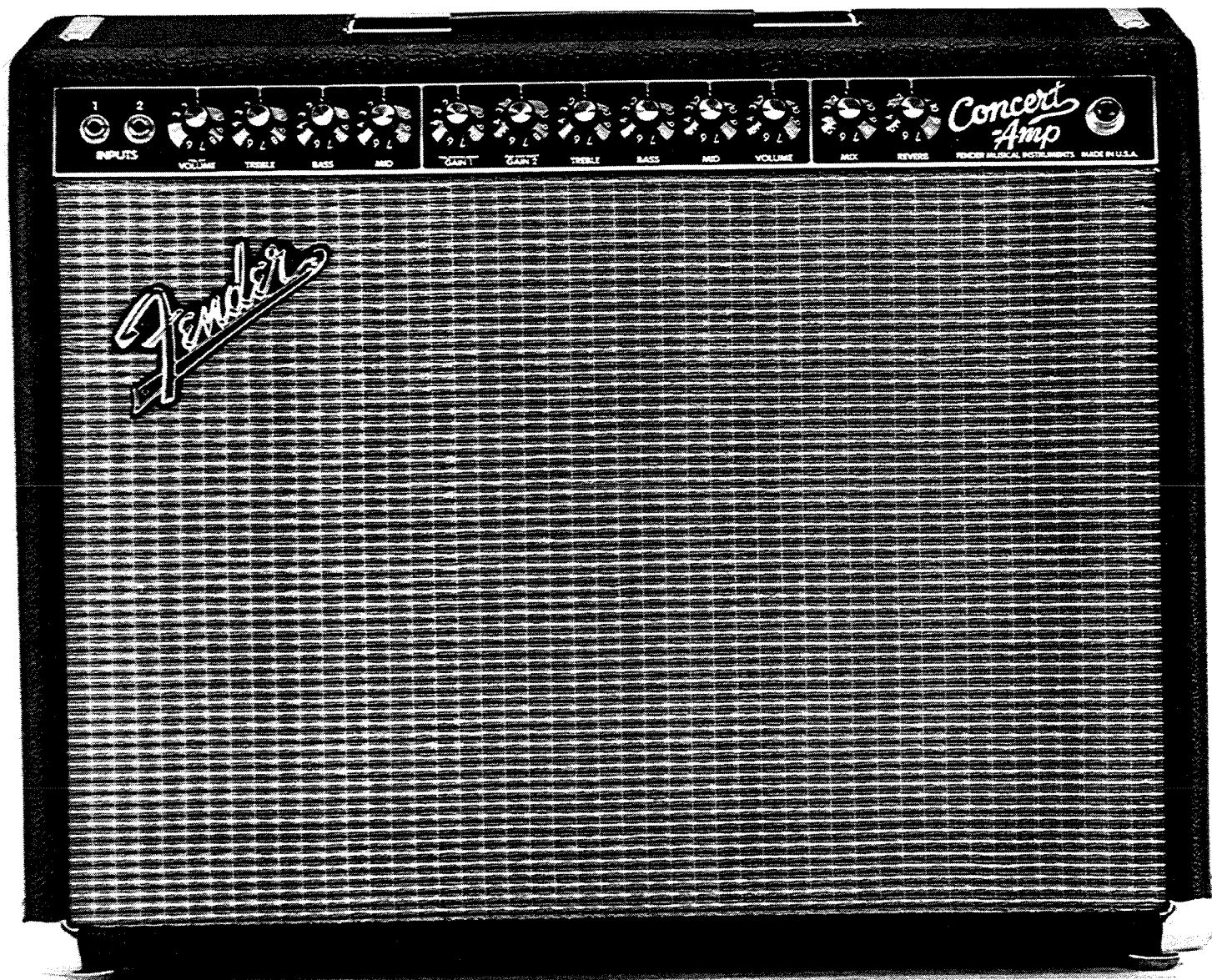
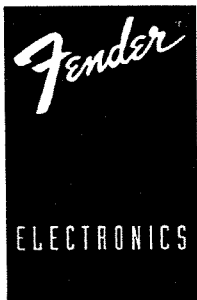


Fender Musical Instruments Corp.

SERVICE MANUAL

'93 Concert Amp Guitar Amplifier





CONCERT AMP

GUITAR AMPLIFIER SERVICE MANUAL

TYPE: PR 245

DECEMBER 1993 REV A.

NOTICE:

The information contained herein is CONFIDENTIAL and PROPRIETARY to Fender Musical Instruments. 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. All specifications subject to change without notice.

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

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

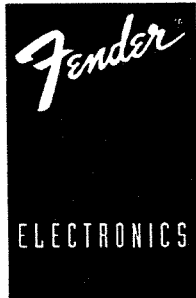
RES CC = Carbon Comp
 RES CF = Carbon Film
 RES FP = Flame Proof
 RES MF = Metal Film
 RES WW = Wire Wound

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 Plating

NOTICE:

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

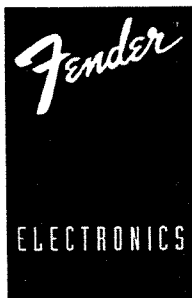


CONCERT AMP

PARTS LIST

PRINTED CIRCUIT BOARD ASSEMBLY

QTY	PART #	DESCRIPTION	REFERENCE	DESIGNATION
1	041747	PCB ASSY ALL V SUPER/CONCERT	(STUFFED)	
3	037325	CABLE FLAT 6 CKT 2 INCH		
1	047121	CABLE JUMPER 6 CKT .1X8.5		
1	026517	CAP AE AX 2.2 μ F 50V	C50	
1	038691	CAP AE AX 4.7 μ F 50V	C53	
9	025960	CAP AE AX 22 μ F 16V	C1,5,9,13,21,23,49,51,54	
3	024819	CAP AE AX 22 μ F 500V	C37-39	
3	036954	CAP AE RDL 22 μ F 63V 20%	C41,55,56	
2	031040	CAP AE RDL 100 μ F 100V 20%	C17,40	
4	028953	CAP AE AX 100 μ F 350V 20%	C33-36	
1	028479	CAP AE RDL 220 μ F 25V 20%	C32	
2	028482	CAP AE RDL 220 μ F 50V 20%	C42,43	
2	039362	CAP AE RDL 1000 μ F 35V LOPROFIL	C44,45	
3	069724	CAP CD 100PF 1000V 10%	C4,47,48	
2	020917	CAP CD 250PF 1000V 10%	C6,10	
1	025777	CAP CD 470PF 1000V 10%	C20	
1	011435	CAP CD 680PF 1000V 10%	C22	
1	017620	CAP CD 1500PF 1000V 10%	C52	
1	047065	CAP PFF RDL .0015 μ F 400V 10%	C3	
1	033580	CAP PFF RDL .0022 μ F 100V 10%	C28	
1	037040	CAP PFF RDL .0033 μ F 400V	C14	
2	024823	CAP MPF RDL .01 μ F 400V 10%	C2,15	
4	024833	CAP MPF RDL .022 μ F 400V 10%	C8,11,12,24	
1	033596	CAP PFF RDL .068 μ F 100V 10%	C31	
1	024853	CAP MPF RDL .1 μ F 250V 10%	C27	
3	024854	CAP MPF RDL .1 μ F 400V 10%	C7,16,19	
2	024855	CAP MPF RDL .1 μ F 630V 10%	C25,26	
1	027281	CAP MPF .22 μ F 63V	C30	
2	027286	CAP MPF .47 μ F 63V	C29,46	
1	024876	CAP MPF RDL .68 μ F 250V 10%	C18	
2	041510	CONTROL SNAPIN 25K B	R15,22	
1	037600	CONTROL SNAPIN 100K B	R49	
3	037597	CONTROL SNAPIN 250K 30A J TAPER	R13,20,26	
1	041511	CONTROL SNAPIN 250K B DUAL	R32	
2	041507	CONTROL SNAPIN 1M 10A	R14,21	
3	041512	CONTROL SNAPIN 1M 30A	R6,7,8	
10	006260	DIODE 1N4448 SIGNAL BENT	CR3,4,7-9,11-14,26	
8	026730	DIODE 1N4006/1N5062 800PRV 1A	CR15-21,27	
2	029690	DIODE HV 3KV 200MA	CR6,5	
1	027329	DIODE ZEN 1N5228B 3.9V 5%	CR2	
2	028119	DIODE ZEN 1N5353B 16V 5W 5%	CR22,23	
1	031017	DIODE ZEN 1N5223B 2.7V 5%	CR1	
1	031635	DIODE ZEN 1N5240B 10V 5%	CR10	
21	025802	FSTN TAB MALE .250X.032 PCB MT	CP1-20,25	
4	026000	FSTN TAB MALE PCB MT .187X.032	CP21-24	
1	022546	FUSE HOLDER PCB MTG UNIVERSAL	XF1(W/O CARRIER, SEE CHS ASSY)	

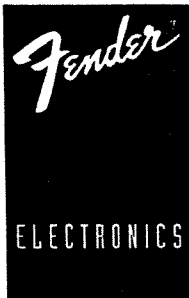


CONCERT AMP

PARTS LIST

PRINTED CIRCUIT BOARD ASSEMBLY CONTINUED

QTY	PART #	DESCRIPTION	REFERENCE	DESIGNATION
2	031611	IC DUAL OP PC4560	U2,3	
2	037117	JACK PCB MONO CLOSED CKT	J1,2	(INPUTS)
1	025933	JACK PHONO DUAL PC MTG	J5	(REVERB RCA JACKS)
1	031570	JACK PHONE PCB STEREO PREMIUM	J6	(LINE OUT)
3	037036	JACK PHONE PCB MONO CA PREMIUM	J3,4,7,	(EFF SND, EFF RTN, FTSW)
35	020888	JUMPER WIRE 22GA .5X.175	W1-35	
7	026043	JUMPER WIRE 18GA .8X.175	JP1-7	
1	025926	LED RED PC MOUNT 3MM	LD2	
1	041730	LED YELLOW PCB MOUNT 3MM	LD1	
1	041746	PCB FAB '93 CONCERT/SUPER	(RAW BOARD)	
2	031901	PIN MALE PCB .093	SP1,2	
3	036613	RELAY 24 VOLT	RY1-3	
2	025818	RES CF 1/4W 5% 4.7Ω	R112,113	
1	024953	RES CF 1/4W 5% 120Ω	R70	
1	024959	RES CF 1/4W 5% 330Ω	R115	
1	029451	RES CF 1/4W 5% 430Ω	R38	
1	024961	RES CF 1/4W 5% 470Ω	R63	
5	024962	RES CF 1/4W 5% 560Ω	R28,42,90,92,93	
9	024969	RES CF 1/4W 5% 1.5K	R5,10,17,24,46,51,66,67,74	
2	024971	RES CF 1/4W 5% 2.2K	R37,76	
2	024975	RES CF 1/4W 5% 3.9K	R102,114	
1	026510	RES CF 1/4W 5% 9.1K	R62	
3	024981	RES CF 1/4W 5% 10K	R87,88,94	
4	024985	RES CF 1/4W 5% 15K	R35,36,75,103	
1	024988	RES CF 1/4W 5% 27K	R31	
1	028865	RES CF 1/4W 5% 30K	R40	
1	024989	RES CF 1/4W 5% 33K	R104	
1	024993	RES CF 1/4W 5% 47K	R72	
2	024995	RES CF 1/4W 5% 68K	R1,2	
4	024997	RES CF 1/4W 5% 100K	R11,12,18,19	
3	028955	RES CF 1/4W 5% 130K	R33,34,41	
3	025059	RES CF 1/4W 5% 220K	R53,58,59	
1	025828	RES CF 1/4W 5% 430K	R39	
7	025065	RES CF 1/4W 5% 470K	R25,48,50,84,85,55,116	
9	025069	RES CF 1/4W 5% 1M	R3,27,44,64,65,81,82,83,86	
1	025075	RES CF 1/4W 5% 2.2M	R54	
1	025084	RES CF 1/4W 5% 10M	R71	
2	025811*	RES MF 1/4W 1% 5.11K	R78,79	
1	016963*	RES MF 1/4W 1% 8.25K	R77	
1	015583*	RES MF 1/4W 1% 46.4K	R80	
2	031767	RES CF 1/2W 5% 15Ω	R110,111	
2	041741*	RES MOX FP 1/2W 5% 47Ω	R107,108	
1	025941	RES CF 1/2W 5% 560Ω	R45	
2	037169	RES CF 1/2W 5% 1.8K	R69,91	
1	028861	RES CF 1/2W 5% 3.3K	R89	
1	031065	RES CF 1/2W 5% 91K	R61	



CONCERT AMP

PARTS LIST

PRINTED CIRCUIT BOARD ASSEMBLY CONTINUED

QTY	PART #	DESCRIPTION	REFERENCE	DESIGNATION
7	025116	RES CF 1/2W 5% 100K	R4,9,16,23,47,52,60	
4	025117	RES CF 1/2W 5% 220K	R95-98	
1	028045	RES FILM 1W 5% 220Ω	R109	
2	036468*	RES MOX FP 1W 5% 470Ω	R56,57	
1	036621	RES FILM 1W 5% 6.8K	R68	
1	041739*	RES MOX FP 1W 5% 6.8K	R100	
2	041738	RES CF 1W 5% 15K	R29,30	
1	041277	RES CF 2W 5% 820Ω	R73	
1	041737	RES CF 2W 5% 33K	R43	
1	041740*	RES MOX FP 2W 5% 4.7K	R99	
1	041742	RES WW 7W 10% 10K	R101	
2	029047	RES WW BT 7W 10% 270Ω	R105,106	
4	017433	SCRW M 6-32X3/8 PHP BLX		
14	039367	SCRW M 6-32X3/8 PHPS SS	(STANDOFF MOUNT)	
4	029167	SOCKET TUBE 9 PIN PCB MOUNT	XV2,3,4,6	
2	029343	SOCKET TUBE 8 PIN PCB MOUNT	XV7,8	
14	016440	STNDOFF RND AL 6-32X1X1/4	(PCB TO CHASSIS MOUNT)	
1	038652	SWITCH SLIDE 4P3T	S6	
1	028503*	THERMISTOR 10 OHM 5A C60-11	TH1	
1	041261*	VOLT REF LM4040DCZ-10 10V1% TO-92	U1	

CHASSIS ASSEMBLY

QTY	PART #	DESCRIPTION	REFERENCE	DESIGNATION
1	047283	CHS ASSY '93 CONCERT 120V		
1	018022	BUSHING SNAP 5/16X17/32 BLK	(@ REVERB XFMR WIRES)	
2	028069	BUSHING SNAP 3/4X1-1/8 WHT	(@ XFMR WIRES)	
1	026038	BUSHING SR .625X.062X37/64 BLK	(@ POWER CABLE 100/120V ONLY)	
1	010401	BUSHING SR .625X.125X37/64WHT	(@ POWER CABLE 220/230/240V)	
1	026541	CABLE ASSY PWR W/.250 TAB 120V	(POWER CABLE 100/120V ONLY)	
1	033331	CABLE ASSY PWR W/.250 TAB 220/240V	(220/230/240V EXPORT)	
1	038602	CABLE ASSY PWR W/.250 TAB AUST	(240V AUSTRALIA ONLY)	
1	040993	CABLE ASSY PWR W .250 TAB U.K. 5A	(240V UNITED KINGDOM ONLY)	
1	040948	CHASSIS '93 CONCERT	(RAW CHASSIS)	
1	022707	CHOKE FILTER	L1	
1	032219	COLLAR-PILOT LIGHT		
1	022547	FUSE CARRIER 3AG	(@ XF1 100/120V ONLY)	
1	022548	FUSE CARRIER 5mm	(@ XF1 230/240V EXPORT)	
1	077982	FUSE QA 1-1/4X1/4 250V 3A	F1	(100/120V ONLY)
1	020793	FUSE QA 20mmX5mm 250V 1.6A	F1	(230/240V ONLY)
1	021741	HOLDER IDAL LITE ASSEMBLY PILO		
1	021550	JACK PHONE TIP SHUNT 12A	J8	(MAIN SPEAKER JACK)



CONCERT AMP

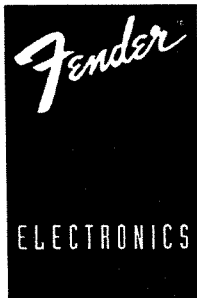
PARTS LIST

CHASSIS ASSEMBLY CONTINUED

QTY	PART #	DESCRIPTION	REFERENCE	DESIGNATION
1	041701	JACK PHONE TRANSFER 13A	J9	(EXT. SPEAKER JACK)
1	025718	JEWEL #20 PILOT LITE		
12	024604	KNOB BLACK W/WHITE STAMP 14000		
4	016352	NUT HEX 3/8-32X3/32 TK NI		(@ INPUT/SPEAKER JACKS)
1	031625	NUT HOLDER PILOT LIGHT 1/16-27		
8	022004	NUT KEPS #8-32 ZINC		(TRANSFORMER MOUNT)
1	047282	PAD VIBRATION DAMPNER SPR/CNCT		
1	041755	PANEL REAR '93 CONCERT		
1	040949	PANEL FRONT '93 CONCERT		
1	021642	PILOT LIGHT #47		
4	039370	RETAINER ANCHOR TUBE SPRING		(OUTPUT TUBE MOUNT)
2	039369	RETAINER TOP TUBE SPRING		(OUTPUT TUBE MOUNT)
1	030758	SCRW HI-LO 6X3/8 PHP ZI		(@ REVERB JACKS)
8	016473	SCRW M 8-32X1/2 PHP ZI		(XFMR MOUNT)
10	017433	SCRW M 6-32X3/8 PHP BLX		(PCB TO CHASSIS MOUNT)
4	028937	SCRW TF 6-32X5/8 PHP ZI TAPTYT		(FUSE HOLDER PCB MOUNT)
10	038900	SCRW TF 6-32X1/4 PHP ZI		(REV XFMR/CHOKE/SOCKET MOUNT)
2	023598	SHIELD TUBE		
4	039371	SPRING EXTENSION 1.81X.15"		(OUTPUT TUBE MOUNT)
4	025936	STAND OFF PCB PUSH ON NY 3/8L		(FUSE HOLDER PCB MOUNT)
1	036570	SWITCH TOGGLE DPST W/NUTS		(POWER SWITCH)
1	037039	SWITCH TOGGLE SPST W/NUTS		(STANDBY SWITCH)
2	023531	TUBE 12AT7		V3,4
2	039214	TUBE 5881/6L6WGC		V7,8
4	013341	TUBE VACUUM 7025/12AX7		V1,2,5,6
2	039364	WASHER EPDM TUBE CLAMP DAMPNER		(@ OUTPUT TUBE MOUNT)
4	9904300100	WSHR LCK INTL 3/8X.681X.032 ZI		
1	041754	XFMR OUTPUT '93 CONCERT/SUPER	T2	
1	037099	XFMR REVERB VIBROVERB	T1	
1	041752	XFMR PWR '93 CONCERT/SUPER 120V	T3	(120V DOMESTIC ONLY)
1	041753	XFMR PWR '93 CONCERT/SUPER EXP	T3	(100V/120V/220V/230V/240V)

CABINET ASSEMBLY

QTY	PART #	DESCRIPTION	REFERENCE	DESIGNATION
1	040913	CAB ASSY '93 CONCERT		(COMPLETE CABINET)
1	041971	BACK ASSY LOWER '93 CONCERT		
1	041969	BACK ASSY UPPER '93 CONCERT		
1	031849	BAG-REVERB SPRING UNIT		(BAG ONLY)
1	025722	CABLE ASSY REVERB 1100MM		
1	038566	CABLE ASSY SPKR RT ANG 12-1/2"		(SPEAKER CABLE)
1	012582	CLAMP CABLE NYL SCRW MNT 1/4		
1	9906900590	CLAMP CABLE NYL ADHESIVE		



CONCERT AMP

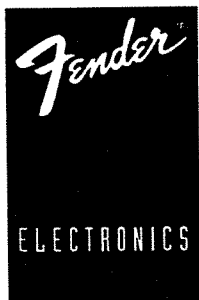
PARTS LIST

CABINET ASSEMBLY CONTINUED

QTY	PART #	DESCRIPTION	REFERENCE	DESIGNATION
4	026566	CORNER 2 HOLE W/TAB NI		
4	019276	GLIDE CAB 1.24X.335 NI(STEEL ONLY)		
4	019275	GLIDE CUSHION INSERT	(RUBBER ONLY)	
1	040914	GRILLE ASSY CONCERT	(COMPLETE GRILLE)	
1	027846	HANDLE 9.25" NO LOGO	(RUBBER ONLY, NO INSERT)	
2	019279	HANDLE CAP 2-3/16 NI		
1	032524	INSERT HANDLE	(SPRING STEEL)	
1	023192	NAMEPLATE FENDER	(LOGO)	
8	021972	NUT T 10-32X3/4 STR 3 PRNG BLX	(HANDLE/SPEAKER MOUNT)	
1	028453	PAD CARDBOARD REVERB	(INSIDE REVERB BAG)	
1	028547	REVERB ASSY W/BAG	(PAN, BAG, CABLE)	
1	064063	REVERB UNIT 4 SPRING 4AB3C1B	(PAN ONLY)	
4	026571	SCRW CORNER MOUNTING		
4	022244	SCRW M 10-32X1-1/8 OHP NI	(HANDLE MOUNT)	
4	026577	SCRW M 10-32X1 PHP BLX	(SPEAKER MOUNT)	
4	022236	SCRW M 8-32X3-1/4 OHP NI	(CHASSIS MOUNT)	
6	029828	SCRW PB 8X3/4 PHP ZI	(CHASSIS/CLAMP MOUNT)	
8	037952	SCRW SMA #6X1 OHP NI	(BACKBOARD MOUNT)	
3	037985	SCRW SMA 2X3/8 PHP BLX	(LOGO MOUNT)	
4	026625	SCRW WOOD 8X1 FH	(GLIDE MOUNT)	
1	037617	SPEAKER 12" 8Ω 50 WATTS		
2	024752	STRAP CHASSIS 4-1/2" NICKEL	(CHASSIS MOUNT)	
8	037215	WSHR C'SNK #6 NI	(BACKBOARD MOUNT)	
2	022327	WSHR FLAT 8X7/16 NI	(REVERB BAG MOUNT)	

FOOTSWITCH ASSEMBLY

QTY	PART #	DESCRIPTION	REFERENCE	DESIGNATION
1	040409	FTSW ASSY 3 BTTN CH/GA/RV	(COMPLETE FOOTSWITCH)	
1	028895	CABLE ASSY FTSW RT ANG 12'	(FOOTSWITCH CABLE)	
2	006260	DIODE 1N4448 SIGNAL BENT	CR2,3	
3	031017	DIODE ZENER 1N5223B 2.7V 5%	CR1,4,5	
1	028109	HSG END CUP LEFT FTSW		
1	028143	HSG END CUP RIGHT FTSW		
1	028141	HSG FTSW 3 BUTTON		
1	037036	JACK PHONE PCB MONO CA PREMIUM	J1	
3	031871	LED BI-COLOR 5mmX5mm	LD1,2,3	
1	040514	PCB ASSY FTSW 3 BTTN CH/GA/RV		
1	040513	PCB FAB FTSW 3 BTTN PERFORMER	(RAW BOARD)	
1	040408	PLATE TOP FTSW 3 BTTN CH/GA/RV		
1	024952	RES CF 1/4W 100Ω 5%	R1	
8	028889	SCRW SMB 6X1/4 PHP		
3	037722	SPACER RND NYL .120X.187X.680		



CONCERT AMP

PARTS LIST

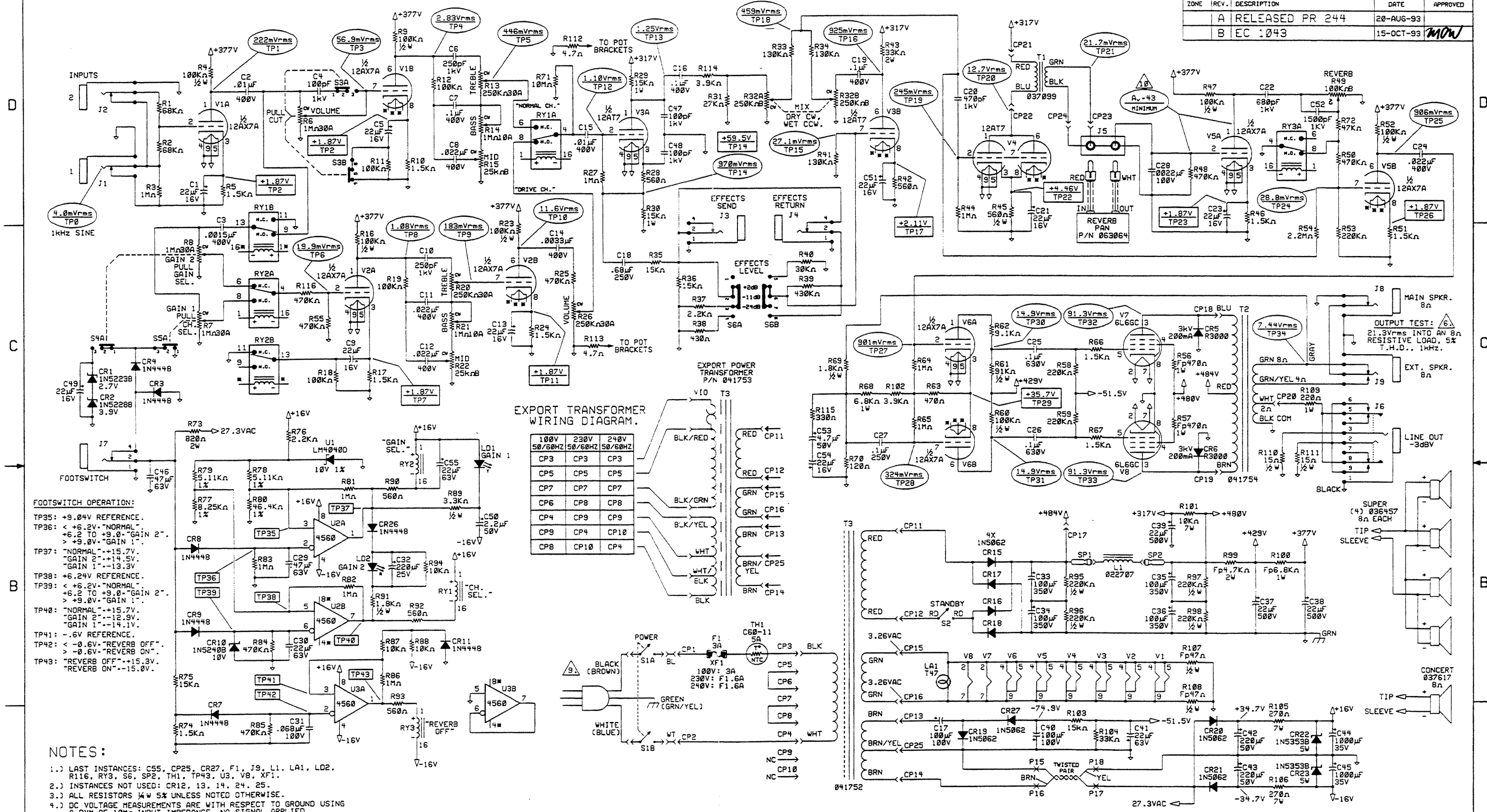
FOOTSWITCH ASSEMBLY CONTINUED

QTY	PART #	DESCRIPTION	REFERENCE	DESIGNATION
3	028714	SWITCH PUSH SPDT	S1,2,3	
3	031899	WSHR NYL .485X.775X.150 TK		

MISCELLANEOUS

QTY	PART #	DESCRIPTION	REFERENCE	DESIGNATION
1	041757	CARTON '93 CONCERT		
8	038535	EPERANFOAM CORNER 5-1/2"		
1	041750	MANUAL OWNERS '93 CONCERT/SUPER		
1	041744	SCHEM REDU W/SVC '93 SUPER/CONCERT		

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	A	RELEASED PR 244	20-AUG-93	
	B	EC 1043	15-OCT-93	MOW

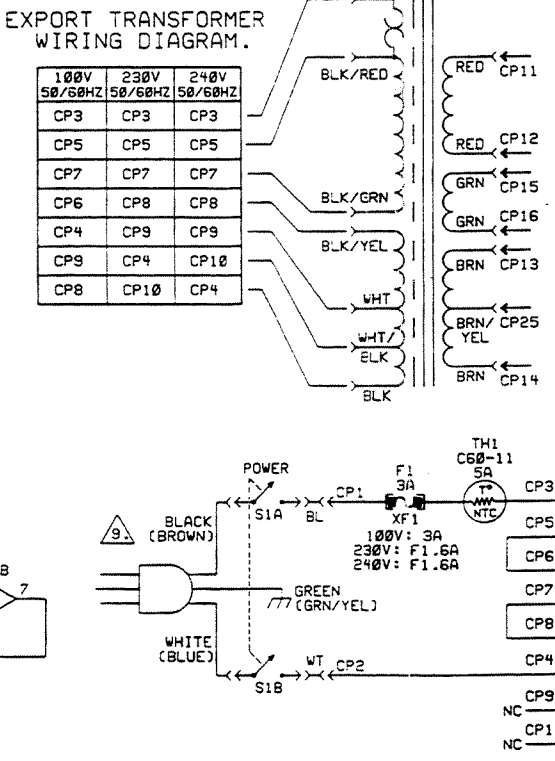


FOOTSWITCH OPERATION:

TP35: +9.04V REFERENCE.
 TP36: < +6.2V "NORMAL", +6.2 TO +9.0 "GAIN 2", +9.0V "GAIN 1".
 TP37: "NORMAL" -15.7V, "GAIN 2" -14.5V, "GAIN 1" -13.3V.
 TP38: +6.24V REFERENCE.
 TP39: < +6.2V "NORMAL", +6.2 TO +9.0 "GAIN 2", +9.0V "GAIN 1".
 TP40: "NORMAL" -15.7V, "GAIN 2" -12.9V, "GAIN 1" -14.1V.
 TP41: -.6V REFERENCE.
 TP42: < -.6V "REVERB OFF", -.6V "REVERB ON".
 TP43: "REVERB OFF" +15.3V, "REVERB ON" -15.0V.

NOTES:

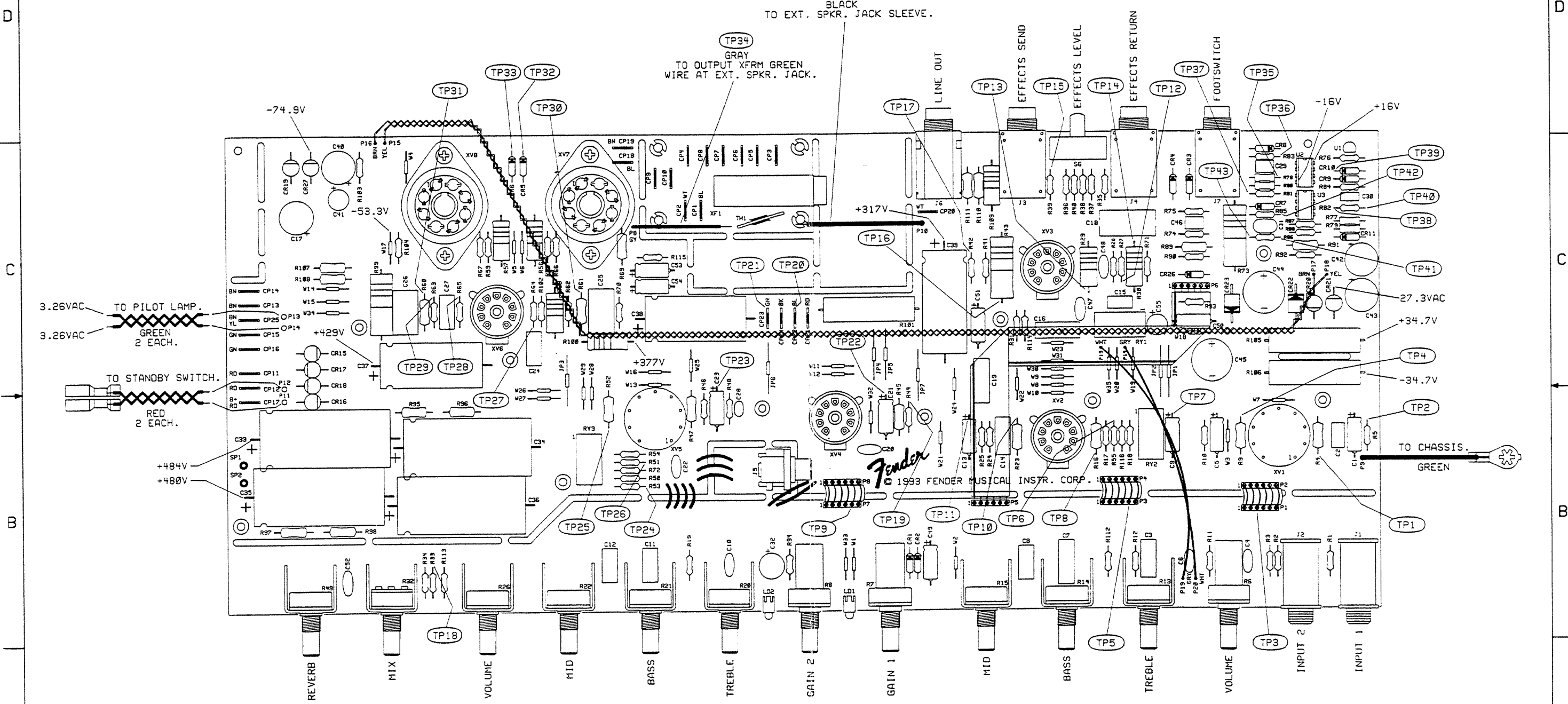
- LAST INSTANCES: C55, CP25, CR27, F1, J9, L1, LA1, LD2, R116, RY3, S6, SP2, TH1, TP43, U3, V8, XF1.
- INSTANCES NOT USED: CR12, 13, 14, 24, 25.
- ALL RESISTORS 1/4W 5% UNLESS NOTED OTHERWISE.
- DC VOLTAGE MEASUREMENTS ARE WITH RESPECT TO GROUND USING A DVM OF 10MA INPUT IMPEDANCE, NO SIGNAL APPLIED, 120.0 VAC 60 Hz LINE VOLTAGE, CONTROLS CCW.
- AC VOLTAGE MEASUREMENTS ARE WITH RESPECT TO GROUND USING A DVM OF 1MA MINIMUM INPUT IMPEDANCE, EFFECTS LEVEL SELECTOR SWITCH AT -11 dB, ALL CONTROLS AT 50% ROTATION (BETWEEN "5" AND "6"), "GAIN 2" SELECTED, REVERB OFF, SIGNAL APPLIED AT J1.
- FOR OUTPUT TEST: 86 mVrms SINE AT EFFECTS RETURN JACK, EFFECTS LEVEL SELECTOR SWITCH AT -24 dB, MIX CONTROL FULL CW ("WET").
- VOLTAGES MAY VARY ±20%.
- SIX-DIGIT NUMBERS ARE FENDER PART NUMBERS.
- COLORS IN PARENTHESIS ARE FOR 230V AND 240V UNITS.
- GAIN BETWEEN V5A PINS 1 AND 2 SHOULD BE 43 MINIMUM.



DATABASE FILE: 22445.DBF CHECKED BY: <i>[Signature]</i> DATE: 10/1/93 APPROVED: <i>[Signature]</i> DATE: 10/1/93	PROPRIETARY THIS DRAWING DOCUMENT CONTAINS INFORMATION WHICH IS PROPRIETARY TO 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. 1130 COLUMBIA ST. BREA, CALIFORNIA 92621 NO PARTS, NO SLITS.	FENDER MUSICAL INSTRUMENTS 1130 Columbia Street Brea, CA 92621 TITLE: SCHEMATIC DIAGRAM, '93 SUPER/CONCERT. SIZE: DRAWN: WILKENS DRAWING NUMBER: 041743 REV: B ENGR: WILKENS NEXT HIGHER ASSEMBLY: SUPER AND CONCERT GUITAR AMPS. SCALE: NONE PLOTTED: 18-OCT-93 SHEET 1 OF 1
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REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	A	RELEASED PR244	20-AUG-93	
	B	EC 1043	15-OCT-93	<i>MW</i>

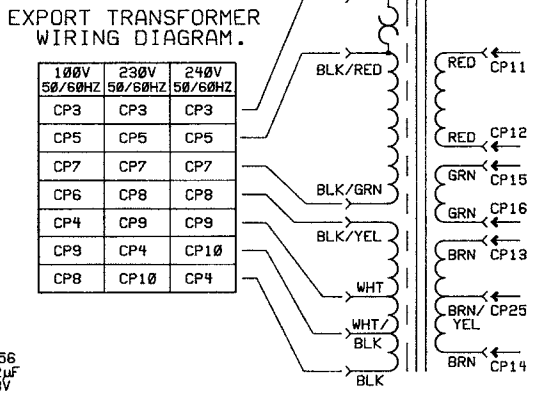
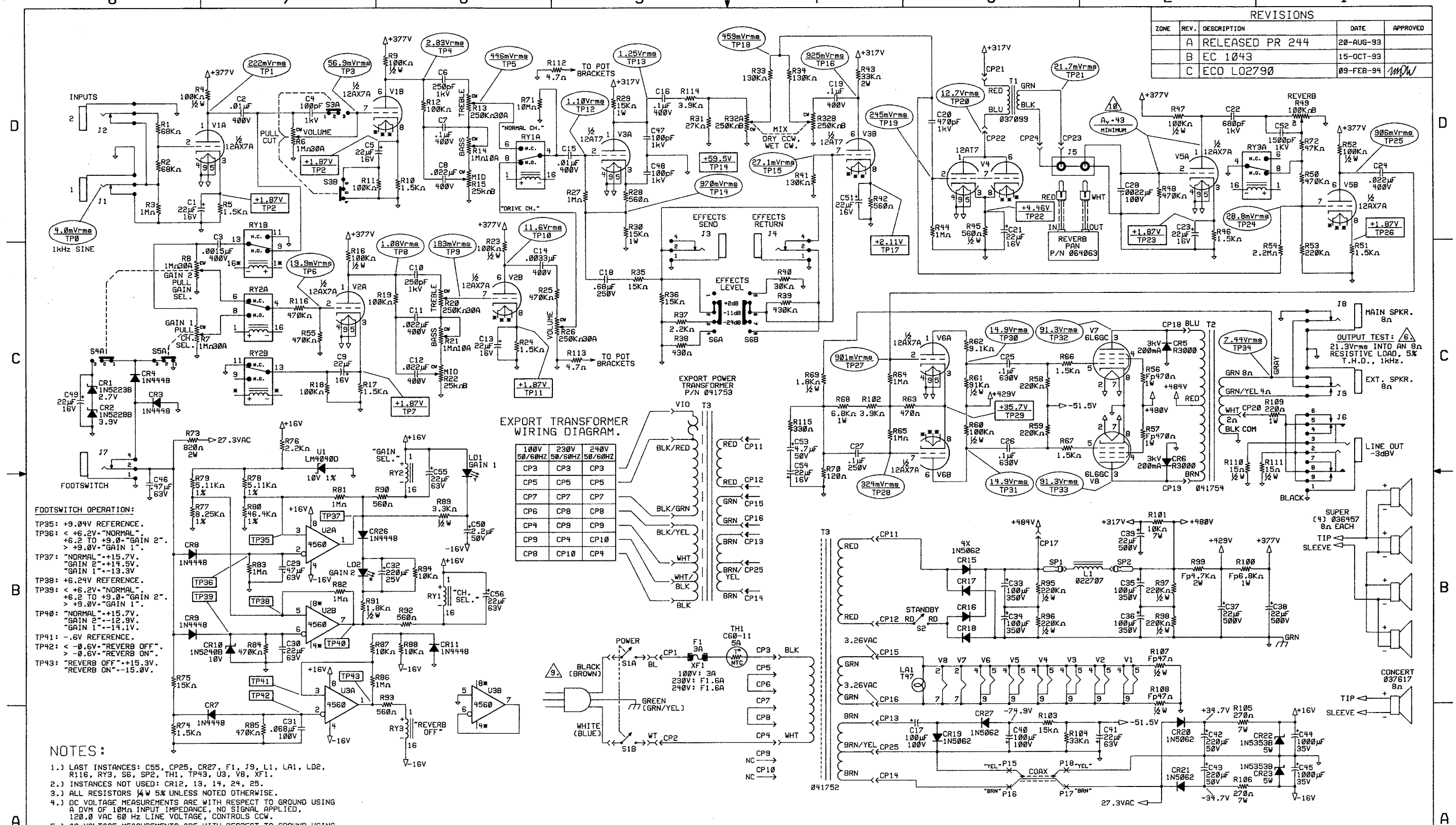


FILM/DWG: SERVICE DIAGRAM
 DATABASE: CNCRTP_B.DBF DATE: 18-OCT-93
 LAYERS PLOTTED: 1 2 3 4 10 18

NOTES:
 1.) PCB SHOWN AS FABRICATED.

DATABASE FILE: 7244P.DBF CHECKED BY: <i>MW</i> DATE: 10/19/93 APPROVED: <i>MW</i> DATE: 10/19/93 TOLERANCES: UNLESS OTHERWISE SPECIFIED: X.X .050" X.XX .010" X.XXX .005" ANGLES .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 EXPRESS WRITTEN CONSENT FROM: FENDER MUSICAL INSTRUMENTS CO. 1130 COLUMBIA ST. BREA, CALIFORNIA 92621 NO PARTS, NO SLURTS. NEXT HIGHER ASSEMBLY: SUPER AND CONCERT GUITAR AMPS.	FENDER MUSICAL INSTRUMENTS 1130 Columbia Street Brea, CA 92621 TITLE: SERVICE DIAGRAM, '93 SUPER AND CONCERT. SIZE: DRAWN: WILKENS DRAWING NUMBER: 041745 REV. B ENGR: WILKENS CREATED: 15-SEP-93 PLOTTED: 18-OCT-93 SHEET 1 OF 1
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REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	A	RELEASED PR 244	20-AUG-93	
	B	EC 1043	15-OCT-93	
	C	ECO L02790	09-FEB-94	MDW



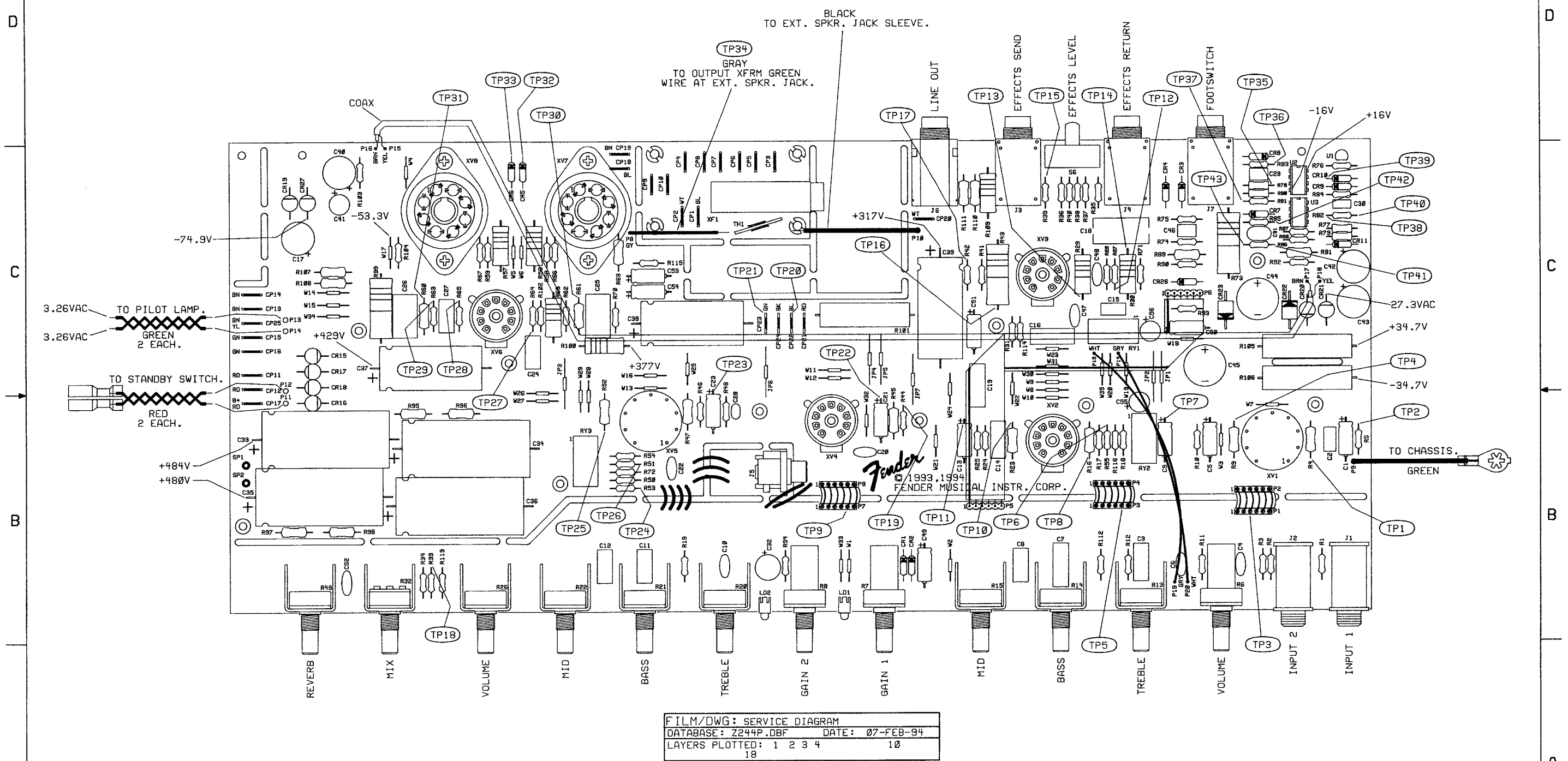
FOOTSWITCH OPERATION:

TP35: +9.04V REFERENCE.
 TP36: < +6.2V "NORMAL" -> +9.0V "GAIN 2" -> +9.0V "GAIN 1".
 TP37: "NORMAL" -> +15.7V, "GAIN 2" -> +14.5V, "GAIN 1" -> +13.3V.
 TP38: +6.24V REFERENCE.
 TP39: < +8.2V "NORMAL" -> +6.2 TO +9.0 "GAIN 2" -> +9.0V "GAIN 1".
 TP40: "NORMAL" -> +15.7V, "GAIN 2" -> +12.9V, "GAIN 1" -> +14.1V.
 TP41: -.6V REFERENCE.
 TP42: < -.0.6V "REVERB OFF" -> -.0.6V "REVERB ON".
 TP43: "REVERB OFF" -> +15.3V, "REVERB ON" -> -15.0V.

- NOTES:**
- 1.) LAST INSTANCES: C55, CP25, CR27, F1, J9, L1, LA1, LD2, R116, RY3, S6, SP2, TH1, TP43, U3, V8, XF1.
 - 2.) INSTANCES NOT USED: CR12, 13, 14, 24, 25.
 - 3.) ALL RESISTORS 1/4 W 5% UNLESS NOTED OTHERWISE.
 - 4.) DC VOLTAGE MEASUREMENTS ARE WITH RESPECT TO GROUND USING A DVM OF 10MΩ INPUT IMPEDANCE, NO SIGNAL APPLIED, 120.0 VAC 60 Hz LINE VOLTAGE, CONTROLS CCW.
 - 5.) AC VOLTAGE MEASUREMENTS ARE WITH RESPECT TO GROUND USING A DVM OF 1MΩ MINIMUM INPUT IMPEDANCE, EFFECTS LEVEL SELECTOR SWITCH AT -11 dB, ALL CONTROLS AT 50% ROTATION BETWEEN "5" AND "6", "GAIN 2" SELECTED, REVERB OFF, SIGNAL APPLIED AT J1.
- ⚠️ FOR OUTPUT TEST: 86 mVrms SINE AT EFFECTS RETURN JACK, EFFECTS LEVEL SELECTOR SWITCH AT -24 dB, MIX CONTROL FULL CW ("WET").
- ⚠️ VOLTAGES MAY VARY ±20%.
- ⚠️ SIX-DIGIT NUMBERS ARE FENDER PART NUMBERS.
- ⚠️ COLORS IN PARENTHESIS ARE FOR 230V AND 240V UNITS.
- ⚠️ GAIN BETWEEN V5A PINS 1 AND 2 SHOULD BE 43 MINIMUM.

DATABASE FILE: 2245.DBF CHECKED BY: MDW DATE: 2/14/94 APPROVED: MDW DATE: 2/14/94 TOLERANCES: UNLESS OTHERWISE NOTED X.X .50% X.XX .01% X.XXX .005% ANGLES .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. 1130 COLUMBIA ST. BREA, CALIFORNIA 92621 NO DOTS, NO BLOBS. NEXT HIGHER ASSEMBLY: SUPER AND CONCERT GUITAR AMPS.	FENDER MUSICAL INSTRUMENTS 1130 Columbia Street Brea, CA 92621 TITLE: SCHEMATIC DIAGRAM, '93 SUPER/CONCERT. SIZE: DRAWN: WILKENS DRAWING NUMBER: 041743 C ENGR: WILKENS SCALE: NONE PLOTTED: 07-FEB-94 SHEET 1 OF 1
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REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	A	RELEASED PR244	20-AUG-93	
	B	EC 1043	15-OCT-93	
	C	ECO L02790, L02812	09-FEB-94	



FILM/DWG: SERVICE DIAGRAM
 DATABASE: Z244P.DBF DATE: 07-FEB-94
 LAYERS PLOTTED: 1 2 3 4 10 18

NOTES:
 1.) PCB SHOWN AS FABRICATED.

DATABASE FILE: Z244P.DBF CHECKED BY: DATE: APPROVED: DATE: TOLERANCES: UNLESS OTHERWISE SPECIFIED X.X .050" X.XX .010" X.XXX .005" ANGLES .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. 1190 COLUMBIA ST. BREA, CALIFORNIA 92621 NO SLITS, NO BLOTTING. NEXT HIGHER ASSEMBLY: SUPER AND CONCERT GUITAR AMPS.	Fender MUSICAL INSTRUMENTS 1190 Columbia Street Brea, CA 92621 TITLE: SERVICE DIAGRAM, '93 SUPER AND CONCERT. SIZE: DRAWN: WILKENS DRAWING NUMBER: 041745 REV. D ENGR: WILKENS SCALE: 1:1 CREATED: 15-SEP-93 PLOTTED: 07-FEB-94 SHEET 1 OF 1
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