREW TF #8-32x3/4 HWH SLTD ZI	(HEATSINK/ CHASSIS MOUNT)
3	028937	SCREW TF #6-32x5/8" PHP ZI ROLOK	(PCB MOUNTING)
1	038900	SCREW TF #6-32x1/4" PHP ZI	(@ GROUND LUG)
1	025954	SLEEVE REVERB PAN	(CARDBOARD)
3	025936	STAND OFF PCB PUSH ON NYL 3/8"L	(PCB MOUNT)
1	025935	SWITCH POWER DPST	(100/120V ONLY)
1	039287	SWITCH POWER DPST SEMKO	(230V EXPORT ONLY)
1	033613	XFMR POWER "CHAMPION 110" 120V	
1	040611	XFMR POWER "CHAMPION 110" 230V	



# FRONTMAN 25R

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## CABINET ASSEMBLY

QTY	PART #	DESCRIPTION	REFERENCE DESIGNATION
1	051069	CABINET ASSY FRONTMAN 25R	(COMPLETE CABINET)
4	037344	CLIP SPEAKER	(SPEAKER MOUNT)
4	026566	CORNER 2 HOLE W/TAB NI	(BOTTOM FRONT, TOP REAR)
4	029071	CORNER NOTCHED NI	(BOTTOM REAR)
1	051073	GRILLE ASSY FRONTMAN 25R	
1	025883	HANDLE SHORT NO LOGO	(RUBBER ONLY. NO INSERT)
1	032524	HANDLE INSERT	(SPRING STEEL)
2	025395	HANDLE CAP 1 HOLE NI (DWG 17240)	(HANDLE MOUNT)
1	029906	NAMEPLATE FENDER GENERIC SMALL	(LOGO)
8	021972	NUT T #10-32x3/4" STR 3 PRNG BLX	(HANDLE/SPEAKER MOUNT)
4	022277	SCREW M #10-32x1-1/2 OHP NI	(HANDLE MOUNT)
2	018113	SCREW SMA #4x1/2" OHP BLX	(LOGO MOUNT)
4	026577	SCREW M #10-32x1" PHP BLX	(SPEAKER MOUNT)
2	026800	SCREW SMAB #8x1-3/4" OHP BLX	(GRILLE MOUNT)
4	036199	SCREW M #8-32x1-3/16" OHP BLX WX	(CHASSIS MOUNT)
14	026571	SCREW CORNER MOUNTING	
1	036502	SPEAKER 10" 8_	
4	029527	WASHER FNSH #8-5/8" FLNGD BLX WX	(CHASSIS/GRILLE MOUNT)

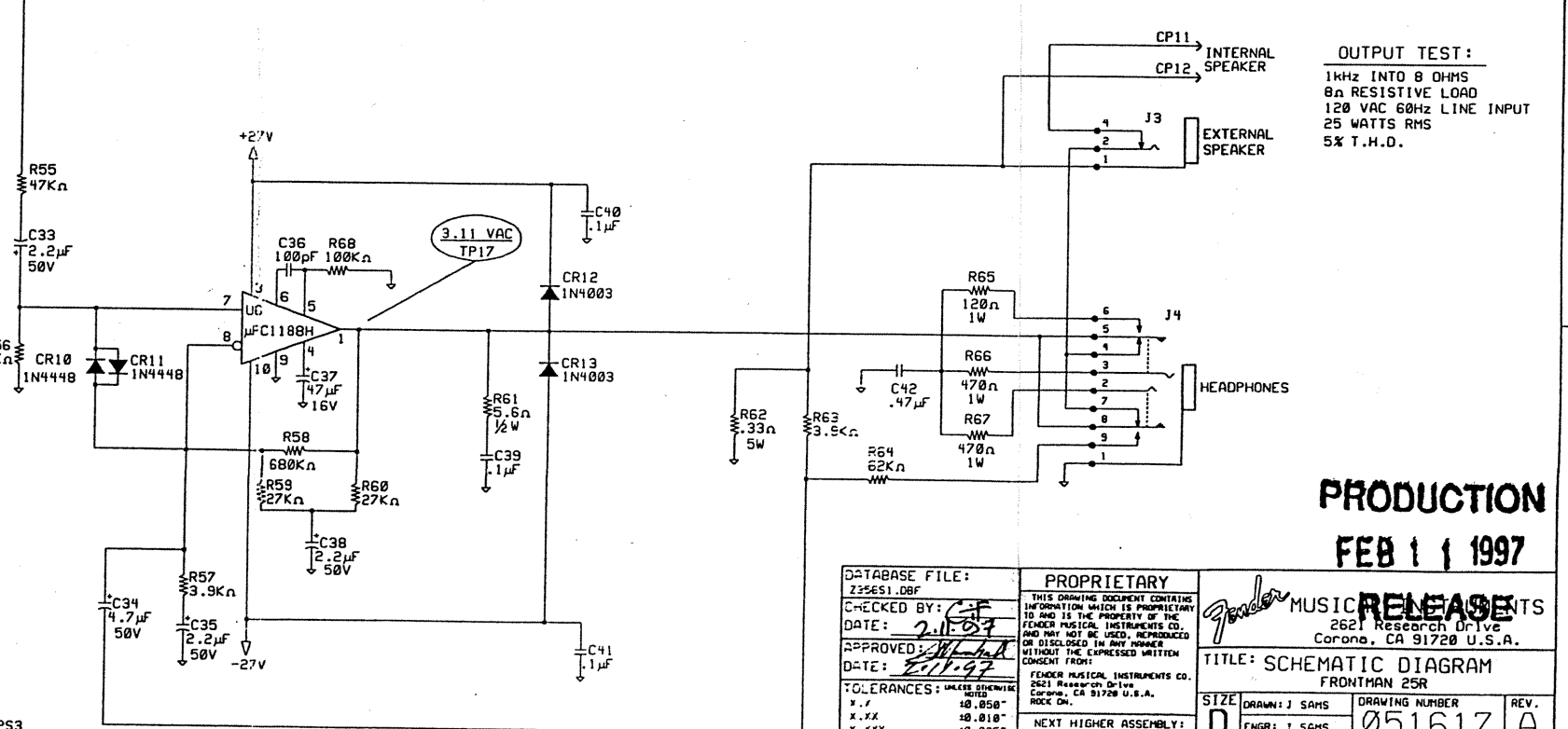
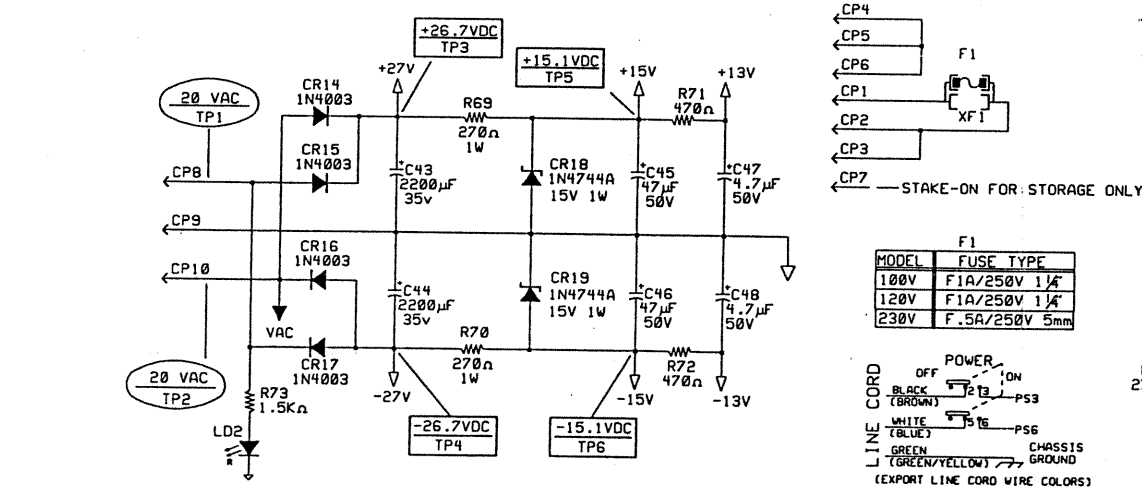
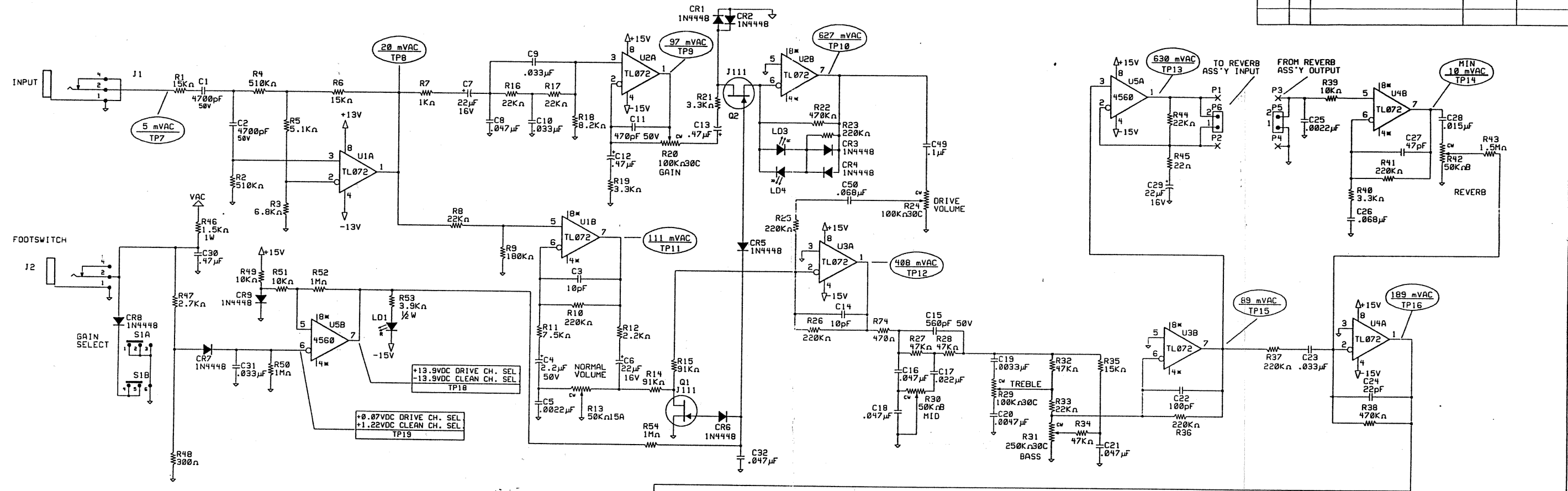
## FOOTSWITCH ASSEMBLY (OPTIONAL)

QTY	PART #	DESCRIPTION	REFERENCE DESIGNATION
1	028890	FOOTSWITCH ASSY 1 BUTTON F/LOGO	(COMPLETE FOOTSWITCH)
1	006260	DIODE 1N4448 75PRV	CR1
1	037036	JACK PHONE PCB MONO PREMIUM	J1
1	028039	LED 5x5mm RED SLB-55VR3	LD1
1	028714	SWITCH PUSH SPDT	S1

## MISCELLANEOUS

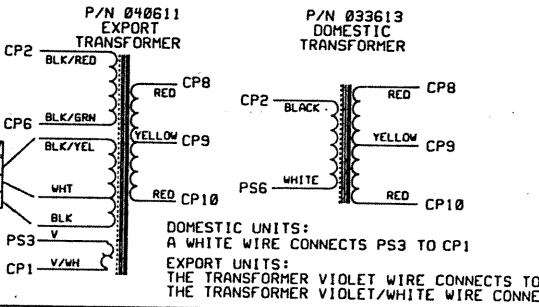
QTY	PART #	DESCRIPTION	REFERENCE DESIGNATION
1	051154	OWNERS MANUAL FRONTMAN 25R	
1	040502	SCHEMATIC REDUCED CHAMPION 110/FRONTMAN 25R W/SERVICE DIAGRAM	

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	A	RELEASED CC 1848	02-11-97	SMH



NOTES: UNLESS OTHERWISE SPECIFIED.

- ALL RESISTORS 1/4 W. ± 5%.
- ALL CAPACITORS 63V MINIMUM.
- DC VOLTAGES READ TO GROUND WITH A DVM. NO INPUT SIGNAL.
- AC VOLTAGE READINGS TAKEN WITH DVM TO GROUND UNDER THE FOLLOWING CONDITIONS:  
 1kHz INPUT APPLIED THROUGH 1/4" PLUG TO J1  
 8Ω RESISTIVE LOAD CONNECTED AT CP11. CP12 NO FOOTSWITCH  
 SELECT "ON"  
 GAIN AT 9 O'CLOCK  
 REVERB "0"  
 ALL OTHER CONTROLS SET TO 12 O'CLOCK  
 REVERB PAN CONNECTED



**PRODUCTION**  
**FEB 11 1997**

**RELEASES**

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 Corona, CA 91720 U.S.A.  
 ROCK ON.

**TITLE: SCHEMATIC DIAGRAM**  
**FRONTMAN 25R**

DATE: 2-11-97	APPROVED: [Signature]	DATE: 2-11-97
TOLERANCES: UNLESS SPECIFIED	RESISTORS: 10.0% 10.0% 10.0%	ANGLES: 10.0° 10.0° 10.0°

PROPRIETARY

SCALE: N/A

SIZE: D

DRAWN: J. SAMS

ENGR: J. SAMS

DRAWING NUMBER: 051617

REV. A

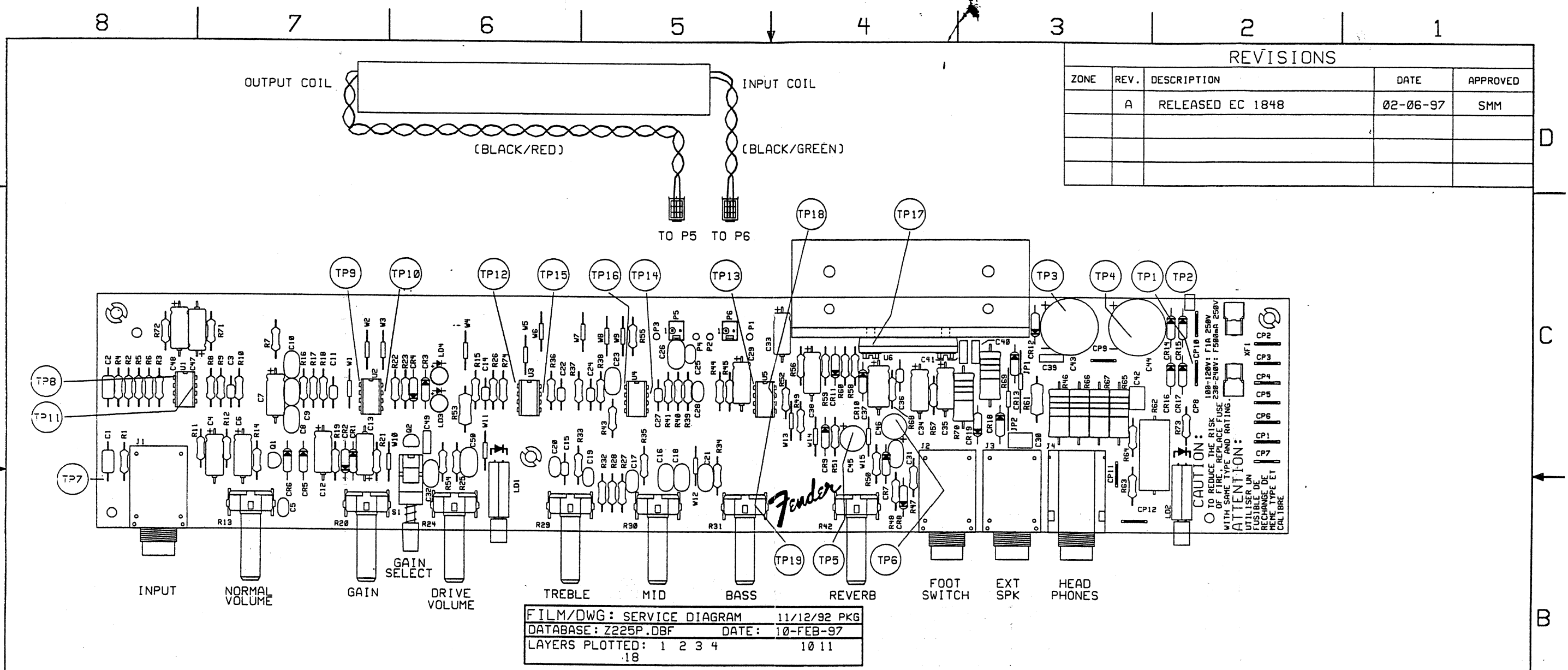
CREATED: 11/18/92

PLOTTED: 11-FEB-97

SHEET 1 OF 1

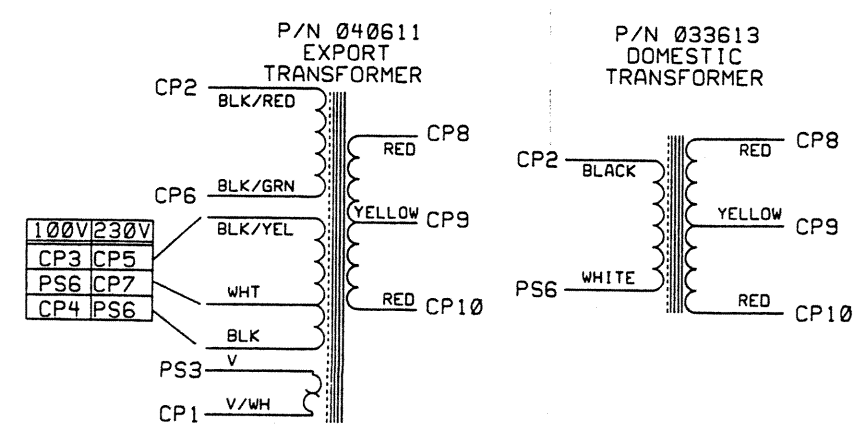
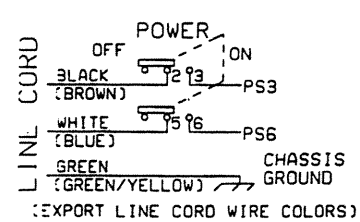
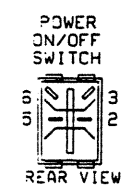


REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	A	RELEASED EC 1848	02-06-97	SMM



FILM/DWG: SERVICE DIAGRAM 11/12/92 PKG  
 DATABASE: Z225P.DBF DATE: 10-FEB-97  
 LAYERS PLOTTED: 1 2 3 4 10 11  
 18

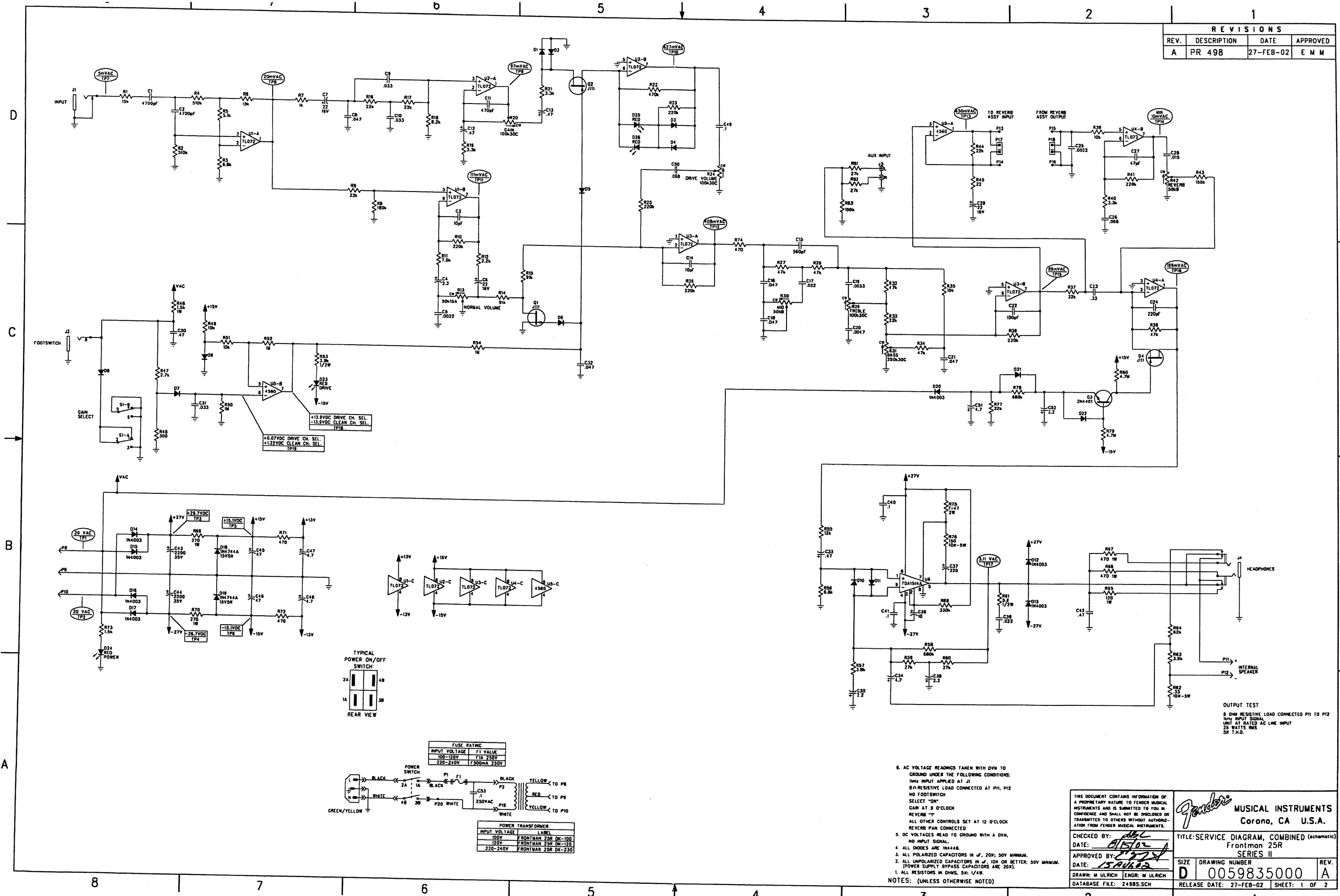
CAUTION: TO REDUCE THE RISK OF FIRE, REPLACE FUSE WITH SAME TYPE AND RATING.  
 ATTENTION: UTILISER UN FUSIBLE DE RECHANGE DE MEME TYPE ET CALIBRE.



DOMESTIC UNITS:  
 A WHITE WIRE CONNECTS PS3 TO CP1  
 EXPORT UNITS:  
 THE TRANSFORMER VIOLET WIRE CONNECTS TO PS3  
 THE TRANSFORMER VIOLET/WHITE WIRE CONNECTS TO CP1

DATABASE FILE: Z356P.DBF CHECKED BY: DATE: APPROVED: DATE: TOLERANCES: UNLESS OTHERWISE NOTED X.X ±0.050" X.XX ±0.010" X.XXX ±0.005" ANGLES ±0.500°	PROPRIETARY THIS DRAWING DOCUMENT CONTAINS INFORMATION WHICH IS PROPRIETARY TO AND IS THE PROPERTY OF THE FENDER MUSICAL INSTRUMENTS CO. AND MAY NOT BE USED, REPRODUCED OR DISCLOSED IN ANY MANNER WITHOUT THE EXPRESSED WRITTEN CONSENT FROM: FENDER MUSICAL INSTRUMENTS CO. 2621 Research Drive Corona, CA 91720 U.S.A. ROCK ON. NEXT HIGHER ASSEMBLY:	Fender MUSICAL INSTRUMENTS 2621 Research Drive Corona, CA 91720 U.S.A. TITLE: SERVICE DIAGRAM FRONTMAN 25R SIZE: B DRAWN: J S SAMS ENGR: J S SAMS DRAWING NUMBER: 051510 REV: A SCALE: CREATED: 12-4-92 PLOTTED: 10-FEB-97 SHEET 1 OF 1
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REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
A	PR 498	27-FEB-02	E M M



- AC VOLTAGE READINGS TAKEN WITH DVM TO GROUND UNDER THE FOLLOWING CONDITIONS:  
1MHz INPUT APPLIED AT J1  
8Ω RESISTIVE LOAD CONNECTED AT P11, P12  
NO FOOTSWITCH  
SELECT "ON"  
GAIN AT 9 O'CLOCK  
REVERB "OFF"  
ALL OTHER CONTROLS SET AT 12 O'CLOCK  
REVERB PAN CONNECTED
- DC VOLTAGES READ TO GROUND WITH A DVM, NO INPUT SIGNAL.
- ALL DIODES ARE 1N4448.
- ALL POLARIZED CAPACITORS IN μF, 20%; 50V MINIMUM.
- ALL UNPOLARIZED CAPACITORS IN μF, 10% OR BETTER; 50V MINIMUM. (POWER SUPPLY BYPASS CAPACITORS ARE 20%).
- ALL RESISTORS IN OHMS, 5%; 1/4W.

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Corona, CA U.S.A.

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DATE: *01/10/02*

APPROVED BY: *[Signature]*  
DATE: *12/06/02*

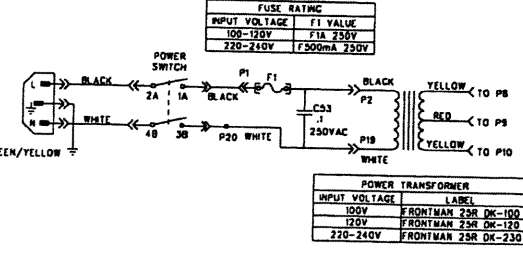
DRAWN: M. ULRICH ENGR: M. ULRICH  
DATABASE FILE: 24985.SCH

TITLE: SERVICE DIAGRAM, COMBINED (schematic)  
Frontman 25R  
SERIES II

SIZE: **D** DRAWING NUMBER: **0059835000** REV. **A**

RELEASE DATE: 27-FEB-02 SHEET: 1 OF 2

OUTPUT TEST  
8 OHM RESISTIVE LOAD CONNECTED P11 TO P12  
1MHz INPUT SIGNAL  
GAIN AT 9 O'CLOCK  
UNIT AT RATED AC LINE INPUT  
25 WATTS RMS  
5% T.O.D.

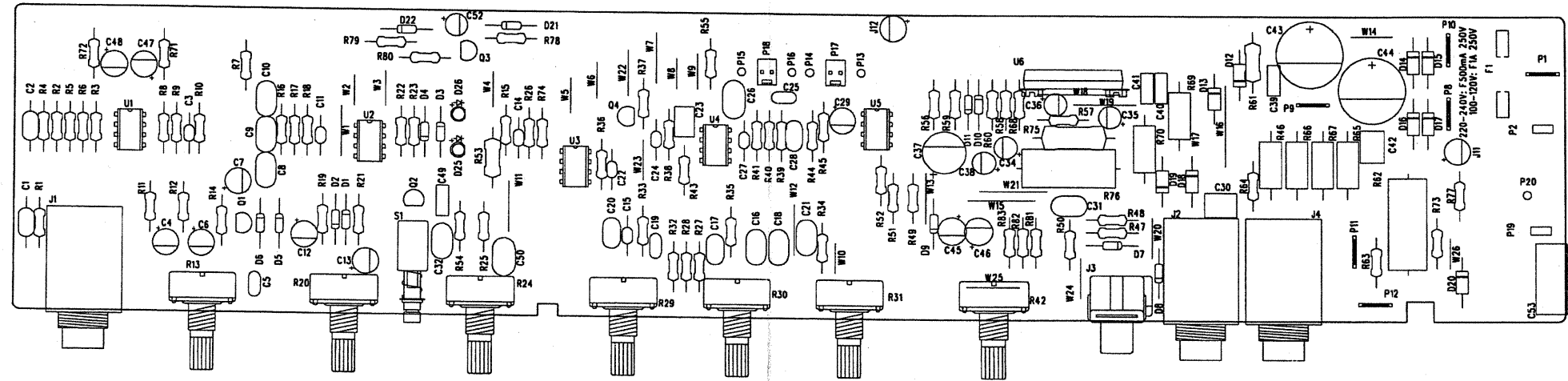


8 | 7 | 6 | 5 | 4 | 3 | 2 | 1

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
A	PR 498	27-FEB-02	E M M


D  
C  
B  
A

D  
C  
B  
A



NOTES: (UNLESS OTHERWISE NOTED)

8 | 7 | 6 | 5 | 4 | 3 | 2 | 1

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CHECKED BY: <i>dlc</i> DATE: 8/15/02		TITLE: SERVICE DIAGRAM, COMBINED (PCB assy) FRONTMAN 25R SERIES II	
APPROVED BY: <i>MSJ</i> DATE: 15AUG02		SIZE: C	DRAWING NUMBER: 0059835000
DRAWN: M ULRICH    ENGR: M ULRICH		RELEASE DATE: 27-FEB-02	REV. A
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