

# RUMBLE BASS

p/n 081-2100-000 (120V)

# SERVICE MANUAL

RUMBLE BASS  
(This is the model name for warranty claims)

# SERVICE MANUAL

APRIL 1997

## IMPORTANT NOTICE:

The information contained herein is CONFIDENTIAL and PROPRIETARY to Fender Musical Instruments Corp. It is disclosed solely for use by qualified technicians for purposes of equipment maintenance and service. It is not to be disclosed to others without the expressed permission of Fender Musical Instruments Co. All specifications subject to change without notice.

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:

### CONTENTS:

- Notices
- Specifications
- Parts lists:
  - Unit assembly
  - Preamp PCB assembly
  - Power amp PCB assembly
  - Preamp chassis assembly
  - Power amp chassis ass'y
  - Cabinet assembly
- Schematics
- Service diagrams

### 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

**SPECIFICATIONS****SPECIFICATIONS**  
**(continued)**

<b>Product Release No.:</b>	CSR 10 <i>(This is not a model number)</i>
<b>Part Number:</b>	120V Version: 81-2100-000 240V Aust : 81-2130-000 230V UK : 81-2140-000 230V : 81-2160-000 100V : 81-2170-000 230V Nord : 81-2180-000
<b>Input impedance:</b>	Input A: 2.5 M ohm Input A/B: 2.0 M ohm Input B: 2.5 M ohm
<b>Effects loop:</b>	Input impedance: 1 M ohm Output Impedance: 42.5 k ohm
<b>Effects mix control:</b>	Continuously variable between the signal at the <i>EFFECTS SEND</i> and the <i>EFFECTS RETURN</i> jacks
<b>Pre-amp out:</b>	-9.5 dBV nominal output
<b>Power amp in:</b>	-9.5 dBV nominal input sensitivity
<b>Balanced line output:</b>	Derived from the output transformer, fully balanced +1 dBV nominal output Pin 1 floating, pin 2 (+), pin 3 (-)
<b>Amplifier load impedance:</b>	4 $\Omega$ w/ <i>MAIN</i> speaker only 2 $\Omega$ w/ <i>EXT. SPEAKER</i> included
<b>Amplifier damping factor:</b>	3.1 at 4 $\Omega$
<b>Power output:</b>	300 Watts into 4 $\Omega$ @ 5% THD

<b>Power Requirements:</b>	100V Version: 100 VAC 50/60 Hz 900 W 120V Version: 120 VAC 60 Hz 900 W 230V Version: 230 VAC 50 Hz 900 W 240V Version: 240 VAC 50 Hz 900 W
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<b>Suggested speaker enclosures:</b>	081-3100-000 Rumble bass 410 081-3101-000 Rumble bass SUB 081-3102-000 Rumble bass 115
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<b>Dimensions:</b>	Height: 10" (25.4 cm) Width: 24.5" (62.2 cm) Depth: 13.5" (34.3 cm)
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<b>Weight:</b>	70 lbs. (31.75 kg)
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*Product specifications are subject to change without notice*

RUMBLE BASS

**PARTS LIST**

NOTE: SHADED ITEMS ARE FOR REFERENCE ONLY

**UNIT ASSEMBLY**

QTY	PART #	DESCRIPTION	REFERENCE	DESIGNATION
4	015925	SCRW M8 - 32 x 1 THP BLX		
6	017439	SCRW SMA 6 x 1/2 PHP BLX		
2	020690	WSHR FNSH 8 - 5/8 B2DG FLNGD NI		
2	022236	SCRW M8 - 32 x 3 - 1/4 OHP NI CONE		
8	029527	WSHR FNSH 8 - 5/8 FLNGD BLK WK		
8	036199	SCRW M8 - 32 x 1 - 3/16 OHP BLK CP		
1	036795	NAMEPLATE 62 FENDER		
4	037210	SCRW SMA 2 x 3/8 OHP NI	@ NAMEPLATE	
4	037215	WSHR C 'SNK #6 NI		
4	037952	SCRW SMA #6 x 1 OHP NI		
1	041228	FOOTSWITCH 1 BTTN VIN STYLE		
1	047425	CAB ASSY RUMBLE BASS HEAD		
1	048416	CHS ASSY PREAMP RUMBLE BASS		
1	048417	CHS ASSY PWR RUMBLE BASS	120V	
1	048418	CHS ASSY PWR RUMBLE BASS	AUS	
1	048419	CHS ASSY PWR RUMBLE BASS	UK	
1	048420	CHS ASSY PWR RUMBLE BASS	230V	
1	048421	CHS ASSY PWR RUMBLE BASS	100V	
1	048434	GRILLE TOP METAL PERF R. BASS		
1	050775	GRILLE REAR PERF RUMBLE		
3	9904101110	SCREW PB 8 x 5/8		

**PREAMP PCB ASSEMBLY**

QTY	PART #	DESCRIPTION	REFERENCE	DESIGNATION
2	012022	CAPAE 450V 4.7uF 20%	C4 C5	
3	009512	CAPAE 35V 22uF 20%	C16 C18 C24	
1	049111	CAPAE 35V 33uF L.L.	C47	
2	028953	CAPAE 350V 100uF 10%	C27 C28	
1	004026	CAPCD 1KV 22pF 10%	C48	
4	069724	CAPCD 1KV 100pF 10%	C14 C20 C33 C39	
2	025854	CAPCD 1KV 820pF 10%	C35 C45	
3	028461	CAPRE 35V 10uF 20%	C26 C37 C38	
1	047065	CAPRF 400V .0015uF 10%	C25	
2	027263	CAPRF 100V .0082uF 10%	C6 C7	
1	027264	CAPRF 100V .01uF 10%	C1	
4	024833	CAPRF 400V .022uF 10%	C2 C3 C10 C11	

RUMBLE BASS

**PARTS LIST**

**PREAMP PCB ASSEMBLY  
CONTINUED**

QTY	PART #	DESCRIPTION	REFERENCE	DESIGNATION
1	024839	CAPRF 400V .033uF 10%	C15	
4	024846	CAPRF 630V .047uF 10%	C31 C32 C42 C43	
1	024853	CAPRF 250V .1uF 10%	C8	
3	024855	CAPRF 630V .1uF 10%	C13 C19 C21	
4	024862	CAPRF 400V .22uF 10%	C29 C30 C40 C41	
1	047197	CAPRF 50V .39uF 5%	C9	
4	024876	CAPRF 250V .68uF 10%	C12 C17 C22 C23	
4	031780	CAPSM 300V 150pF 5%	C34 C36 C44 C46	
3	006260	DIODE, 75PRV SIGNAL	CR1 CR2 CR3	
78	026000	FASTON TAB, .187	CP1-CP78	
1	048409	PREAMP PCB		
3	036613	RELAY, DPDT	K1 K2 K3	
2	025109	RESCF 1/2W 47 Ohm 5%	R7 R28	
1	039091	RESCF 1/2W 240 Ohm 5%	R77	
1	027869	RESCF 1/2W 470 Ohm 5%	R5	
5	025941	RESCF 1/2W 560 Ohm 5%	R2 R9 R38 R65 R66	
1	049030	RESCF 1/2W 680 Ohm 5%	R33	
2	9901218220	RESCF 1/2W 820 Ohm 5%	R64 R72	
1	027871	RESCF 1/2W 1k Ohm 5%	R21	
3	026549	RESCF 1/2W 1.5k Ohm 5%	R25 R37 R42	
4	025110	RESCF 1/2W 2.2k Ohm 5%	R44 R54 R63 R75	
1	028861	RESCF 1/2W 3.3k Ohm 5%	R48	
1	041272	RESCF 1/2W 5.6k Ohm 5%	R6	
1	041729	RESCF 1/2W 7.5k Ohm 5%	R71	

RUMBLE BASS

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**PARTS LIST**

**PARTS LIST**

**PREAMP PCB ASSEMBLY  
CONTINUED**

**POWER AMP PCB ASSEMBLY  
CONTINUED**

QTY	PART #	DESCRIPTION	REFERENCE	DESIGNATION
2	025113	RESCF 1/2W 10k Ohm 5%	R68 R74	
1	025832	RESCF 1/2W 22k Ohm 5%	R49	
1	037665	RESCF 1/2W 27k Ohm 5%	R17	
1	036956	RESCF 1/2W 33k Ohm 5%	R19	
9	041271	RESCF 1/2W 47k Ohm 5%	R10 R20 R23 R27 R29 R45 R55 R73 R76	
1	028857	RESCF 1/2W 68k Ohm 5%	R22	
2	025116	RESCF 1/2W 100k Ohm 5%	R46 R57	
5	048346	RESCF 1/2W 120k Ohm 5%	R3 R16 R60 R61 R62	
1	025834	RESCF 1/2W 150k Ohm 5%	R69	
3	025117	RESCF 1/2W 220k Ohm 5%	R1 R35 R43	
6	036957	RESCF 1/2W 470k Ohm 5%	R4 R18 R31 R51 R59 R67	
9	99012551020	RESCF 1/2W 1M Ohm 5%	R8 R15 R26 R30 R34 R36 R39 R41 R70	
3	029722	RESMF 1W 1k Ohm 5%	R13 R14 R53	
2	036470	RESMF 1W 10k Ohm 5%	R11 R52	
4	041738	RESMF 1W 15k Ohm 5%	R32 R40 R50 R58	
1	027350	RESMF 1W 22k Ohm 5%	R12	
3	027353	RESMF 1W 100k Ohm 5%	R24 R47 R56	

QTY	PART #	DESCRIPTION	REFERENCE	DESIGNATION
2	006260	DIODE, 75PRV SIGNAL	CR24 CR25	
4	026730	DIODE, 800PRV 1AMP	CR11 CR12 CR13 CR26	
2	029690	DIODE, 3000PRV, .2A	CR1 CR2	
8	048361	DIODE, 800PRV, 3A	CR3-10	
2	064089	DIODE, 200PRV, 1A	CR16 CR17	
6	020534	DIODE, 200PRV, 3A	CR18-23	
87	025802	FASTON TAB, .250	CP1-87	
12	041296	PAD-PCB EYELET	P1-12	
1	048414	POWER AMP PCB		
3	026481	TEST POINT JACK	TP1 TP2 TP3	
1	026411	THERMISTOR, NTC 8A	TH1	
3	026133	CTRL, 25K, B	R9 R24 R28	
1	027871	RESCF 1/2W 1K 5%	R7	
1	9901251020	RESCF 1/2W 1M 5%	R5	
2	025832	RESCF 1/2W 22K 5%	R25 R29	
2	041278	RESCF 1/2W 39K 5%	R23 R27	
2	025109	RESCF 1/2W 47OHM 5%	R12 R15	
1	025830	RESCF 1/2W 220 Ohm 5%	R4	
3	025110	RESCF 1/2W 2.2k Ohm 5%	R3 R14 R17	
2	041271	RESCF 1/2W 47k Ohm 5%	R8 R44	
1	047434	RESCF 1/2W 56k Ohm 5%	R6	
4	025834	RESCF 1/2W 150k Ohm 5%	R18 R19 R20 R21	
1	025117	RESCF 1/2W 220k Ohm 5%	R2	
3	036957	RESCF 1/2W 470k Ohm 5%	R1 R10 R11	
2	048364	RESMF 1W 1 Ohm 5%	R42 R43	
6	048362	RESMF 1W 27 Ohm 5%	R31 R33 R35 R37 R39 R41	
2	048365	RESMF 1W 47k Ohm 5%	R22 R26	
3	041269	RESCF 2W 1.2k Ohm 5%	R45 R46 R47	
2	048366	RESMF 2W 47k Ohm 5%	R13 R16	
1	049162	RESWW 15W 1.1 Ohm 10%	R48	

**POWER AMP PCB ASSEMBLY**

QTY	PART #	DESCRIPTION	REFERENCE	DESIGNATION
2	028953	CAPAE 350V 100uF 10%	C14 C15	
2	049034	CAPAE 16V 10000uF 10%	C18 C19	
1	020925	CAPCD 1KV 120pF 10%	C7	
1	065862	CAPCD 1KV 1200pF 10%	C2	
2	028463	CAPRE 50V 10uF 20%	C20 C21	
3	048359	CAPRE 450V 100uF 20%	C10 C11 C12	
2	048360	CAPRE 450V 330uF 20%	C8 C9	
1	031756	CAPRE 50V 4700uF HT	C13	
2	024845	CAPRF 400V .047uF 10%	C5 C6	
3	024854	CAPRF 400V .1uF 10%	C1 C3 C4	

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**PARTS LIST**

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**POWER AMP CHASSIS ASSEMBLY**

**PREAMP CHASSIS ASSEMBLY**

QTY	PART #	DESCRIPTION	REFERENCE	DESIGNATION
1	012560	BUSHING SNAP 5/8 x 27/32 BLK		
1	047461	CHS PREAMP RUMBLE BASS		
1	032219	COLLAR - PILOT LIGHT		
1	049091	CONN CPC CLAMP LG 206138-1/2		
1	049090	CONN CPC PLUG 37PIN 206305-1		
2	050027	CONTROL 20 k HI GRADE	R111 R211 A VOLUME B VOLUME	
2	041265	CONTROL DUAL 50 k LIN	R127 R227 A MIDDLE B MIDDLE	
5	041266	CONTROL DUAL 500 k LIN	R125 R126 R136 R225 R226 TREBLE BASS MIX	
1	048887	GROMMETING FLX 16 AWG		
1	021741	HOLDER DIAL LITE ASSY PILOT		
1	025718	JEWEL PILOT LITE RED #20		
3	068270	JACK PHONE MONO	J1 - 3	
9	041263	KNOB VINTAGE CREAM		
1	016669	LED RED PNL MT SUPER BRITE	LD1	
1	031625	NUT LIGHT SOCKET		
1	048410003	PCB ASSY PREAMP RUMBLE BASS		
1	047564	PANEL FRONT RUMBLE BASS		
1	021642	PILOT LIGHT #T47		
8	014172	SCRW M4 - 40 x 1/4 PHP BLK		
12	032806	SCRW TF 6 - 32 x 1/4 PHP BLK		
5	032908	SCRW TF 6 - 32 x 3/8 PHP ZI		
1	038900	SCRW TF 6 - 32 x 1/4 PHP ZI		
4	037835	SWITCH SLIDE SPST	S1 S4 - 6	
3	013341	TUBE 7025 / 12AX7WA	V1 V2 V4	
3	023531	TUBE 12AT7	V3 V5 V6	
6	023598	TUBE SHIELD		
6	023606	TUBE SOCKET 9 PIN MINIATURE		
6	026401	WSHR SHLDR FIBER 3/8 x 5/8	@ INPUT JACKS	

QTY	PART #	DESCRIPTION	REFERENCE	DESIGNATION
2	050762	BRACKET FAN RUMBLE		
1	007565	BUSHING SR .625 x .125 x 37/64 BLK	@ PWR CORD (100/120 V)	
1	010401	BUSHING SR .625	@ PWR CORD (EXPORT)	
1	026541	CABLE ASSY PWR W/ .250 TAB 120V	100/120V POWER CORD	
1	038899	CABLE ASSY PWR	AUST	
1	041786	CABLE ASSY PWR	UK	
1	041787	CABLE ASSY PWR	230V	
1	047820	CHS PWR AMP RUMBLE BASS		
1	049089	CONN CPC FLANG 37 skt 206306 - 1		
1	032925	DIODE BRIDGE RECTIFIER 35 A		
1	036229	FAN 3 - 1/8" 120 V		
1	028330	FUSE QA 1 - 1/4 x 1/4 250 V 10 A		
1	036702	FUSE HOLDER 3AG FINGER GRIP		
1	031222	INSULATOR MICA TO-3 UNGREASED	@ U1	
1	049035	IC VOLTAGE REGULATOR +5 3 A	U1	
1	026471	JACK XLR MALE PANEL MOUNT	J9	
1	041701	JACK PHONE MONO XFR	J7	
4	068270	JACK PHONE MONO	J4-6 J8	
3	022004	NUT KEPS #8 - 32 ZINC		
8	025819	NUT KEPS 10 - 32 ZINC		
4	069393	NUT 6 -32 HEX EXT LOCK		
1	048422	PANEL REAR RUMBLE BASS		
1	048415003	PCB ASSY PWR AMP RUMBLE BASS		
6	041271	RES CF 1/2 W 5 % 47 k	R30 R34 R36 R38 R40 R76	
12	039370	RETAINER ANCHOR TUBE SPRING		
6	039369	RETAINER TOP TUBE SPRING		
12	039371	SPRING, EXTENSION 1.81 x .15		
6	039364	WASHER EPDM TUBE CLAMP DAMPNER		
2	026521	SCRW SMB 8 x 3/8 RH PHS BLK		
2	029467	SCRW M8 - 32 x 2 PHP SS		
3	038900	SCRW TF 6 - 32 x 1/4 PHP ZI		
6	032806	SCRW TF 6 - 32 x 1/4 PHP BLK		
32	9904100190	SCRW TF 6 - 32 x 3/8 PH BLX		
1	049141	SHIELD EFFECTS RUMBLE BASS		
1	049522	SOCKET TO - 3 CHASSIS MNT. RMBL	@ U1	
6	048775	SOCKET TUBE 8 PIN CERAMIC	@ V10-15	
3	023606	SOCKET TUBE 9 PIN	@ V7-9	
2	036570	SWITCH TOGGLE DPST W/NUTS	S2-3	
2	037039	SWITCH TOGGLE SPST W/NUTS	S7-8	

RUMBLE BASS

**PARTS LIST**

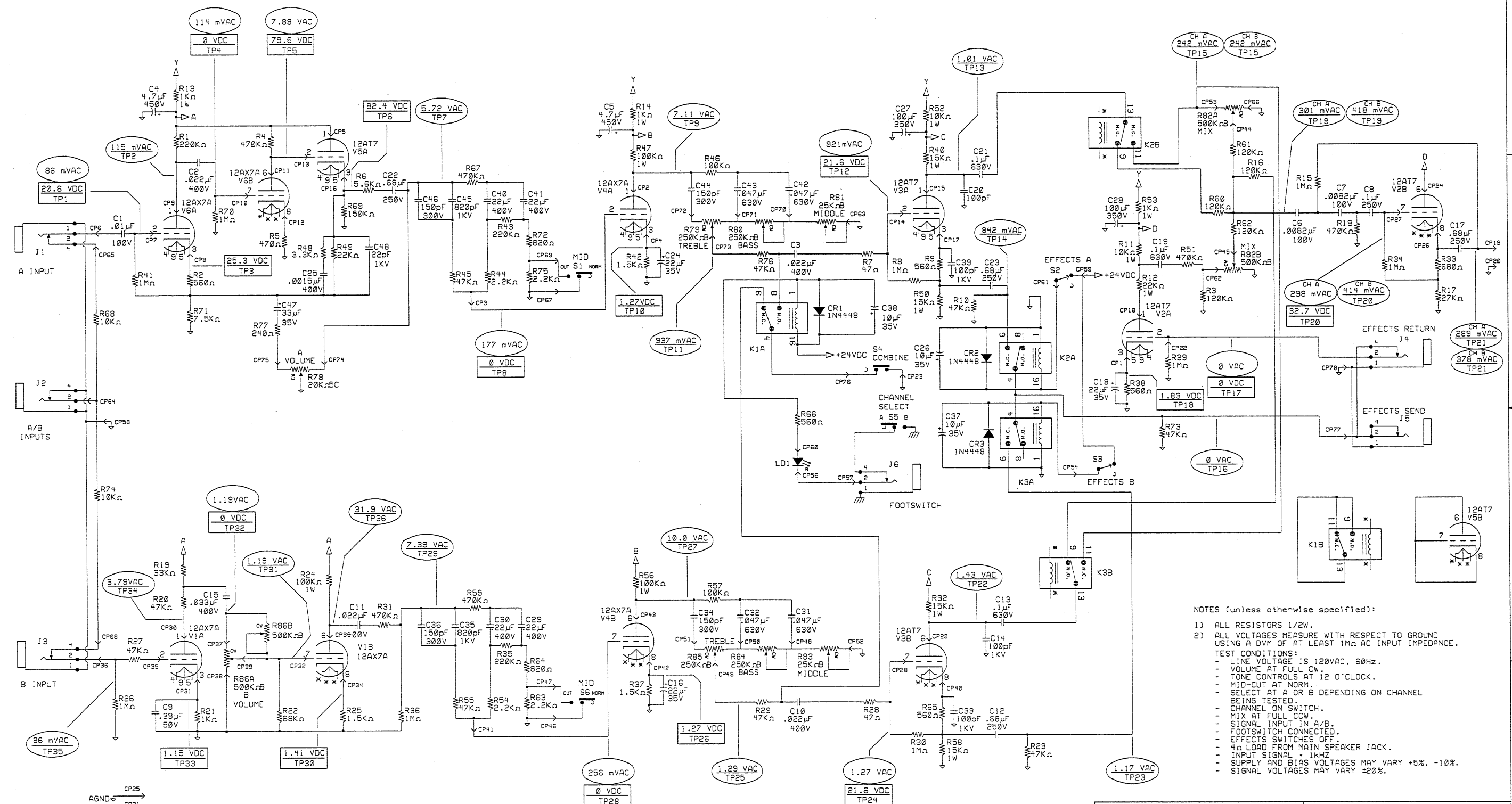
**POWER AMP CHASSIS ASSEMBLY  
CONTINUED**

<b>QTY</b>	<b>PART #</b>	<b>DESCRIPTION</b>	<b>REFERENCE</b>	<b>DESIGNATION</b>
1	013341	TUBE 7025 / 12AX7WA RUSSIAN MADE	V7	
1	023531	TUBE 12AT7	V8	
1	048367	TUBE 12BH7	V9	
6	048489	TUBE 6550WA OUTPUT	V10-15	
3	023598	TUBE SHIELD	@ V7-9	
8	026401	WSHR SHLDR FIBER 3/8 x 5/8	@ 1/4" JACKS	
12	026686	WSHR FLAT 6 x 3/8 FIBER	@ V10-15 SOCKETS	
1	047818	XFMR PWR RUMBLE BASS	ALL VERSIONS	
1	048432	XFMR OUTPUT RUMBLE BASS		

**CABINET ASSEMBLY**

<b>QTY</b>	<b>PART #</b>	<b>DESCRIPTION</b>	<b>REFERENCE</b>	<b>DESIGNATION</b>
.61	040883	CLOTH GRILLE OXBLOOD		
4	026566	CORNER 2 HOLE W/TAB NI		
4	019276	GLIDE CAB 1.24 x .335 NI		
2	036784	HANDLE MOLDED BROWN		
4	019275	INSERT GLIDE CUSHION 1.27 DIA		
16	064162	NUT T 8 - 32 x 1/2 STR 3 PRNG BLK		
4	026571	SCRW SMAB 8 x 5/8 THP NI		
4	026625	SCRW WOOD 8 x 1 FH		
8	037247	SCRW M8 - 32 x 1 OHP NI		
1.32	040882	TOLEX CREAM		
.196	029085	VELCRO STRIP LOOP 1.5" wd BLK		
.091	029086	VELCRO STRIP HOOK 1.5" wd BLK		

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	A	RELEASED, CSR 10	6/21/95	EH
	B	EC1633	1/16/96	FM
	C	ECLO3213	4/28/96	FM



NOTES (unless otherwise specified):

- 1) ALL RESISTORS 1/2W.
- 2) ALL VOLTAGES MEASURE WITH RESPECT TO GROUND USING A DVM OF AT LEAST 1MΩ AC INPUT IMPEDANCE.

TEST CONDITIONS:

- LINE VOLTAGE IS 120VAC, 60Hz.
- VOLUME AT FULL CW.
- TONE CONTROLS AT 12 O'CLOCK.
- MID-CUT AT NORM.
- SELECT AT A OR B DEPENDING ON CHANNEL BEING TESTED.
- CHANNEL ON SWITCH.
- MIX AT FULL CW.
- SIGNAL INPUT IN A/B.
- FOOTSWITCH CONNECTED.
- EFFECTS SWITCHES OFF.
- 4Ω LOAD FROM MAIN SPEAKER JACK.
- INPUT SIGNAL - 1kHz.
- SUPPLY AND BIAS VOLTAGES MAY VARY +5%, -10%.
- SIGNAL VOLTAGES MAY VARY ±20%.

LAST INSTANCES:  
C48, CP78, CR3, J6, K3, LD1, R86, S6, TP37, V6

DATABASE FILE: RUMBLE1.DBF CHECKED BY: <i>MC</i> DATE: <i>6-5-96</i> APPROVED: <i>[Signature]</i> DATE: <i>5-30-96</i>	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 EXPRESS WRITTEN CONSENT FROM: FENDER MUSICAL INSTRUMENTS CO. REGIONAL HEADQUARTERS 2621 RESEARCH DRIVE CORONA, CA 91728 USA	FENDER MUSICAL INSTRUMENTS 2621 Research Drive Corona, CA 91720 USA <b>TITLE: RUMBLE BASS</b> PRE AMPLIFIER SIZE: DRAWN: F. MATRO DRAWING NUMBER: REV. C ENGR: M. COZZA 048406 SCALE: CREATED: 16-JAN-95 PLOTTED: 03-MAY-96 SHEET 1 OF 1
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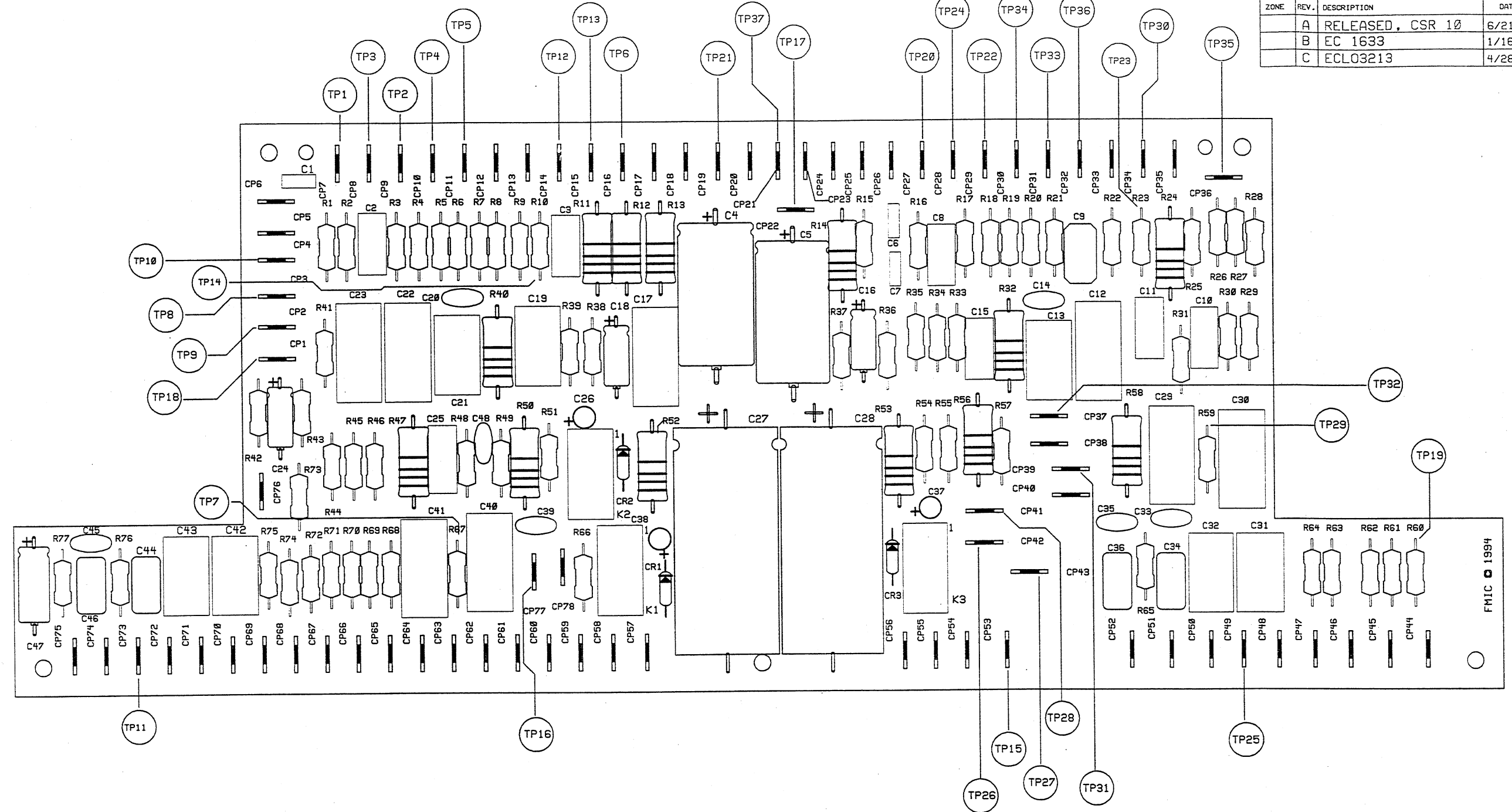
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REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
A		RELEASED, CSR 10	6/21/95	EH
B		EC 1633	1/16/96	FM
C		ECL03213	4/28/96	FM



FILM/DWG : SERVICE DIAGRAM  
 DATABASE : RUM1P.DBF      DATE : 08-APR-97  
 LAYERS PLOTTED : 1 2 3 4      10  
 18 19

DATABASE FILE: RUM1P.DBF	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. 1130 COLUMBIA ST. BREA, CALIFORNIA 92621 MEXICO	Fender MUSICAL INSTRUMENTS 2621 Research Drive Corona, CA 91720 USA
CHECKED BY:		TITLE: RUMBLE BASS - PRE. AMP. SERVICE DIAGRAM
DATE:		SIZE: DRAWN: F. MATRO      DRAWING NUMBER: 048408      REV. C
APPROVED:		ENGR: F. MATRO
DATE:		NEXT HIGHER ASSEMBLY: RUMBLE BASS
TOLERANCES: UNLESS OTHERWISE NOTED X.X      .050" X.XX      .010" X.XXX      .005" ANGLES      .5000"		SCALE:      CREATED: 10-JAN-95 PLOTTED: 08-APR-97 SHEET 1 OF 1

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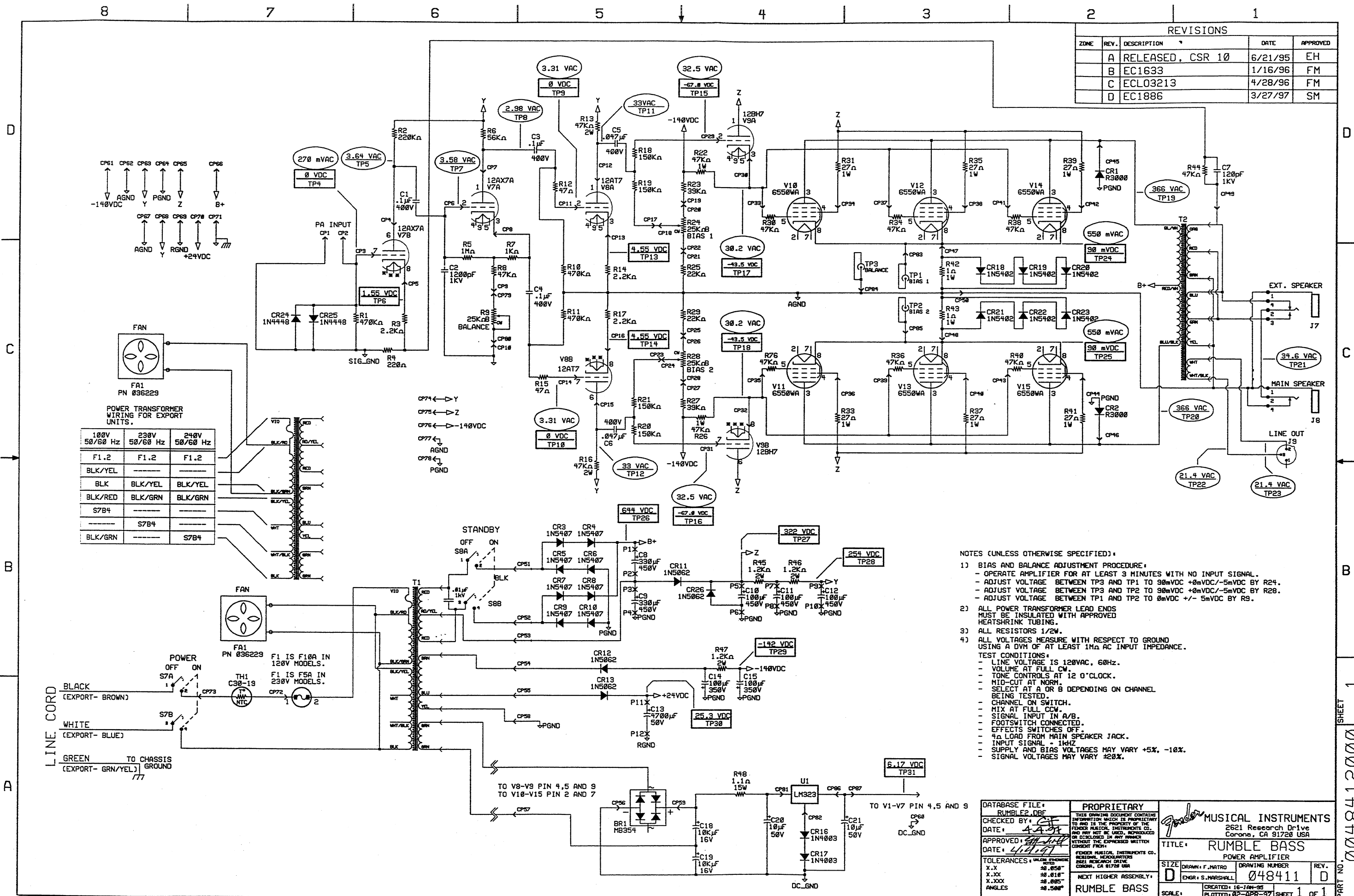
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REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	A	RELEASED, CSR 10	6/21/95	EH
	B	EC1633	1/16/96	FM
	C	ECL03213	4/28/96	FM
	D	EC1886	3/27/97	SM



POWER TRANSFORMER WIRING FOR EXPORT UNITS.

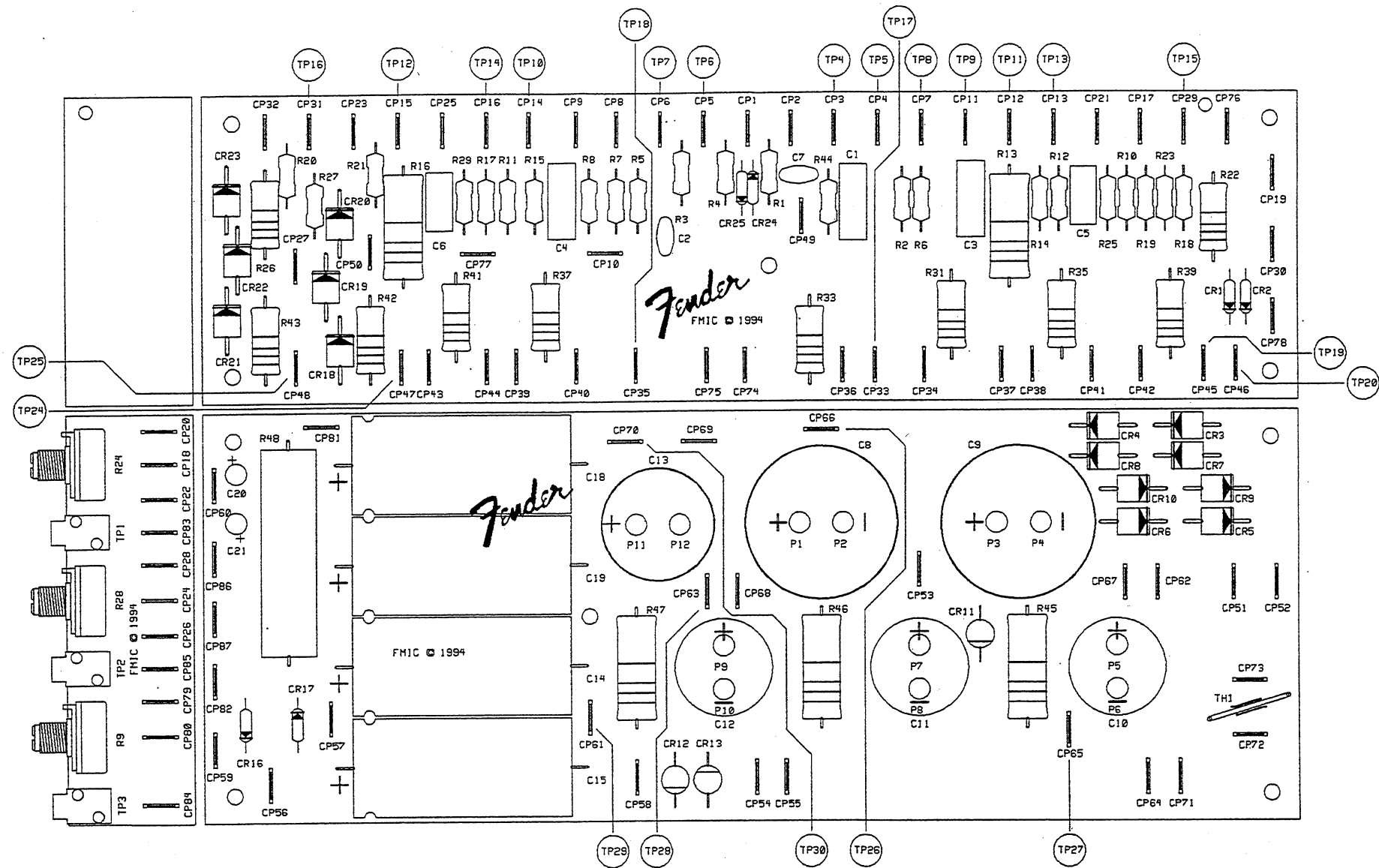
100V 50/60 Hz	230V 50/60 Hz	240V 50/60 Hz
F1.2	F1.2	F1.2
BLK/YEL	---	---
BLK	BLK/YEL	BLK/YEL
BLK/RED	BLK/GRN	BLK/GRN
S7B4	---	---
---	S7B4	---
BLK/GRN	---	S7B4

- NOTES (UNLESS OTHERWISE SPECIFIED):
- BIAS AND BALANCE ADJUSTMENT PROCEDURE:
    - OPERATE AMPLIFIER FOR AT LEAST 3 MINUTES WITH NO INPUT SIGNAL.
    - ADJUST VOLTAGE BETWEEN TP3 AND TP1 TO 30mVDC +0mVDC/-5mVDC BY R24.
    - ADJUST VOLTAGE BETWEEN TP3 AND TP2 TO 30mVDC +0mVDC/-5mVDC BY R28.
    - ADJUST VOLTAGE BETWEEN TP1 AND TP2 TO 0mVDC +/- 5mVDC BY R9.
  - ALL POWER TRANSFORMER LEAD ENDS MUST BE INSULATED WITH APPROVED HEATSHRINK TUBING.
  - ALL RESISTORS 1/2W.
  - ALL VOLTAGES MEASURE WITH RESPECT TO GROUND USING A DVM OF AT LEAST 1MΩ AC INPUT IMPEDANCE.
- TEST CONDITIONS:
- LINE VOLTAGE IS 120VAC, 60Hz.
  - VOLUME AT FULL CW.
  - TONE CONTROLS AT 12 O'CLOCK.
  - MID-CUT AT NORM.
  - SELECT AT A OR B DEPENDING ON CHANNEL BEING TESTED.
  - CHANNEL ON SWITCH.
  - MIX AT FULL CW.
  - SIGNAL INPUT IN A/B.
  - FOOTSWITCH CONNECTED.
  - EFFECTS SWITCHES OFF.
  - 4Ω LOAD FROM MAIN SPEAKER JACK.
  - INPUT SIGNAL - 1kHz.
  - SUPPLY AND BIAS VOLTAGES MAY VARY +5%, -10%.
  - SIGNAL VOLTAGES MAY VARY ±20%.

DATABASE FILE: RUMBLE2.DBF CHECKED BY: DATE: APPROVED: DATE: TOLERANCES: UNLESS OTHERWISE NOTED X.XX ±0.050" X.XXX ±0.010" X.XXXX ±0.005" ANGLES ±0.500°	<b>PROPRIETARY</b> 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. HEADQUARTERS 2621 RESEARCH DRIVE CORONA, CA 91728 USA NEXT HIGHER ASSEMBLY: <b>RUMBLE BASS</b>	<b>FENDER MUSICAL INSTRUMENTS</b> 2621 Research Drive Corona, CA 91728 USA <b>TITLE: RUMBLE BASS</b> POWER AMPLIFIER SIZE: DRAWN: F. MATRO DRAWING NUMBER: REV.: <b>D</b> ENGR: S. MARSHALL <b>048411 D</b> SCALE: CREATED: 16-10-95 PLOTTED: 02-APR-97 SHEET 1 OF 1
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PART NO. 0048412000 SHEET 1

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	A	RELEASED, CSR 10	6/21/95	



TP21-TP23 DO NOT APPEAR ON THE PCB. THEY ARE FOR SERVICE REFERENCE.

FILM/DWG : SERVICE DIAGRAM  
 DATABASE : RUM2P.DBF      DATE : 21-JUN-95  
 LAYERS PLOTTED : 1 2 3 4      10  
 18

DATABASE FILE: RUM2P.DBF	PROPRIETARY	<b>MUSICAL INSTRUMENTS</b> 2621 Research Drive Corona, CA 91720 USA
CHECKED BY: DATE:	<small>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 EXPRESS WRITTEN CONSENT FROM FENDER MUSICAL INSTRUMENTS CO.</small>	
APPROVED: <i>CH</i> DATE: <i>6-27-95</i>	<small>FENDER MUSICAL INSTRUMENTS CO.          1120 COLLETTA ST.          BREA, CALIFORNIA 92621          ROCK ON.</small>	<b>TITLE: RUMBLE BASS - POW. AMP. SERVICE DIAGRAM</b>
TOLERANCES: UNLESS OTHERWISE NOTED X.X      ±0.050" X.XX     ±0.010" X.XXX    ±0.005" ANGLES    ±0.500°	NEXT HIGHER ASSEMBLY: RUMBLE BASS	SIZE: DRAWN: HERRMANN      DRAWING NUMBER: 048413      REV. A ENGR: HERRMANN SCALE:      CREATED: 16-JAN-95      PLOTTED: 21-JUN-95      SHEET 1 OF 1