

FRONTMAN 15/15R

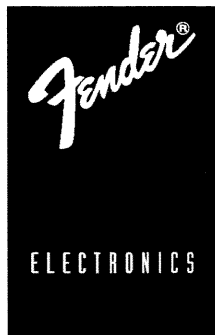
p/n 022-1500-000 (120V)

SERVICE MANUAL



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FRONTMAN 15/15R

SERVICE MANUAL

FEBRUARY 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:

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

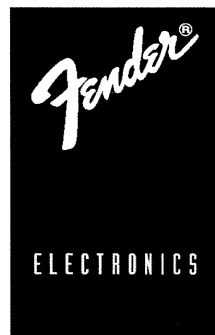


FRONTMAN 15/15R

(This is the model name for warranty claims)

SPECIFICATIONS

Product Release No.:	PR 330/343 <i>(This is not a model number)</i>	
Part Number:	<i>Frontman 15</i>	<i>Frontman 15R</i>
	120V Version: 22-1500	22-1501
	240V Aust : 22-1530	22-1531
	230V UK : 22-1540	22-1541
	230V : 22-1560	22-1561
	100V : 22-1570	22-1571
	230V Nord : 22-1580	22-1581
Input impedance:	>1M ohm	
Nominal level:	100mV	
Power output:	15 Watts RMS into 8 ohms @ 5% THD	
Power Requirements:	120V Version:	120 VAC 60 Hz, .28A Max
	230V:	230 VAC 50 Hz, .14A Max
Speaker Complement:	One 8 Ω Special Design 8" Speaker (P/N 025421)	
Dimensions:	Height: 12-3/8"	(31.4 cm)
	Width: 13-1/4"	(33.7 cm)
	Depth: 7-1/8"	(18.1 cm)
Weight:	15 lbs.	(6.8 kg)



FRONTMAN 15/15R

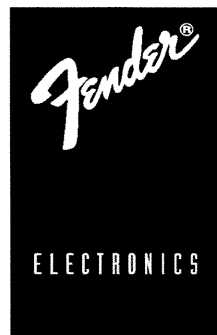
(This is the model name for warranty claims)

PARTS LIST

NOTE: SHADED ITEMS ARE FOR REFERENCE ONLY

PRINTED CIRCUIT BOARD ASSEMBLY

QTY	PART #	DESCRIPTION	REFERENCE DESIGNATION
<i>The parts and quantities are listed for the "Frontman 15R" only. Parts used in the Reverb circuit are simply not stuffed in the "frontman15"</i>			
1	050785	PCB ASSY FRONTMAN REVERB	
1	048451	BUTTON PUSH OFF WHITE	(@ S1)
2	038689	CAP AE AX .47μF 100V 20%	C12,13
2	026517	CAP AE AX 2.2μF 50V	C4,24
1	038691	CAP AE AX 4.7μF 50V 20%	C23
2	025960	CAP AE AX 22μF 16V	C7,34
1	038693	CAP AE AX 47μF 16V 20%	C26
2	028471	CAP AE RDL 47μF 50V 20%	C31,32
2	033607	CAP AE RDL 2200μF 35V 20%	C29,30
1	039255	CAP CA 10PF 100V 5%	C22
2	038698	CAP CA 47PF 100V 5%	C3,36
1	039256	CAP CA 68PF 100V 5%	C21
1	038699	CAP CA 100PF 100V 5%	C25
1	038701	CAP CA 470PF 50V 5%	C11
1	038874	CAP CA 560PF 50V 5%	C14
2	039268	CAP CA 4700PF 50V 5%	C1,2
2	038703	CAP CA .1μF 50V 10%	C6,33
1	027278	CAP MPF .1μF 63V 10%	C27
1	027286	CAP MPF .47μF 63V	C28
2	033580	CAP PFF RDL .0022μF 100V 10%	C5,35
1	033581	CAP PFF RDL .0033μF 100V 10%	C18
1	033583	CAP PFF RDL .0047μF 100V 10%	C19
1	036234	CAP PFF RDL .015μF 100V 10%	C38
1	033590	CAP PFF RDL .022μF 100V 10%	C16
2	033591	CAP PFF RDL .033μF 100V 10%	C9,10
4	033592	CAP PFF RDL .047μF 100V 10%	C8,15,17,20
1	033596	CAP PFF RDL .068μF 100V 10%	C37
2	034719	CONTROL 50KB SNAP IN	R29,58
1	037323	CONTROL 50K 15A SNAP IN	R13
3	037324	CONTROL 100K 30C SNAP IN	R20,24,28
1	040552	CONTROL 250K 30C	R30
4	006260	DIODE 1N4448 SIGNAL BENT	CR1-CR4
6	064089	DIODE 1N4003 200PRV,1AMP	CR5-10
2	009165	DIODE ZEN 1N4744A 15V 1W 5%	CR11-CR12
2	025996	FUSE CLIP PCB .250 & 5MM FUSE	XF1
1	068411	FUSE QA 1-1/4X1/4 250V 0.5AMP (100V/120V ONLY)	F1
1	020781	FUSE QA 20mmX5mm 250V 0.25AMP	F1 (230V/240V ONLY)
2	027408	HDR .1 CTR 2 CKT SQ PIN	P10,P11



FRONTMAN 15/15R

(This is the model name for warranty claims)

PRINTED CIRCUIT BOARD ASSEMBLY CONTINUED

QTY	PART #	DESCRIPTION	REFERENCE	DESIGNATION
1	037030	HEATSINK FENDER X-15		
4	016795	IC DUAL OP AMP TL072	U1,2,3,5	
1	029912	IC PC1188H 20W	U4	
1	041988	INSULATOR MICA 10 PIN SIP	(@ U4)	
1	031570	JACK PHONE PCB STEREO PREMIUM	J3	
2	037036	JACK PHONE PCB MONO CA PREMIUM	J1,2	
12	020888	JUMPER WIRE 22GA .5X.175		
1	028039	LED RED 5X5MM SLB-55VR3	LD3	
2	9902202281	LED RED LONG LEAD LUMEX CS02	LD1,LD2	
1	041409	PCB FAB BULLET AMPS	(BLANK)	
1	024942	RES CF 1/4W 5% 22_	R54	
2	024964	RES CF 1/4W 5% 820_	R38,42	
1	024965	RES CF 1/4W 5% 1K	R7	
1	024969	RES CF 1/4W 5% 1.5K	R50	
1	024971	RES CF 1/4W 5% 2.2K	R12	
3	024973	RES CF 1/4W 5% 3.3K	R19,21,57	
1	028034	RES CF 1/4W 5% 5.1K	R5	
1	024979	RES CF 1/4W 5% 6.8K	R3	
1	024980	RES CF 1/4W 5% 8.2K	R18	
1	024981	RES CF 1/4W 5% 10K	R55	
3	024985	RES CF 1/4W 5% 15K	R1,6,34	
6	024987	RES CF 1/4W 5% 22K	R8,16,17,32,52,53	
5	024993	RES CF 1/4W 5% 47K	R11,26,27,31,33	
1	026507	RES CF 1/4W 5% 62K	R43	
3	024997	RES CF 1/4W 5% 100K	R37,47,51	
1	024999	RES CF 1/4W 5% 150K	R39	
2	025058	RES CF 1/4W 5% 180K	R9,36	
6	025059	RES CF 1/4W 5% 220K	R10,14,15,23,25,56	
2	025065	RES CF 1/4W 5% 470K	R22,35	
2	028018	RES CF 1/4W 5% 510K	R2,4	
1	025073	RES CF 1/4W 5% 1.5M	R59	
1	030737	RES CF 1/2W 5% 5.6_	R40	
2	028045	RES FILM 1W 5% 220_	R48,49	
2	028740	RES FILM 1W 5% 470_	R45,46	
1	039128	RES FILM 1W 5% 120_	R44	
1	032958	RES WW BT 5W 10% .33_	R41	
2	027638	SCRW TF 4-40X3/8 HWHS ZI	(U4 TO HEATSINK MOUNT)	
2	032908	SCRW TF 6-32X/38 PHP ZI	(HEATSINK TO PCB MOUNT)	
1	9904701440	SPACER LED .7X.125 BLUE	(@ LD3)	
1	028091	SWITCH PUSH SLFLK SHORT STROKE	S1	



FRONTMAN 15/15R

(This is the model name for warranty claims)

CHASSIS ASSEMBLY

QTY	PART #	DESCRIPTION	REFERENCE	DESIGNATION
1	050786	CHS ASSY FRONTMAN REVRB AMP 120V		
1	050710	CHS ASSY FRONTMAN 120V		
1	051330	CABLE ASSY 120V 6 FT	(100V/120V ONLY)	
1	050725	CABLE ASSY PWR 230V .187 TAB	(230V ONLY)	
7	026402	KNOB POINTER BLACK		
1	050766	PANEL FRONT FRONTMAN REVERB		
1	050704	PANEL FRONT FRONTMAN		
5	028684	SCRW SMB 6X3/8 PH PHS BLX	(PCB/XFMR MOUNT)	
1	025935	SWITCH POWER DPST	(120V DOMESTIC ONLY)	
1	039287	SWITCH POWER DPST .187 TAB GLOBAL	(230V/240V EXPORT ONLY)	
5	026459	WSHR FLAT 6X3/8 ZI	(PCB/XFMR MOUNT)	
3	031647	NUT HEX 12mm x 1 mm NI		
1	038900	SCRW TF 6-32 x 1/4 PHP ZI		
1	050706	CHASSIS FRONTMAN		

CABINET ASSEMBLY

QTY	PART #	DESCRIPTION	REFERENCE	DESIGNATION
1	050709	CAB ASSY FRONTMAN		
1	022491	CLAMP CABLE NYL SCRW MNT 5/16	(@ POWER CABLE)	
2	050348	FOAM STRIP 1/8X1X7 DBL STICK	(REVERB PAN TO SLEEVE) + (SLEEVE TO CHASSIS)	
1	050754	GRILLE FRONTMAN		
1.96	051204	FOAM TAPE 1/4" 1/16 3M4516	@ GRILLE TOP & BOTTOM	
1	050767	LABEL REAR FRONTMAN REVERB	(@ CABINET BACK)	
1	050705	LABEL REAR FRONTMAN	(@ CABINET BACK)	
1	029906	NAMEPLATE FENDER GENERIC SMALL		
1	041397	REVERB SPRING 1BB2E4A	(REVERB PAN)	
16	026571	SCRW CORNER MOUNTING		
2	022277	SCRW M 10-32X1-1/2 OHP NI	(HANDLE MOUNT)	
1	029828	SCRW PB 8X3/4 PHP ZI	(CABLE CLAMP MOUNT)	
4	9904101110	SCRW PB 8X5/8 PHP	(FOOT MOUNT)	
2	018113	SCRW SMA 4X1/2 OHP BLX	(LOGO MOUNT)	
4	016627	SCRW SMAB 8X3/4 OHP BLX	(GRILLE BAFFLE MOUNT)	
4	029677	SCRW SMA 6X1 THP BLX	(BACKBOARD MOUNT)	
2	022152	SCRW SMA 3X1/2 OHP BLX		
1	025954	SLEEVE-REVERB PAN CHAMP 12	(CARDBOARD OVR REVRB PAN)	
4	029527	WSHR FNSH 8-5/8 FLNGD BLX WX	(GRILLE BAFFLE MOUNT)	



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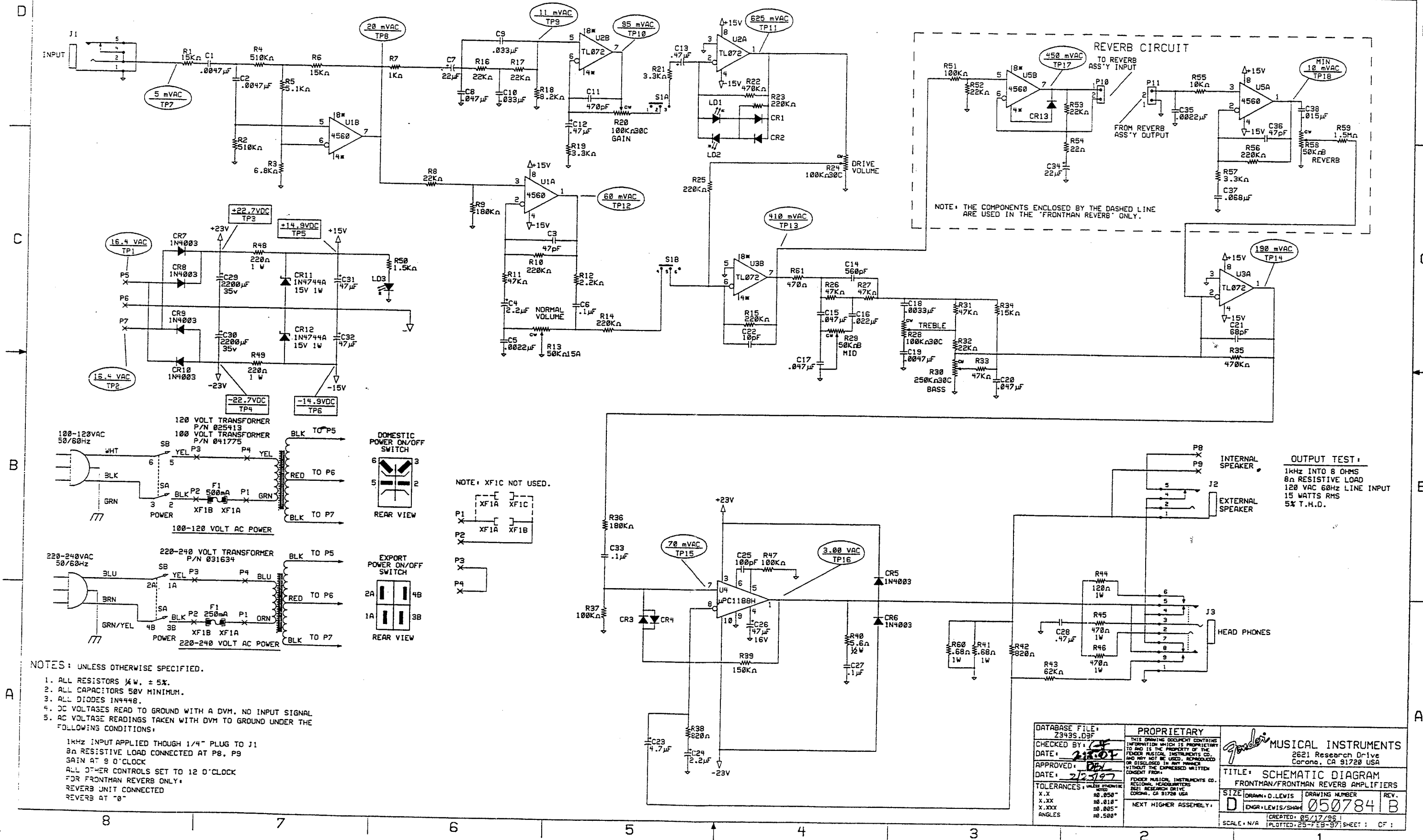
CABINET ASSEMBLY CONTINUED

QTY	PART #	DESCRIPTION	REFERENCE	DESIGNATION
4	026566	CORNER 2 HOLE W/TAB NI		
4	029071	CORNER NOTCHED NICKEL (FD)		
4	041549	GLIDE PRESS-IN .75 DIA		
2	025395	HANDLE CAP 1 HOLE NI	@ HANDLE	
1	025883	HANDLE SHORT NO LOGO		

MISCELLANEOUS

QTY	PART #	DESCRIPTION	REFERENCE	DESIGNATION
1	025421	SPEAKER, 8 INCH, PF8643		
1	025413	FOJ XFMR PWR F1158UC SQ15	(120V DOMESTIC ONLY)	
1	031634	XFMR PWR FD15 230V	(230V EXPORT ONLY)	
1	050727	SCHEM REDU W/ SVC DIA		
1	050728	MANUAL OWNERS FRONTMAN		

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	A	PR 330 / PR 343	06/28/96	DBL
	B	EC 1771	28-AUG-96	DBL



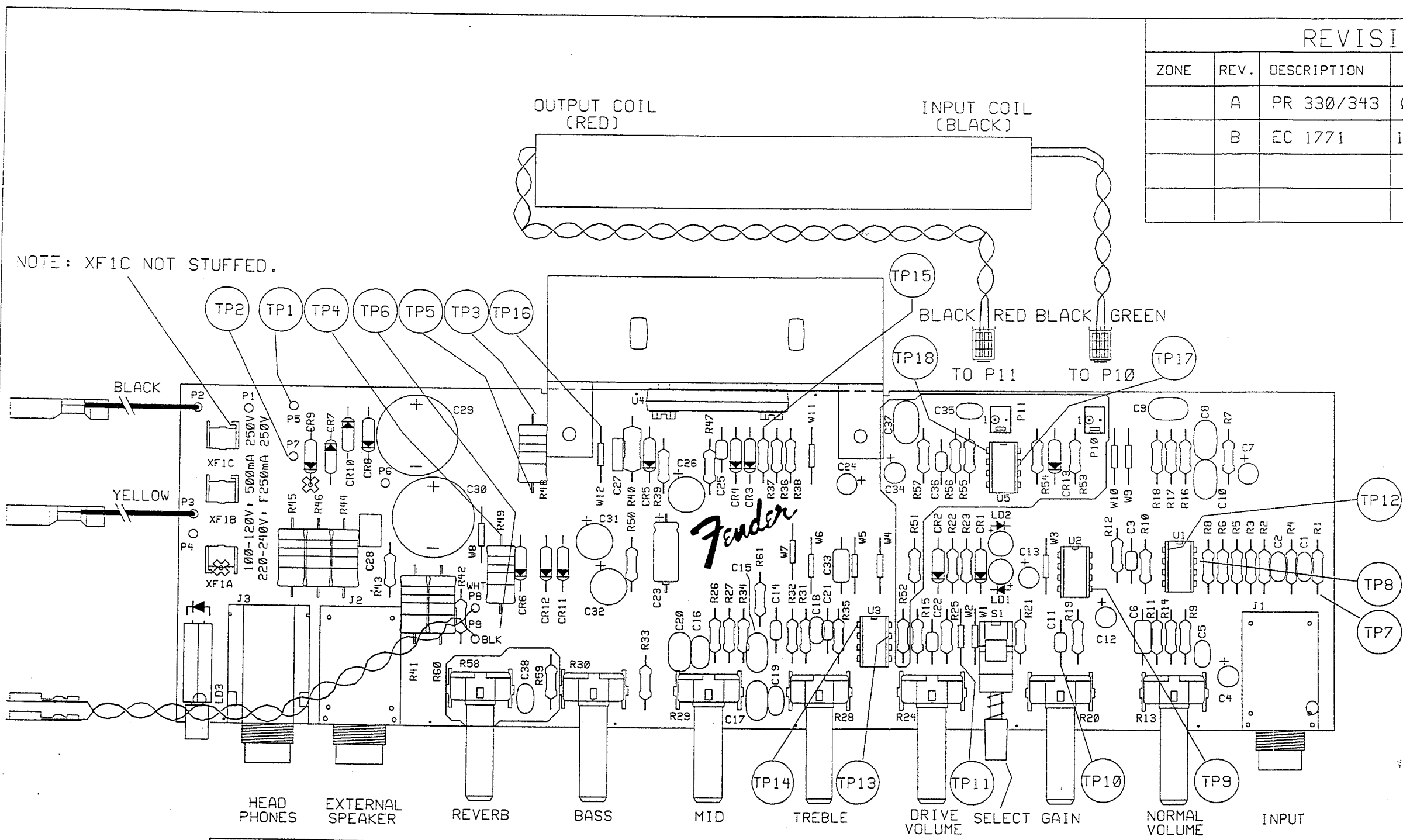
- NOTES: UNLESS OTHERWISE SPECIFIED.
1. ALL RESISTORS 1/4 W. ± 5%.
 2. ALL CAPACITORS 50V MINIMUM.
 3. ALL DIODES 1N4448.
 4. DC VOLTAGES READ TO GROUND WITH A DVM. NO INPUT SIGNAL.
 5. AC VOLTAGE READINGS TAKEN WITH DVM TO GROUND UNDER THE FOLLOWING CONDITIONS:

1KHz INPUT APPLIED THROUGH 1/4" PLUG TO J1
 8Ω RESISTIVE LOAD CONNECTED AT P8, P9
 GAIN AT 9 O'CLOCK
 ALL OTHER CONTROLS SET TO 12 O'CLOCK
 FOR FRONTMAN REVERB ONLY:
 REVERB UNIT CONNECTED
 REVERB AT "0"

DATABASE FILE: 2349S.D3F CHECKED BY: DATE: APPROVED: DATE: TOLERANCES: UNLESS OTHERWISE SPECIFIED: X.X .05" X.XX .01" X.XXX .005" ANGLES .500°	PROPRIETARY THIS DRAWING 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 3221 RESEARCH DRIVE CORONA, CA 91720 USA NEXT HIGHER ASSEMBLY:	GARDNER MUSICAL INSTRUMENTS 2621 Research Drive Corona, CA 91720 USA TITLE: SCHEMATIC DIAGRAM FRONTMAN/FRONTMAN REVERB AMPLIFIERS SIZE: DRAWN: D. LEWIS DRAWING NUMBER: 050784 REV. B ENGR: LEWIS/SHAH (CREATED: 05/17/96) PLOTTED: 25-FEB-97 SHEET: CF:
--	--	--

OUTPUT TEST:
 1KHz INTO 8 OHMS
 8Ω RESISTIVE LOAD
 120 VAC 60Hz LINE INPUT
 15 WATTS RMS
 5% T.H.D.

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	A	PR 330/343	03/27/96	DBL
	B	EC 1771	13-DEC-96	DBL



FILM/DWG: SERVICE DIAGRAM	
DATABASE: Z343P.DBF	DATE: 06-MAR-97
LAYERS PLOTTED: 1 2 3 4	10
	18

NOTE: THE FOLLOWING PCB COMPONENTS ARE USED IN THE FRONTMAN REVERB AMPLIFIER ONLY: C34-C38, CR13, R51-R59, P10, P11, U5. THESE COMPONENTS ARE SHOWN ENCLOSED IN BOXES ABOVE AND ON THE PCB.

DATABASE FILE: Z343P.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°

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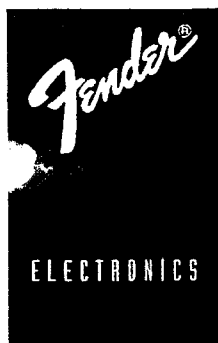
Fender MUSICAL INSTRUMENTS
2621 Research Drive
Corona, CA 91720 USA

TITLE: SERVICE DIAGRAM
FRONTMAN AMPLIFIERS

SIZE	DRAWN: D.LEWIS	DRAWING NUMBER	REV.
B	ENGR: D.LEWIS	050729	B

SCALE: N/A

CREATED: 3/27/96	SHEET 1 OF 1
PLOTTED: 06-MAR-97	



Supplement to:
FRONTMAN 15/15R
GUITAR AMPLIFIER
SERVICE MANUAL

p/n 022-1500-000/022-1501-000 (120V)

Reason for supplement: The vendor of the power amp IC has discontinued the part, and no direct-substitute part exists. A new power amp platform is necessary. This supplement contains parts lists and schematics of the new circuitry. Please file it with your original service manual.

CONTENTS:

Parts lists:	
PCB assembly	3 - 4
Schematics	5 - 6
Service diagrams	7 - 8

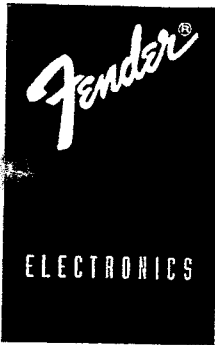


FRONTMAN 15/15R

SPECIFICATIONS

Product Release No.:	PR 330 / PR 343	<i>(This is not a model number)</i>
Part Number:	120V Version :	22-1500 / 1501
	240V Aus :	22-1530 / 1531
	230V UK :	22-1540 / 1541
	230V Eur :	22-1560 / 1561
	100V :	22-1570 / 1571
Power Requirements:	120V :	120 VAC 60 Hz, 38W
	230V :	230 VAC 50 Hz, 38W
Power Amp Section		
Power Output:	15 Watts RMS	
Preamp Section		
Input impedance:	>1 Meg Ohm	
Nominal input level:	100mV	
Speaker Complement:	One 8 Ohm Special Design 8" Speaker (P/N 025421)	
Dimensions:	Height: 12.4" (31.4 cm)	
	Width: 13.25" (33.7 cm)	
	Depth: 7.13" (18.1 cm)	
Weight:	15 lbs. (6.8 kg)	

Product specifications are subject to change without notice



FRONTMAN 15/15R

PARTS LIST

NOTE: SHADED ITEMS ARE FOR REFERENCE ONLY

PRINTED CIRCUIT BOARD ASSEMBLY

QTY	PART #	DESCRIPTION	REFERENCE DESIGNATION
1	050718004	PCB ASSY FRONTMSN 15 120V	
1	051915004	PCB ASSY FRONTMAN 15R 120V	
1	0519111	PCB FAB 15W GUITAR AMPS	
1	051723	HEATSINK FRONTMAN	@U4
1	014171	SCRW M 4-40x3/8 PHP BLX	@U4
2	032908	SCRW TF 6-32x3/8 PHP ZI	@ HEATSINK/PCB
1	017746	WSHR SHLDR NYL 1/8x1/4	@U4
1	017974	INSULATOR MICA TO-220	@U4
1	097360	NUT HEX 4-40 EX LOCK	@U4
1	9904701440	SPACER LED .7x.125 BLUE	@LD3
1	048451	BUTTON PUSH OFF WHITE	@S1
1	038691	CAP AE AX 4.7uF 50V 20%	C23
1	038701	CAP CA 470pF 50V 5%	C11
1	038874	CAP CA 560pF 50V 5%	C14
2	038698	CAP CA 47pF 100V 5%	C3 C36
1	038699	CAP CA 100pF 100V 5%	C21
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2	033607	CAP AE RDL 2200uF 35V 20%	C29 C30
2	028471	CAP AE RDL 47uF 50V 20%	C31 C32
3	033606	CAP AE RDL .47uF 50V 20%	C12 C13 C33
3	028459	CAP AE RDL 2.2uF 50V 20%	C6 C24 C39
2	033580	CAP PFF RDL .0022uF 100V 10%	C5 C35
1	033581	CAP PFF RDL .0033 uF 100V 10%	C18
3	033583	CAP PFF RDL .0047uF 100V 10%	C1 C2 C19
2	036234	CAP PFF RDL .015uF 100V 10%	C4 C38
2	033590	CAP PFF RDL .022uF 100V 10%	C15 C16
2	033591	CAP PFF RDL .033uF 100V 10%	C9 C10
2	033592	CAP PFF RDL .047uF 100V 10%	C8 C20
1	033596	CAP PFF RDL .068uF 100V 10%	C37
1	027278	CAP MPF .1uF 63V 10%	C27
1	027286	CAP MPF .47uF 63V 10%	C28
2	034719	CONTROL 50KB SNAP IN	R29 R58 (MID, REVERB)
1	037323	CONTROL SNAPIN 50K 15A	R13 (NORMAL VOLUME)
3	037324	CONTROL 100K 30C SNAP IN	R20 R24 R28 (GAIN, DRIVE VOLUME, TREBLE)
1	040552	CONTROL 250K 30C	R30 (BASS)
6	006260	DIODE 1N4448 SIGNAL LL	CR1 CR2 CR3 CR4 CR13 CR14
6	064089	DIODE 1N4003 LL	CR5 CR6 CR7 CR8 CR9 CR10
2	009165	DIODE ZEN 1N4744A 15V 1W 5%	CR11 CR12



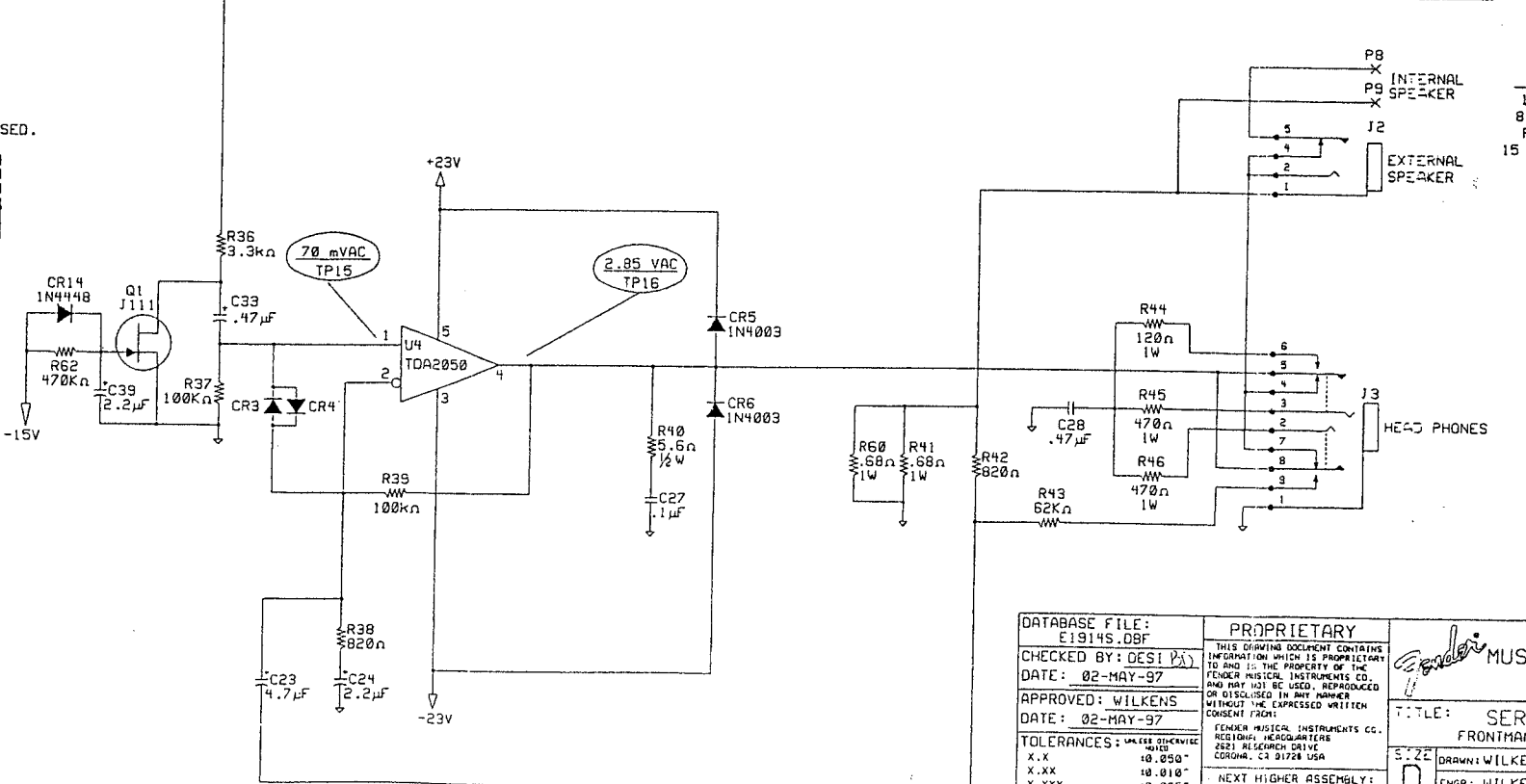
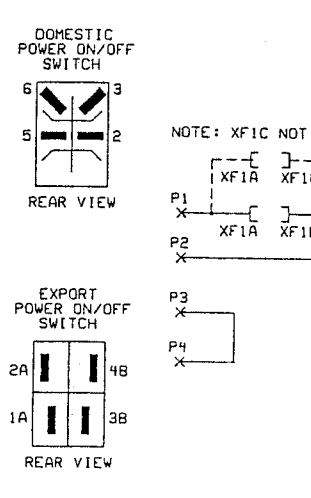
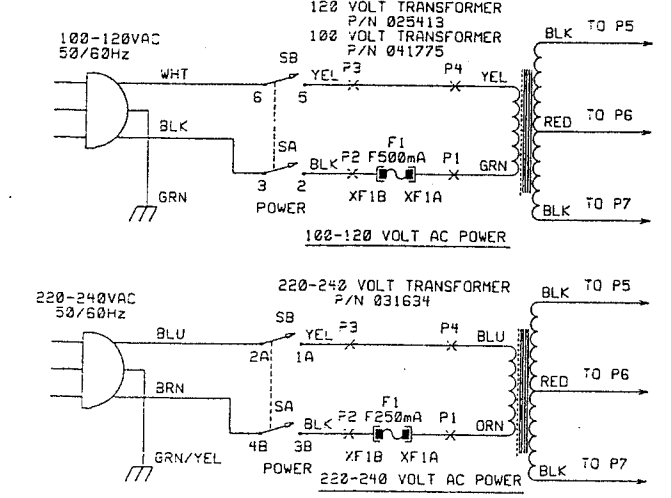
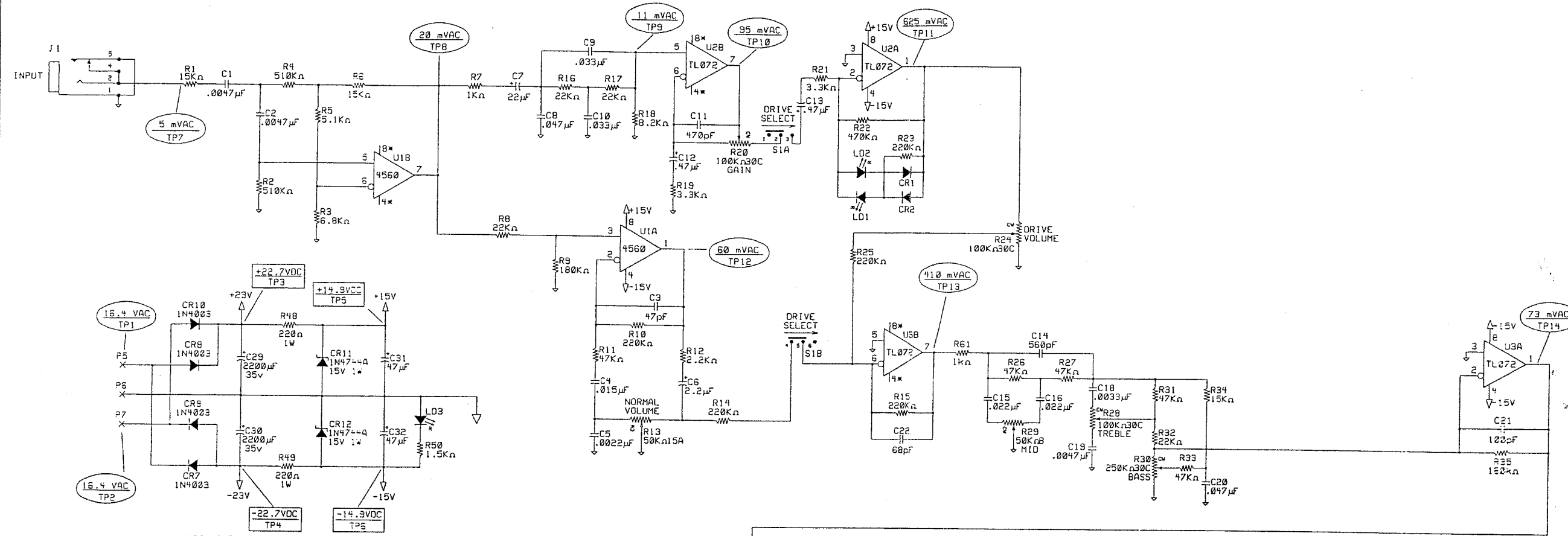
FRONTMAN 15/15R

PARTS LIST

PRINTED CIRCUIT BOARD ASSEMBLY CONTINUED

QTY	PART #	DESCRIPTION	REFERENCE DESIGNATION
2	051094	FUSE CLIP 5mm PCB (EXPT)	XF1A XF1B
2	027408	HDR .1 CTR 2 CKT SQ PIN	P10 P11 (REVERB)
2	031611	IC DUAL OP-AMP PC4560	U1 U5
2	016795	IC DUAL OP-AMP TLO72	U2 U3
1	051934	IC OP-AMP POWER TDA2050V	U4
1	014689	XSTR N-CH JFET J111 TO-92	Q1
2	037036	JACK PHONE PCB MONO CA PREMIUM	J1 J2 (INPUT, EXTERNAL SPKR)
1	031570	JACK PHONE PCB STEREO PREMIUM	J3 (HEADPHONES)
1	028091	SWITCH PUSH SLFLK SHORT STROKE	S1 (DRIVE SELECT)
1	028039	LED RED 5x5mm SLB-55VR3	LD3 (POWER INDICATOR)
2	049948	LED RED LONG LEAD LUMEX	LD1 LD2
2	041594	RES FILM 1W 5% .68ohm LL	R41 R60
1	039128	RES FILM 1W 5% 120ohm LL	R44
2	028045	RES FILM 1W 5% 220ohm LL	R48 R49
2	028740	RES FILM 1W 5% 470ohm LL	R45 R46
1	030737	RES CF 1/2W 5% 5.6ohm LL	R40
2	024965	RES CF 1/4W 5% 1k 5%	R7 R61
1	024981	RES CF 1/4W 5% 10k 5%	R55
3	024985	RES CF 1/4W 5% 15k 5%	R1 R6 R34
6	024987	RES CF 1/4W 5% 22k 5%	R8 R16 R17 R32 R52 R53
1	024942	RES CF 1/4W 5% 22ohm 5%	R54
6	024993	RES CF 1/4W 5% 47k 5%	R11 R26 R27 R31 R33 R51
1	026507	RES CF 1/4W 5% 62k 5%	R43
1	024969	RES CF 1/4W 5% 1.5k 5%	R50
1	025073	RES CF 1/4W 5% 1.5M 5%	R59
2	024997	RES CF 1/4W 5% 100k 5%	R37 R39
2	025058	RES CF 1/4W 5% 180k 5%	R9 R35
1	024971	RES CF 1/4W 5% 2.2k 5%	R12
6	025059	RES CF 1/4W 5% 220k %	R10 R14 R15 R23 R25 R56
4	024973	RES CF 1/4W 5% 3.3k 5%	R19 R21 R36 R57
2	025065	RES CF 1/4W 5% 470k 5%	R22 R62
1	028034	RES CF 1/4W 5% 5.1k 5%	R5
2	028018	RES CF 1/4W 5% 510k 5%	R2 R4
1	024979	RES CF 1/4W 5% 6.8k 5%	R3
1	024980	RES CF 1/4W 5% 8.2k 5%	R18
2	024964	RES CF 1/4W 5% 820ohm 5%	R38 R42

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	A	RELEASED EC1914	02-MAY-97	MDW

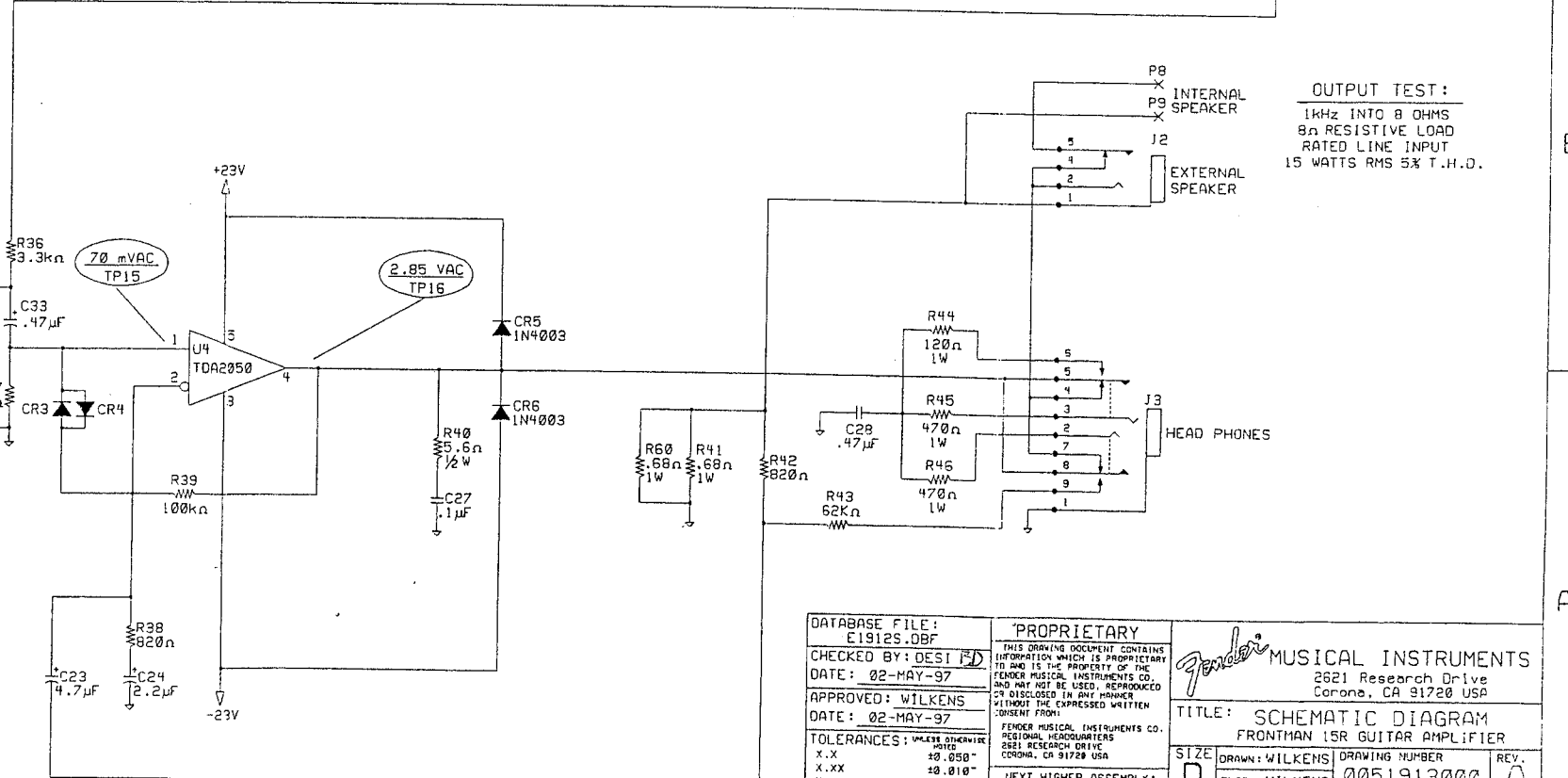
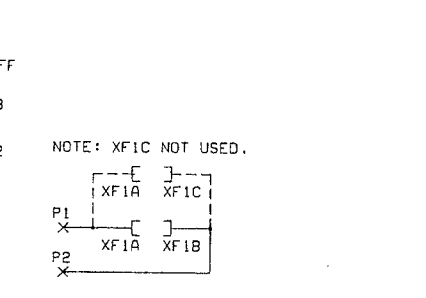
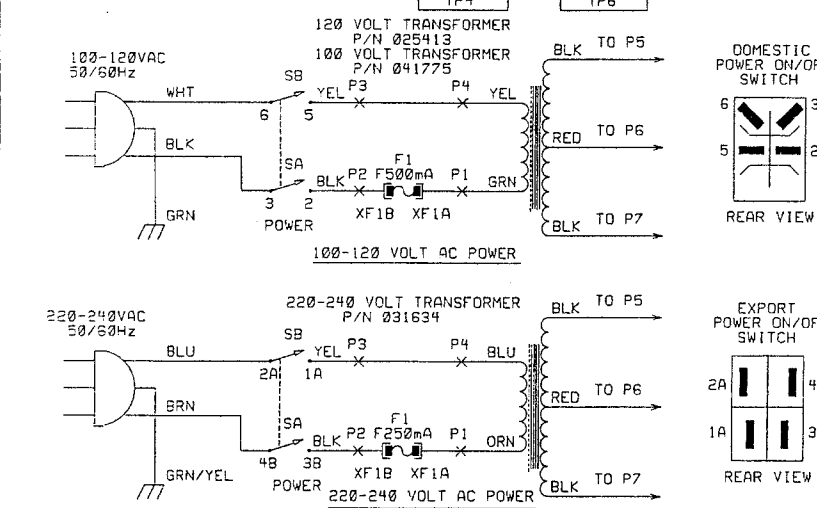
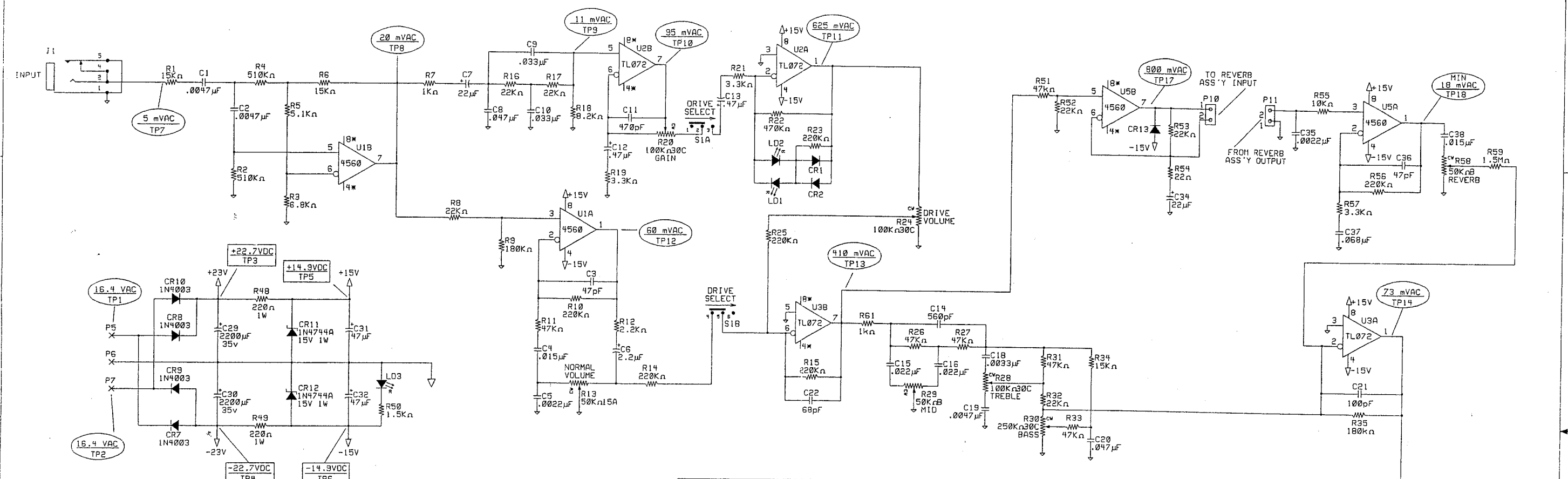


OUTPUT TEST:
 1kHz INTO 8 OHMS
 8Ω RESISTIVE LOAD
 RATED LINE INPUT
 15 WATTS RMS 5% T.H.D.

- NOTES: UNLESS OTHERWISE SPECIFIED.
- ALL RESISTORS 1/4W, ± 5%.
 - ALL CAPACITORS 50V MINIMUM.
 - ALL DIODES 1N4448.
 - 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 P8, P9
 GAIN AT 9 O'CLOCK
 ALL OTHER CONTROLS SET TO 12 O'CLOCK
 FOR BULLET REVERB ONLY:
 REVERB UNIT CONNECTED
 REVERB AT "0"
 - INSTANCES NOT USED: C17 C25 C26 C34-C38 CR13 P10 P11
 R47 R51-R53 TP17 TP18 U5

DATABASE FILE: E1914S.D8F CHECKED BY: DESI (P) DATE: 02-MAY-97 APPROVED: WILKENS DATE: 02-MAY-97 TOLERANCES: UNLESS OTHERWISE SPECIFIED X.X .10% X.XX .050" X.XXX .010" X.XXX .005" ANGLES .0500°	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 91728 USA	FENDER MUSICAL INSTRUMENTS 2621 Research Drive Corona, CA 91728 USA TITLE: SERVICE DIAGRAM FRONTMAN 15G GUITAR AMPLIFIER DRAWN: WILKENS ENGR: WILKENS DRAWING NUMBER: 0051920000 REV: A CREATED: 25-APR-97 PLOTTED: 16-JUN-97 SCALE: N/A SHEET 1 OF 2
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REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	A	RELEASED EC1912	15-APR-97	MDW



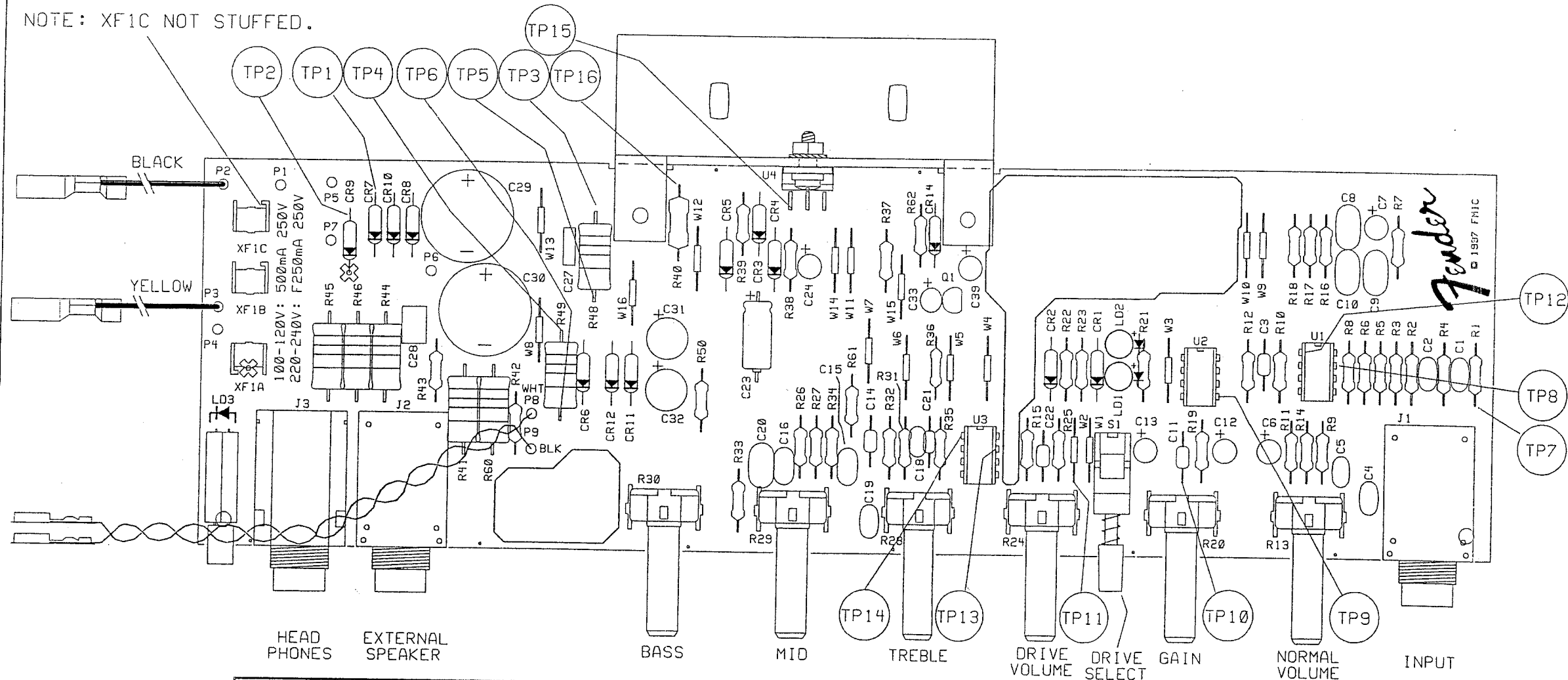
- NOTES: UNLESS OTHERWISE SPECIFIED.
1. ALL RESISTORS 1/4W, ± 5%.
 2. ALL CAPACITORS 50V MINIMUM.
 3. ALL DIODES 1N4448.
 4. DC VOLTAGES READ TO GROUND WITH A DVM, NO INPUT SIGNAL.
 5. AC VOLTAGE READINGS TAKEN WITH DVM TO GROUND UNDER THE FOLLOWING CONDITIONS:
 1kHz INPUT APPLIED THROUGH 1/4" PLUG TO J1
 8Ω RESISTIVE LOAD CONNECTED AT P8, P9
 GAIN AT 9 O'CLOCK
 ALL OTHER CONTROLS SET TO 12 O'CLOCK
 FOR BULLET REVERB ONLY:
 REVERB UNIT CONNECTED
 REVERB AT 0
 6. INSTANCES NOT USED: C17 C25 C26 R47

DATABASE FILE: E1912.DBF CHECKED BY: DESI DATE: 02-MAY-97 APPROVED: WILKENS DATE: 02-MAY-97 TOLERANCES: UNLESS OTHERWISE SPECIFIED X.XX ± 0.050" X.XXX ± 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. REGIONAL HEADQUARTERS 2621 RESEARCH DRIVE CORONA, CA 91728 USA	Fender MUSICAL INSTRUMENTS 2621 Research Drive Corona, CA 91728 USA TITLE: SCHEMATIC DIAGRAM FRONTMAN 15R GUITAR AMPLIFIER DRAWN: WILKENS DRAWING NUMBER: 0051913000 ENGR: WILKENS CREATED: 25-APR-97 PLOTTED: 06-JUN-97 SHEET 1 OF 1
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REVISIONS

ZONE	REV.	DESCRIPTION	DATE	APPROVED
	A	EC1914	02-MAY-97	MDW

NOTE: XF1C NOT STUFFED.



FILM/DWG: SERVICE DIAGRAM			
DATABASE: E1914P.DBF		DATE: 16-JUN-97	
LAYERS PLOTTED: 1	2	3	4
			10
18			

DATABASE FILE: E1914P.DBF	
CHECKED BY: <i>Blen</i>	
DATE: <i>6-16-97</i>	
APPROVED: <i>MDW</i>	
DATE: <i>6/16/97</i>	
TOLERANCES: UNLESS OTHERWISE NOTED	
X.X	±0.050"
X.XX	±0.010"
X.XXX	±0.005"
ANGLES	±0.500°

PROPRIETARY

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FENDER MUSICAL INSTRUMENTS CO.
REGIONAL HEADQUARTERS
2621 RESEARCH DRIVE
CORONA, CA 91720 USA

NEXT HIGHER ASSEMBLY:

Fender MUSICAL INSTRUMENTS
2621 Research Drive
Corona, CA 91720 USA

TITLE: SERVICE DIAGRAM
FRONTMAN 15G AMPLIFIER

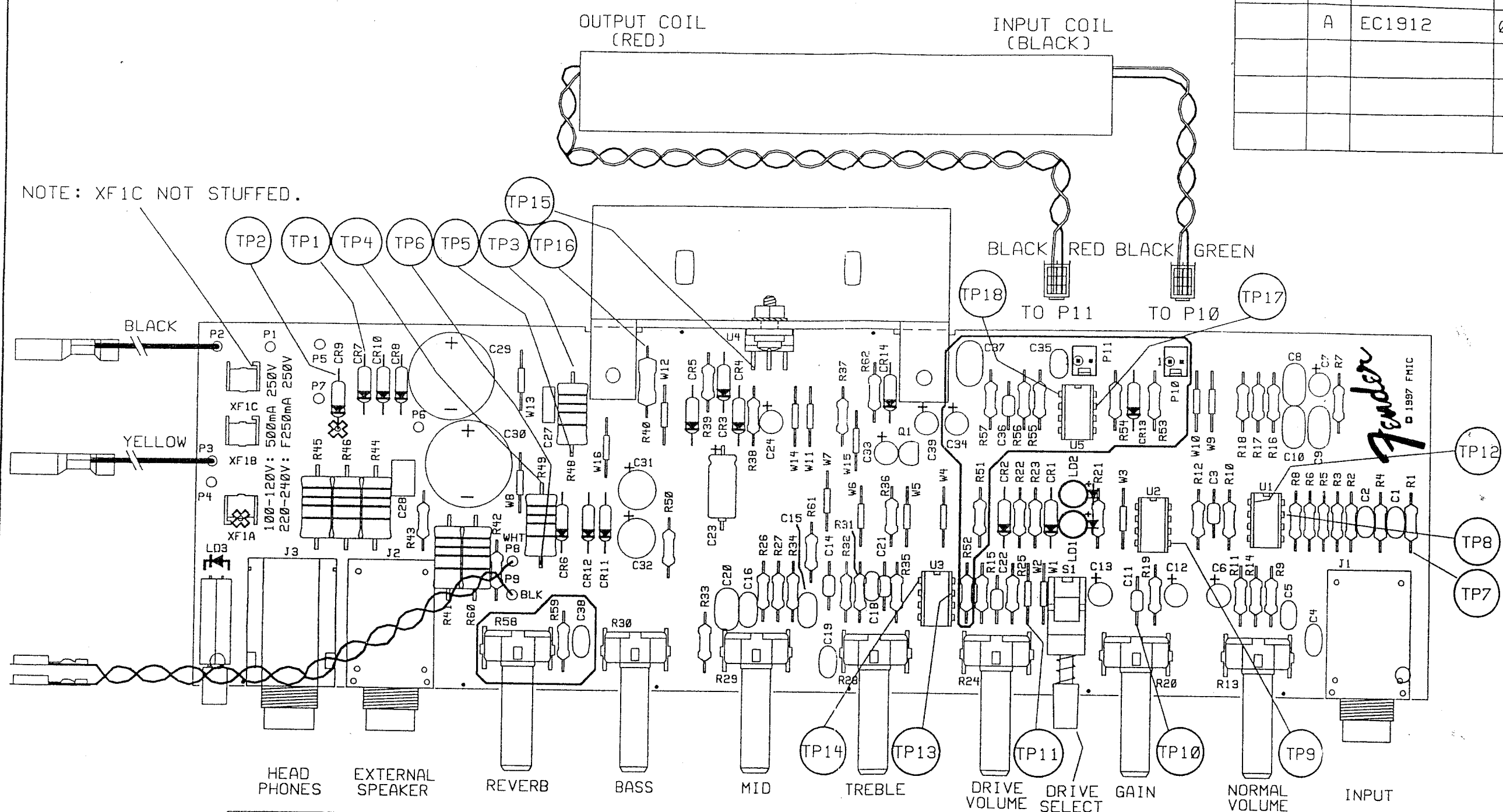
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B	ENGR: WILKENS	0051920000	A

SCALE: N/A

CREATED: 25-APR-97
PLOTTED: 16-JUN-97

SHEET 2 OF 2

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	A	EC1912	02-MAY-97	MDW



NOTE: XF1C NOT STUFFED.

FILM/DWG: SERVICE DIAGRAM	
DATABASE: E1912P.DBF	DATE: 16-APR-98
LAYERS PLOTTED: 1 2 3 4	10
	18

DATABASE FILE: E1912P.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

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FENDER MUSICAL INSTRUMENTS CO.
REGIONAL HEADQUARTERS
2621 RESEARCH DRIVE
CORONA, CA 91720 USA

NEXT HIGHER ASSEMBLY:

Fender MUSICAL INSTRUMENTS
2621 Research Drive
Corona, CA 91720 USA

TITLE: SERVICE DIAGRAM
FRONTMAN 15R AMPLIFIER

SIZE	DRAWN: WILKENS	DRAWING NUMBER	REV.
B	ENGR: WILKENS	0051914000	A

CREATED: 15-APR-97
PLOTTED: 16-APR-98

SCALE: N/A SHEET 2 OF 2