

# PRINCETON 65

p/n 022-6704-020 (120V)

## SERVICE MANUAL



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- Specifications
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PRINCETON 65  
(This is the model name for warranty claims)

# SERVICE MANUAL

JUNE 1999

## 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

# PRINCETON 65

## SPECIFICATIONS

<b>Product Release No.:</b>	PR 403 <i>(This is not a model number)</i>
<b>Part Number:</b>	120V Version : 22-6704-020 240V Aus : 22-6734-020 230V UK : 22-6744-020 230V Eur : 22-6764-020 100V : 22-6774-020
<b>Power Requirements:</b>	100V Version : 100 VAC 50/60 Hz, 180W 120V : 120 VAC 60 Hz, 180W 230V : 230 VAC 50 Hz, 180W 240V : 240 VAC 50 Hz, 180W
<b>Power Output:</b>	65 Watts RMS (5% THD)
<b>Input impedance:</b>	>1M $\Omega$
<b>Nominal Input Level:</b>	100mV
<b>Speaker Complement:</b>	One 8 $\Omega$ Fender Special Design 12" Speaker (P/N 025923)
<b>Dimensions:</b>	Height: 16.5" (41.9 cm) Width: 18.6" (47.3 cm) Depth: 9" (22.9 cm)
<b>Weight:</b>	28 lbs. (12.7 kg)

*Product specifications are subject to change without notice*

# PRINCETON 65

## PARTS LIST

**NOTE: SHADED ITEMS ARE FOR REFERENCE ONLY**

### PRINTED CIRCUIT BOARD ASSEMBLY

QTY	PART #	DESCRIPTION	REFERENCE DESIGNATION
3	038689001	CAP AE AX .47uF 100V 20%	C15-16 C35
1	025960001	CAP AE AX 22uF 16V 20%	C40
2	028458003	CAP AE RDL 1uF 50V 20%	C49 C60
3	028463003	CAP AE RDL 10uF 50V 20%	C55 C57-58
4	028459003	CAP AE RDL 2.2uF 50V 20%	C7 C17 C48 C50
6	028467003	CAP AE RDL 22uF 50V 20%	C9-10 C30 C33 C59 C61
1	037943003	CAP AE RDL .33uF 50V 20%	C32
4	028471003	CAP AE RDL 47uF 50V 20%	C53-54 C69-70
2	041048000	CAP AE RDL 2200uF 50V 20%	C65-66
1	039255001	CAP CA 10pF 100V LL	C45
2	038699001	CAP CA 100pF 100V LL	C6 C36
2	039263001	CAP CA 1000pF 50V LL	C3 C31
3	038703001	CAP CA .1uF 50V	C63 C67-68
3	039259001	CAP CA 220pF 100V LL	C29 C39 C44
3	039265001	CAP CA 2200pF 100V	C8 C34 C62
1	038698001	CAP CA 47pF 100V	C41
1	038701001	CAP CA 470pF 50V LL	C14
2	039268001	CAP CA 4700pF 50V	C1-2
1	051457003	CAP CD 100pF 500V 5%	C26
3	051406003	CAP CD 220pF 500V 10%	C43 C51-52
1	051458003	CAP CD 470pF 500V 10%	C19
1	051459003	CAP CD 560pF 500V 10%	C21
8	034788003	CAP CR .1uF 50V 20% .2" LS	C71-78
1	053860003	CAP MPF .1uF 250VAC 20%	C79
1	027278003	CAP MPF .1uF 63V 10%	C23
3	027281003	CAP MPF .22uF 63V 10%	C5 C38 C42
1	027286003	CAP MPF .47uF 63V 10%	C4
1	052003003	CAP MPF .1uF 250V 10%	C64
2	030945003	CAP PFF RDL .01uF 50V 5%	C46-47
1	030960003	CAP PFF RDL .1uF 50V 5%	C56
1	030950003	CAP PFF RDL .022uF 50V 5%	C28
1	030953003	CAP PFF RDL .039uF 50V 5%	C27
1	036234003	CAP PFF RDL .015uF 100V 10%	C37
1	033590003	CAP PFF RDL .022uF 100V 10%	C22
1	033581003	CAP PFF RDL .0033uF 100V 10%	C24
3	033591003	CAP PFF RDL .033uF 100V 10%	C12-13 C18
1	033583003	CAP PFF RDL .0047uF 100V 10%	C25
2	033592003	CAP PFF RDL .047uF 100V 10%	C11 C20
1	030960003	CAP PFF RDL .1 50V 5%	C56

# PRINCETON 65

## PARTS LIST

### PRINTED CIRCUIT BOARD ASSEMBLY (CONT)

QTY	PART #	DESCRIPTION	REFERENCE DESIGNATION
1	034720	CONTROL SNAPIN 100k B	R33 <b>DRIVE VOLUME</b>
2	037324	CONTROL SNAPIN 100k 30C	R23 R43 <b>DRIVE, TREBLE (DRV CH)</b>
1	049402	CONTROL SNAPIN 25k B	R40 <b>BASS (DRV CH)</b>
1	037323	CONTROL SNAPIN 50k 15A	R16 <b>NORMAL VOLUME</b>
3	034719	CONTROL SNAPIN 50k B	R9 R37 R57 <b>BASS (NORM CH), MID (DRV CH) , REVERB</b>
1	038658	CONTROL SNAPIN 50k 30C	R8 <b>TREBLE (NORM CH)</b>
2	064089001	DIODE 1N4003 LL	D35-36
26	006260001	DIODE 1N4448 SIGNAL LL	D1-5 D8-12 D14-16 D18-21 D24-28 D31-32 D38 D40 D42-45
4	020534000	DIODE 1N5402 RECTIFIER 200V C&F	D42-45
2	054210001	DIODE BAT85	D33-34
2	025821000	DIODE HV FDH400 SWITCHING	D22-23
2	031635001	DIODE ZEN 1N5240B 10V 5% LL	D17 D39
2	031729001	DIODE ZEN 1N5231B 5.1V 5% LL	D29-30
1	009165001	DIODE ZEN 1N4744A 15V 1W 5%	D37
2	028119000	DIODE ZEN 1N5353B 16V 5W 5%	D46-47
4	026000	FASTON TAB, .187"	P105 P111-112 P115
10	025802	FASTON TAB, .250"	P1-5 P106-107 P110 P113-114 P109
4	031611	IC OP-AMP DUAL PC4560	U2-4 U6
3	016795	IC OP-AMP DUAL TL072	U1 U5 U7
2	051658	JACK MONO R/A	J3 J7 <b>PREAMP OUT, FOOTSWITCH</b>
3	053450	JACK STEREO R/A	J1-2 J4 <b>INPUT, POWER AMP IN</b>
2	048466	JACK RCA SINGLE VERT PC MOUNT	J5-6 <b>REVERB SEND/RETURN</b>
1	049948	LED, RED LONG LEAD LUMEX	D41
2	049948	LED, RED LONG LEAD LUMEX	D6-7
1	054260	LED, RED CLEAR, PNL MT 4- 1/2"	D48
3	026549001	RES CF 1/2W 5% 1.5k LL	R89 R92 R114
2	031900001	RES CF 1/2W 5% 15k LL	R85 R88
1	028861001	RES CF 1/2W 5% 3.3k LL	R117
2	024937001	RES CF 1/4W 5% 10ohm LL	R93 R101
3	024965001	RES CF 1/4W 5% 1k LL	R20 R61 R63
2	024981001	RES CF 1/4W 5% 10k LL	R54 R111
8	024997001	RES CF 1/4W 5% 100k LL	R42 R49 R60 R67-68 R108 R113 R115
4	025069001	RES CF 1/4W 5% 1M LL	R32 R62 R110 R116
1	024953001	RES CF 1/4W 5% 120ohm LL	R84
2	029539001	RES CF 1/4W 5% 13k LL	R18-19

# PRINCETON 65

## PARTS LIST

### PRINTED CIRCUIT BOARD ASSEMBLY (CONT)

QTY	PART #	DESCRIPTION	REFERENCE DESIGNATION
2	028955001	RES CF 1/4W 5% 130k LL	R1 R4
1	024969001	RES CF 1/4W 5% 1.5k LL	R55
1	024985001	RES CF 1/4W 5% 15k LL	R7
2	024970001	RES CF 1/4W 5% 1.8k LL	R13 R73
1	024986001	RES CF 1/4W 5% 18k LL	R64
2	025058001	RES CF 1/4W 5% 180k LL	R12 R45
2	029600001	RES CF 1/4W 5% 200ohm LL	R86-87
1	029006001	RES CF 1/4W 5% 20k LL	R112
5	024971001	RES CF 1/4W 5% 2.2k LL	R15 R95 R97-98 R100
7	024987001	RES CF 1/4W 5% 22k LL	R10-11 R21-22 R44 R50-51
4	025059001	RES CF 1/4W 5% 220k LL	R14 R29 R56 R69
2	024957001	RES CF 1/4W 5% 270ohm LL	R96 R99
2	024988001	RES CF 1/4W 5% 27k LL	R71-72
2	024973001	RES CF 1/4W 5% 3.3k LL	R25-26
3	024989001	RES CF 1/4W 5% 33k LL	R27 R35 R66
1	025061001	RES CF 1/4W 5% 330k LL	R58
1	024975001	RES CF 1/4W 5% 3.9k LL	R65
2	028956001	RES CF 1/4W 5% 43k LL	R36 R38
3	024947001	RES CF 1/4W 5% 47ohm LL	R53 R77-78
3	024961001	RES CF 1/4W 5% 470ohm LL	R34 R75-76
2	024977001	RES CF 1/4W 5% 4.7k LL	R52 R79
4	024993001	RES CF 1/4W 5% 47k LL	R30 R41 R59 R74
1	025065001	RES CF 1/4W 5% 470k LL	R28
1	028034001	RES CF 1/4W 5% 5.1k LL	R6
2	028018001	RES CF 1/4W 5% 510k LL	R2-3
1	024979001	RES CF 1/4W 5% 6.8k LL	R5
1	024995001	RES CF 1/4W 5% 68k LL	R39
1	025067001	RES CF 1/4W 5% 680k LL	R70
1	025942001	RES CF 1/4W 5% 7.5k LL	R17
1	024980001	RES CF 1/4W 5% 8.2k LL	R24
1	029613001	RES CF 1/4W 5% 91k LL	R31
1	029722001	RES FILM 1W 5% 1k LL	R109
2	037354001	RES FILM 1W 5% 4.7k LL	R90-91
1	015582001	RES MF 1/4W 1% 10.0k LL	R47
1	027632001	RES MF 1/4W 1% 2.43k LL	R46
1	016971001	RES MF 1/4W 1% 33.2k LL	R48
2	054208001	RES MF FUSE 1/4W 5% 470ohm LL	R80 R82
5	036960001	RES MF FUSE 1/4W 5% 47ohm L	R81 R83 R94 R102 R104
1	051417001	RES MOX 2W 5% 22ohm LL	R106
2	041277001	RES MOX 2W 5% 820ohm LL	R120-121
2	028037000	RES WW 5W 10% 330ohm	R118-119
1	054434000	RES WW 5W 10% .1ohm	R107
2	027478000	RES WW 5W 10% .22ohm	R103 R105

# PRINCETON 65

## PARTS LIST

### PRINTED CIRCUIT BOARD ASSEMBLY (CONT)

QTY	PART #	DESCRIPTION	REFERENCE DESIGNATION
1	028091	SWITCH PUSH SLFLK SHORT STROKE	S1
1	051418	THERMAL SENSOR PTC 100 DEG C	RT1
5	014689	XSTR N-CH JFET J111 TO-92	Q1-5
2	016739	XSTR NPN 2N4401 TO-92	Q8 Q12
4	016742	XSTR PNP 2N4403 TO-92	Q13 Q21-23
1	028759	XSTR PNP 2SA1306A TO-220P	Q17
1	025752	XSTR PNP 2SA1038STPS	Q9
1	051447	XSTR PNP 2SB1236	Q16
1	028760	XSTR NPN 2SC4793/2SC3298B	Q15
2	025751	XSTR NPN 2SC2362K/2SC2389 STPS	Q6-7
1	051448	XSTR NPN 2SD1857	Q14
1	051724	XSTR PNP MJW21191 TO-247	Q19
1	051725	XSTR NPN MJW21192 TO-247	Q18
1	014867	XSTR NPN MPSW42 TO-92	Q11
2	014866	XSTR PNP MPSW92 TO-226AE	Q10 Q20
2	051094	FUSE CLIP PCB 5MM	@ F1 (EXPORT MODELS)
1	054314	PCB FAB, PRINCETON 65	
1	054320	HEATSINK PLATE, PRINCETON 65	
2	032908	SCRW TF 6-32X3/8 PHP ZI	@ HEATSINK PLATE
2	040903	INSULATOR MICA TO-218	@ Q18-Q19
4	027638	SCRW TF 4-40X3/8 HWHS ZI .1" HD	@ Q15, Q17-Q19
1	048451	BUTTON PUSH OFF WHITE	@ S1
1	036178	SPACER LED .5X.1 BRN	@ D41
	025936	STANDOFF NYL PCB SNAP 3/8" NAT	@ ST1-6

# PRINCETON 65

## PARTS LIST

### CHASSIS ASSEMBLY

QTY	PART #	DESCRIPTION	REFERENCE DESIGNATION
1	021709	BUSHING SR .437x.062x13/32 BLK	SPKR
6	025936	STANDOFF NYL PCB SNAP 3/8" NAT	PCB MOUNTING
1	026116	BUSHING SR .500x.063x7/16 BLK	REV CABLE
1	027668	XFMR PWR 120v 85W	DOMESTIC
1	039357	XFMR PWR EXP DEL112/ROC PRO	EXPORT ONLY
1	+028560	END BELL XFMR 85w	XFMR
4	028591	NUT ACORN 8-32	XFMR
1	054318	HEATSINK BAR, PRNCTN 65 / DLX 90	
3	028500	SCRW TF 8-32x3/4 HWH SLTD Z1	HEATSINK
6	028937	SCRW TF 6-32x5/8 PHP ZI TAPTYT	STDOFF
4	030007	WSHR LCK INTL 8x.330x.02 ZI	XFMR
1	038900	SCRW TF 6-32X1/4 PHP ZI	CHS GND
5	053479	NUT, HEX 7/16-20X1/8 NI	JACKS
5	053480	WASHER, FLAT .442 X .692 NI	JACKS
9	033206	BUSHING KNOB SPACER	POTS
9	054419	KNOB ROTARY 180 DEG SS W/ CH INSRT	
1	054311	CHASSIS, PRINCETON 65 AMP	
1	054315	PCB ASSY PRINCETON 65	
1	054313	PANEL, REAR, PRINCETON 65	
1	054312	PANEL, FRONT, PRINCETON 65	
1	025935	SWITCH DPST .187 TAB (DOM)	USED ON ALL VERSIONS
1	020789	FUSE 20MMX5MM F1A 250V	230V/240V
1	048384	FUSE 20MMX5MM F2A 250V	100V/120V
1	025722	CABLE REVERB 1100mm	
1	054642	SOCKET IEC SNAP IN	
1	025718	JEWEL PILOT LIGHT RED #20	
1	032219	COLLAR-PILOT LIGHT	
1	031625	NUT HOLDER PILOT LIGHT 1/16-27	



# PRINCETON 65

## PARTS LIST

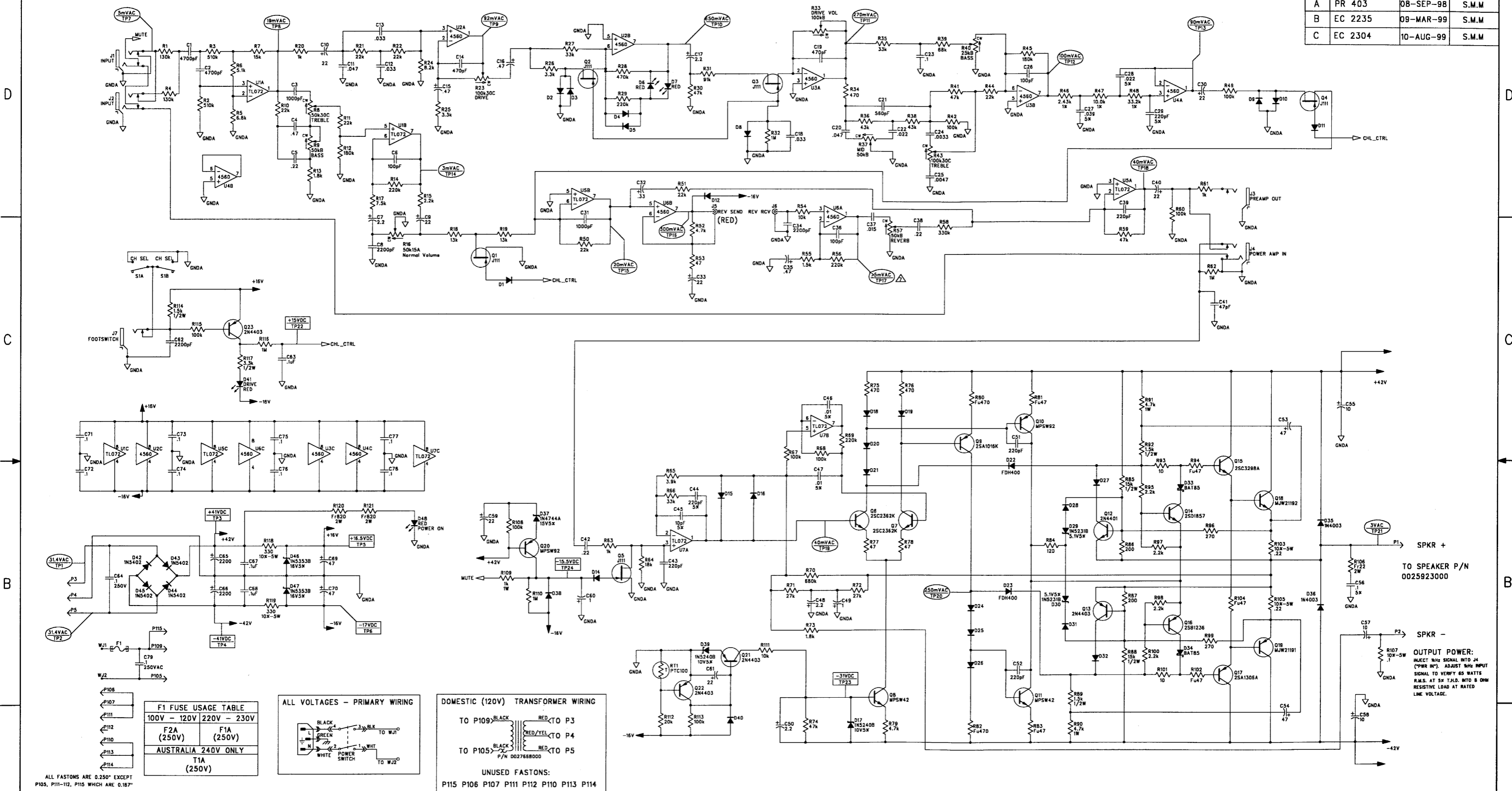
### CABINET ASSEMBLY

QTY	PART #	DESCRIPTION	REFERENCE DESIGNATION
4	019275	INSERT GLIDE CUSHION 1.27 DIA	
4	019276	GLIDE CAB 1.24x.335 NI	
1	027846	HANDLE 9.25" NO LOGO	
2	019279	HANDLE CAP 2 HOLE NICKEL	
8	021972	NUT T 10-32x3/4 STR 3 PRNG BLX	
4	022244	SCRW M 10-32x1-1/8 OHP NI	
10	026571	SCRW SMAB 8X5/8 THP NI	
4	026625	SCRW WOOD 8x1 FH	
4	026566	CORNER 2 HOLE w/TAB NI	
2	026568	CORNER 3 HOLE NI	
.827	026570	TOLEX BLACK (SY)	
.495	037788	CLOTH GRILLE BLACK/SILVER (SY)	

### END ITEM

QTY	PART #	DESCRIPTION	REFERENCE DESIGNATION
1	029906	NAMEPLATE FENDER GENERIC SMALL	
1	025923	SPEAKER 12" 8 OHM 75 WATT	
1	028055	REVERB UNIT 800 ohm 8EB2C1B DN	
2	011678	SCRW SMA 8x1-1/2 OHP BLX	@ FRNT GRL
2	018113	SCRW SMA 4x1/2 OHP BLX	@ LOGO
1	022491	CLAMP CABLE NYL SCRW MNT 5/16	@ REV CABLE
4	026577	SCRW M 10-32x1 PHP BLX	@ SPKR
8	029527	WSHR FNSH 8-5/8 FLNGD BLX WX	@ CHS/GRL
4	029821	EYELET RFLNGD .215 OD x.315 L	@ REV
5	029828	SCRW PB 8x3/4 PHP ZI	@ REV + CBL
6	036199	SCRW M 8-32x1-3/16 OHP BLX CP	@ CHS (PEM)
1	040547	CAB ASSY PRINCETON 112	
1	054306	CHASSIS ASSY, PRINCETON 65 120V	120V DOM
1	054307	CHASSIS ASSY, PRINCETON 65 230V	230V EURO
1	054308	CHASSIS ASSY, PRINCETON 65 230V UK	230V UK
1	054309	CHASSIS ASSY, PRINCETON 65 240V	240V AUST
1	054310	CHASSIS ASSY, PRINCETON 65 100V	100V JPN
1	047248	CORD POWER W/ IEC CONN DOM	120V DOM
1	047250	CORD POWER W/ IEC CONN 250V	240V AUS
1	047249	CORD POWER W/ IEC CONN 230V UK	230V UK
1	047251	CORD POWER W/ IEC CONN 230V	230V EURO
1	053997	CORD POWER W/ IEC CONN 100V JPN	100V JPN

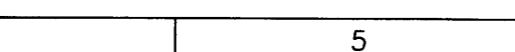
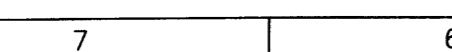
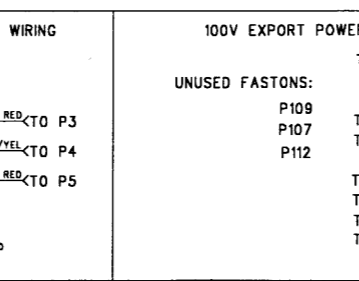
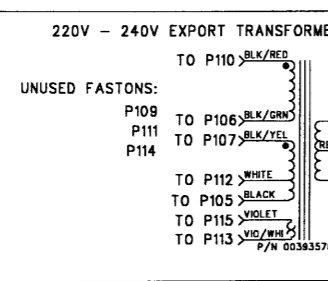
REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
A	PR 403	08-SEP-98	S.M.M
B	EC 2235	09-MAR-99	S.M.M
C	EC 2304	10-AUG-99	S.M.M



ALL FASTONS ARE 0.250" EXCEPT P105, P111-112, P115 WHICH ARE 0.167"

100V - 120V	220V - 230V
F2A (250V)	F1A (250V)
AUSTRALIA 240V ONLY	
T1A (250V)	

TYPICAL POWER ON/OFF SWITCH REAR VIEW



- AC AND DC VOLTAGES ARE READ TO GROUND WITH A DVM UNDER THE FOLLOWING CONDITIONS:  
 UNIT AT RATED LINE VOLTAGE  
 REVERB P/N 002855000 CONNECTED TO J5-6  
 CONNECT USING DUAL RCA JACK CABLE P/N 002522000 OR EQUIVALENT  
 CONNECT RED CONNECTORS TO J5 AND PAN INPUT  
 8 OHM RESISTIVE LOAD CONNECTED TO P1/P2  
 NO FOOTSWITCH CONNECTED  
 CH SEL SWITCH PUSHED IN (RED LED ON)  
 REVERB CONTROL AT FULL CCW, DRIVE CONTROL AT "3"  
 ALL OTHER CONTROLS AT "0"  
 NO INPUT SIGNAL (TP1-8, TP23 ONLY)  
 ADDITIONAL CONDITIONS (TP7-22, TP24):  
 5mV 1kHz SINEWAVE INPUT TO J1
- LAST REFERENCE DESIGNATOR: C78, D48, Q23, R121, RT1, U7, P115
- REFERENCE DESIGNATORS NOT USED: P6-P104, P108
- TP17 CAN VARY FROM 5-500mVAC AND IS DEPENDENT UPON SPECIFIC EXCITATION FREQUENCY AND PARTICULAR REVERB PAN FREQUENCY RESPONSE.

THIS DOCUMENT CONTAINS INFORMATION OF A PROPRIETARY NATURE TO FENDER MUSICAL INSTRUMENTS AND IS LIMITED TO YOU IN CONFIDENCE AND SHALL NOT BE DISCLOSED OR TRANSMITTED TO OTHERS WITHOUT AUTHORIZATION FROM FENDER MUSICAL INSTRUMENTS.

CHECKED BY: *[Signature]*  
 DATE: 10/AUG/99

DRAWN: R.MURRAY ENGR: S.MARSHALL  
 DATABASE FILE: Z4035.SCH

TITLE: SERVICE DIAGRAM, COMBINED (schematic)  
 PRINCETON 65

SIZE: D DRAWING NUMBER: 0054316000  
 RELEASE DATE: 08-SEP-98 SHEET: 1 OF 2

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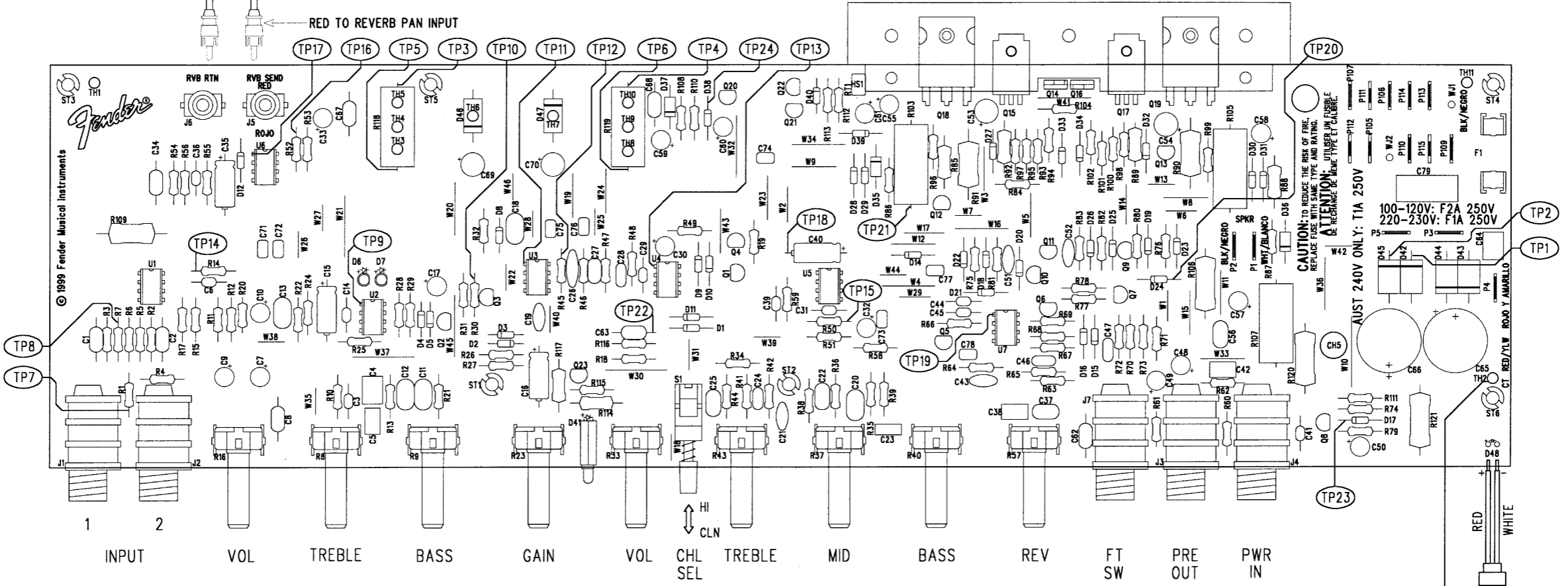
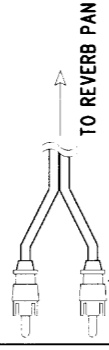
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REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
A	PR 403	08-SEP-98	SMM
B	EC 2235	09-MAR-99	SMM
C	EC 2304	10-AUG-99	SMM

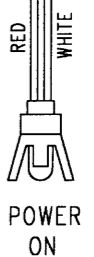
NOTE: CONNECT TO REVERB PAN P/N 0028055000  
USING CABLE P/N 0025722000.



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

AUST 240V ONLY: T1A 250V  
100-120V: F2A 250V  
220-230V: F1A 250V

NOTE: TIE EXCESS WIRE FROM D48  
TO TH2 USING CABLE TIE.



FILM/DWG: SERVICE DIAGRAM  
DATABASE: Z403P.PCB DATE: 12-MAR-99

THIS DOCUMENT CONTAINS INFORMATION OF A PROPRIETARY NATURE TO FENDER MUSICAL INSTRUMENTS AND IS SUBMITTED TO YOU IN CONFIDENCE AND SHALL NOT BE DISCLOSED OR TRANSMITTED TO OTHERS WITHOUT AUTHORIZATION FROM FENDER MUSICAL INSTRUMENTS.		MUSICAL INSTRUMENTS 2621 Research Drive Corona, CA 91720 USA	
CHECKED BY: <i>R. Murray</i> DATE: 10 AUG 99		TITLE: SERVICE DIAGRAM, COMBINED (PCB assy) PRINCETON 65	
APPROVED BY: <i>S. Marshall</i> DATE: 10 AUG 99		SIZE: C	DRAWING NUMBER: 0054316000
DRAWN: R.MURRAY ENGR: S.MARSHALL		RELEASE DATE: 08-SEP-98	REV: C
DATABASE FILE: Z403P.PCB		SHEET 2 OF 2	

1. SEE SHEET 1 FOR PRIMARY, WIRING, TEST CONDITIONS & TEST POINT VALUES.

NOTES: (UNLESS OTHERWISE NOTED)

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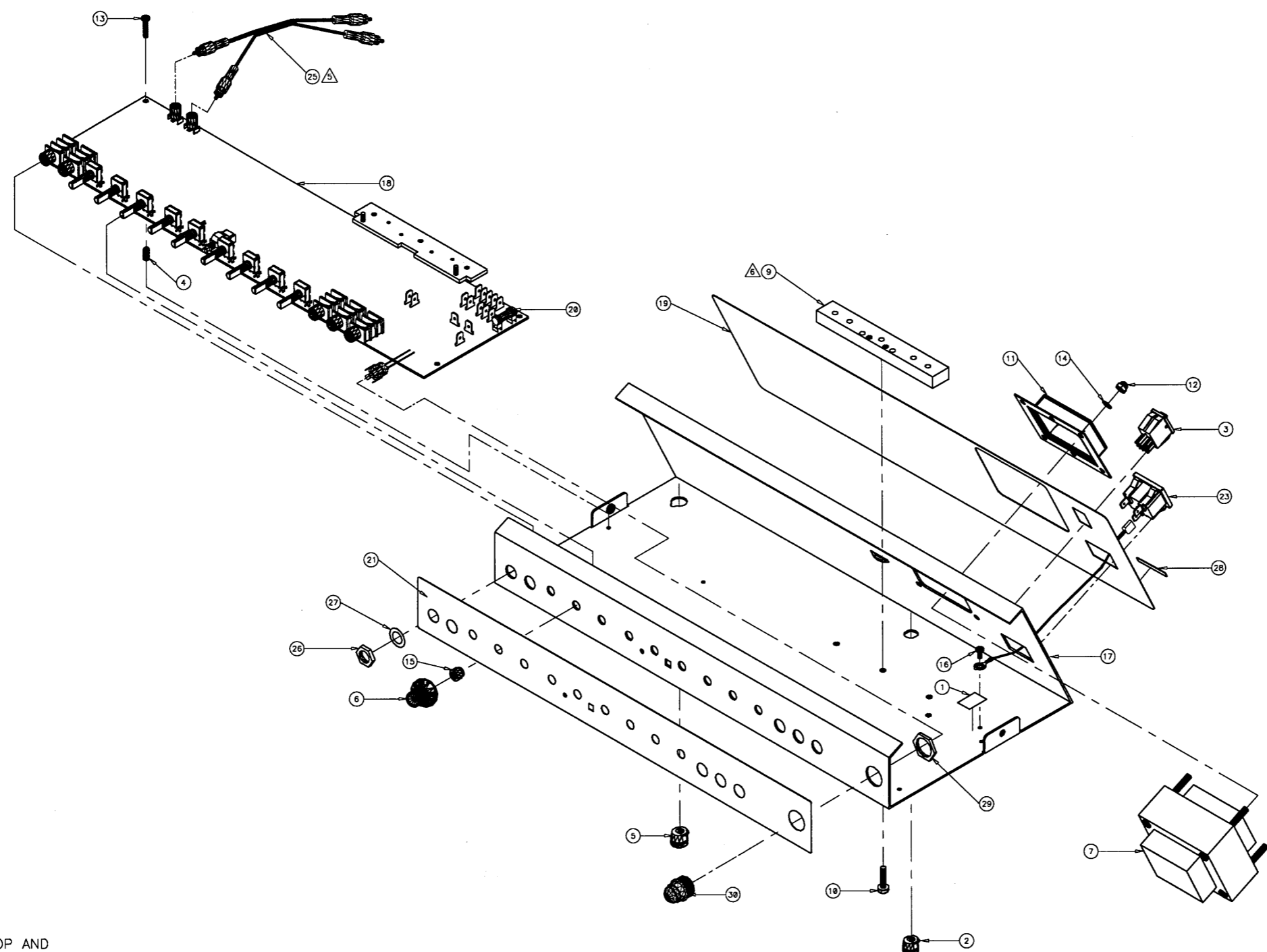
4

3

2

1

REV	EC NUMBER	BY	DATE/WORK
A	PR 403	B.S.	9/3/98
B	EC238- CHG P/N'S: 02918 TO 054788, 02930 TO 039287, 029708 TO 013112, DELETE ITEM 24	BW	3/17/99



N.S. = NOT SHOWN

ITEM	QTY.	PART NO.	DESCRIPTION
30	1	0054798000	JEWEL ASSY, LED
29	1	0031625000	NUT HOLDER PILOT LIGHT 1/16-27
28	1	SEE MATRIX	LABEL VOLTAGE
27	5	0053480000	WASHER FLAT .442 X.692 NI
26	5	0053479000	NUT HEX 7/16 20X1/8 NI
25	1	0025722000	CABLE REVERB 1100mm
24			
23	1	0054642000	SOCKET IEC SNAP IN
22			
21	1	0054312000	PANEL, FRONT, PRINCETON 65
20	1	SEE MATRIX	FUSE QA 20mmx5mm
19	1	0054313000	PANEL, REAR, PRINCETON 65
18	1	0054315000	PCB ASSY PRINCETON 65
17	1	0054311000	CHASSIS PRINCETON 65
16	1	0038900000	SCRW TF 6-32X1/4 PHP ZI
15	9	0033206000	BUSHING KNOB SPACER
14	4	0030007000	WSHR LCK INTL 8x.330x.02 ZI
13	6	0028937000	SCRW TF 8-32x5/8 PHP ZI TAPTYT
12	4	0028591000	NUT ACORN 8-32
11	1	0028560000	END BELL XFMR 85w
10	3	0028500000	SCRW TF 8-32x3/4 HWH SLTD Z1
9	1	0054318000	HEATSINK BAR, PRNCTN 65/DLX90
8	1	0054319000	WIRE SET CHASSIS PRINCETON 65 (N.S)
7	1	SEE MATRIX	XFMR PWR 85W
6	9	0054419000	KNOB ROTARY 180 DEG SS W/ CH INSERT
5	1	0026116000	BUSHING SR .500x.063x7/16 BLK
4	6	0025936000	STANDOFF NYL PCB SNAP 3/8" NAT
3	1	0039287000	SWITCH DPST .187 TAB GLOBAL
2	1	0021709000	BUSHING SR .437x.062x13/32 BLK
1	1	0013020000	LABEL GROUNDING SEMKO

- 6. APPLY THERMAL GREASE TO TOP AND BOTTOM OF HEATSINK DURING INSTALLATION.
  - 5. REFERENCE PCB SILK SCREEN FOR CORRECT ATTACHMENT OF CABLE.
  - 4. COPYRIGHT - 1999 - FENDER MUSICAL INSTRUMENTS CORP.
  - 3. - 3 - SAMPLES OF FIRST PARTS MUST BE APPROVED BY FENDER R&D BEFORE STARTING PRODUCTION.
  - 2. ALL DIMENSIONS ARE IN INCHES.
  - 1. DO NOT SCALE DRAWING.
- NOTES: UNLESS OTHERWISE NOTED

LABEL	(28)	1	NONE	0050505000	0050505000	0050506000	0050507000
FUSE	(28)	1	0048384000	0020789000	0020789000	0013112000	0048384000
XFMR	(7)	1	0027668000	0039357000	0039357000	0039357000	0039357000
COMPONENT & ITEM NO.	QTY.		0054306000 DOM 120V PRINCETON 65	0054307000 EUR 230V PRINCETON 65	0054308000 UK 230V PRINCETON 65	0054309000 AUS 240V PRINCETON 65	0054310000 JAPAN 100V PRINCETON 65

MATERIAL	n/a
FINISH	n/a
TOL. UNLESS NOTED	FRACT. ----- +- 1/32 .X ----- +- 0.050 .XX ----- +- 0.010 .XXX ----- +- 0.005 ANGLES ----- +- 0.5 DEGREES HOLE DIA. ----- +0.005 - 0.001 UNMARKED ANGLES ARE 90 DEGREES.

ENGINEER  
SAM MARSHALL  
DRAWN  
BEATA S.

DATE  
8/26/98

DATE  
3/22/99

DATE  
3/22/99

TITLE  
CHASSIS ASSY,  
PRINCETON 65

SHEET  
1/1

SCALE  
N/A

SIZE  
D

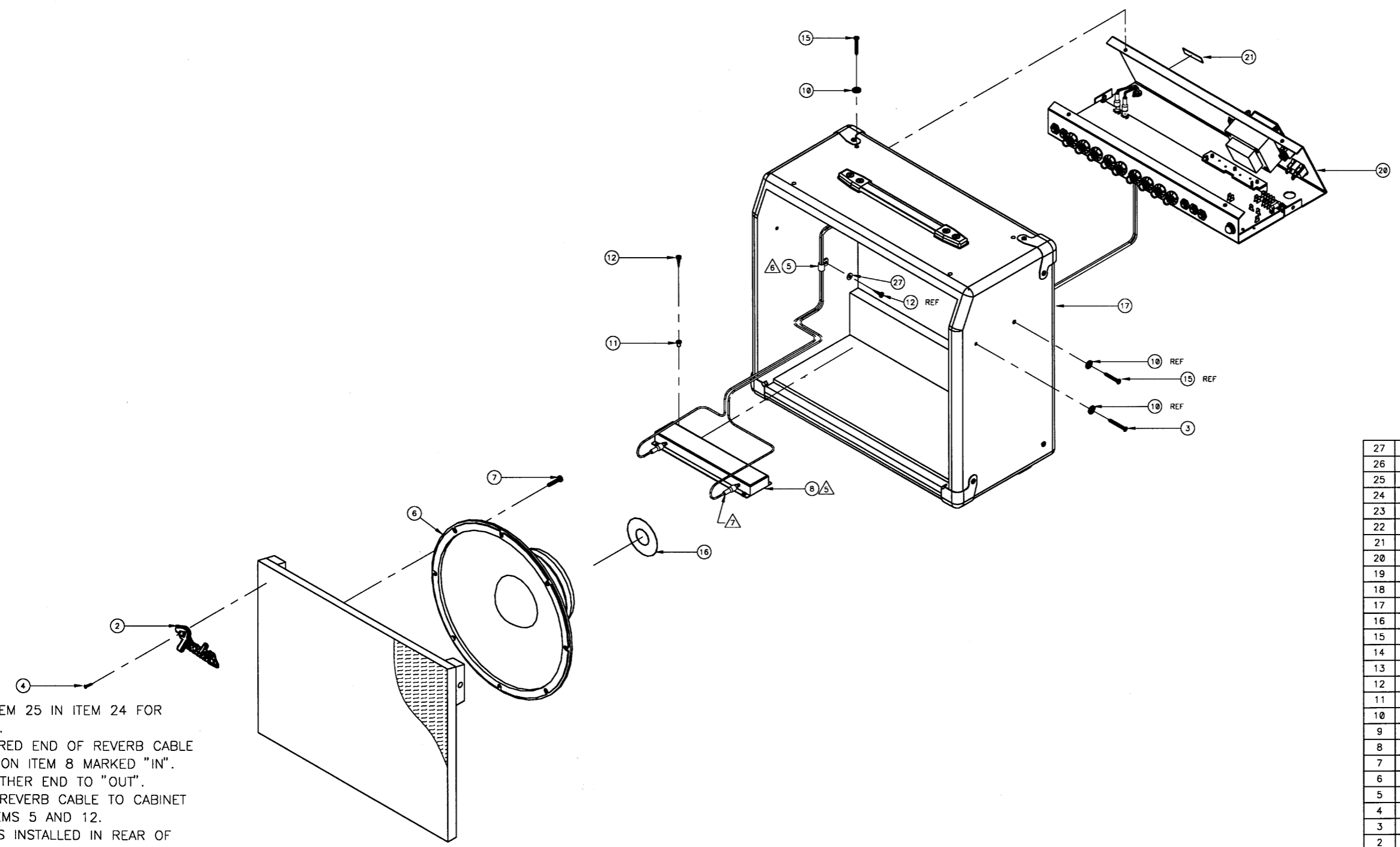
DRAWING NUMBER  
0054306000

REV.  
B

ASSEMBLY

THIS DOCUMENT CONTAINS INFORMATION OF A PROPRIETARY NATURE TO FENDER MUSICAL INSTRUMENTS AND IS SUBMITTED TO YOU IN CONFIDENCE AND SHALL NOT BE DISCLOSED OR TRANSMITTED TO OTHERS WITHOUT AUTHORIZATION FROM FENDER MUSICAL INSTRUMENTS CORP.

REV	EC NUMBER	BY	DATE/DESCRIPTION
A	PR 403	BS	9/3/98
B	MEC 174, MEC 190 MEC 192 ADD WASHER FLAT	JR	1/28/99



N.S. = NOT SHOWN

ITEM	QTY.	PART NO.	DESCRIPTION
27	1	0022327000	WASHER, FLAT
26	1	SEE MATRIX	REGISTRATION CARD (N.S.)
25	1	SEE MATRIX	CORD POWER W/ IC CONN (N.S.)
24	1	9903311400	BAG JIFFY #1 7-1/4x12 (N.S.)
23	1	9903320000	BAG POLY ZIP 10x13 2M (N.S.)
22	8	0050383000	FOAM CORNER 1" POLYSTYRENE (N.S.)
21	1	0029816000	LABEL SERIAL MEXICO
20	1	SEE MATRIX	CHASSIS ASSY PRINCETON 65
19	1	0054317000	MANUAL OWNERS PRINCETON 65 (N.S.)
18	1	0054316000	COMBINED SERVICE DIAG PRINCETON 65 (N.S.)
17	1	0040547000	CAB ASSY PRINCETON 112, 65
16	1	0038299000	DECAL SPEAKER GLOBE ROUND
15	6	0036199000	SCRW M 8-32x1-3/16 OHP BLX CP
14	1	SEE MATRIX	TAG WARRANTY 5 YR FENDER-NEW (N.S.)
13	1	0053454000	STICKER BUMPER FEND SINCE 1946 (N.S.)
12	5	0029828000	SCRW PB 8x3/4 PHP ZI
11	4	0029821000	EYELET RFLNGD .215 OD x.315 L
10	8	0029527000	WSHR FNSH 8-5/8 FLNGD BLX WX
9	1	0028510000	CARTON PRINCETON 112 (N.S.)
8	1	0028055000	REVERB UNIT 800 ohm 8EB2C1B DN
7	4	0026577000	SCRW M 10-32x1 PHP BLX
6	1	0025923000	SPEAKER 12" 8 OHM 75 WATT
5	1	0022491000	CLAMP CABLE NYL SCRW MNT 5/16
4	2	0018113000	SCRW SMA 4x1/2 OHP BLX
3	2	0011678000	SCRW SMA 8x1-1/2 OHP BLX
2	1	0029906000	NAMEPLATE FENDER GENERIC SMALL
1	1	0010032000	BAG POLY BOX BTM 23x17x40 .002 (N.S.)

- △ 8 PLACE ITEM 25 IN ITEM 24 FOR SHIPMENT.
  - △ 7 INSTALL RED END OF REVERB CABLE TO JACK ON ITEM 8 MARKED "IN". ATTACH OTHER END TO "OUT".
  - △ 6 SECURE REVERB CABLE TO CABINET USING ITEMS 5 AND 12.
  - △ 5 ITEM 8 IS INSTALLED IN REAR OF CABINET ON THE LEFT SIDE WHEN VIEWED FROM FRONT OF CABINET. 2 (TWO) JACKS SHOULD BE FACING FRONT OF CABINET.
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MATRIX

REGISTRATON	QTY.	0054387000	NONE	NONE	NONE	NONE
TAG	1	0053412000	NONE	NONE	NONE	NONE
CORD	1	0047248000	0047251000	0047249000	0047250000	0053997000
CHASSIS	1	0054306000	0054307000	0054308000	0054309000	0054310000
COMPONENT & ITEM NO.	QTY.	0226704020 DOM 120V PRINCETON 65	0226764020 EUR 230V PRINCETON 65	0226744020 UK 230V PRINCETON 65	0226734020 AUS 240V PRINCETON 65	0226774020 JAPAN 100V PRINCETON 65

MATERIAL	n/a
FINISH	n/a
TOL. UNLESS NOTED	
FRACT.	++ 1/32
.X	++ 0.050
.XX	++ 0.010
.XXX	++ 0.005
ANGLES	++ 0.5 DEGREES
HOLE DIA.	++0.005 - 0.001
UNMARKED ANGLES	ARE 90 DEGREES.

ENGINEER	SAM MARSHALL
DRAWN	BEATA.S
DATE	8/26/98
DFT	ENG.
DATE	DATE
DATE	DATE
DATE	DATE

**Fender**  
FENDER MUSICAL INSTRUMENTS CORP.  
CORONA, CALIFORNIA 91720

TITLE  
END ITEM ASSY,  
PRINCETON 65

SHEET	1/1	SIZE	D	DRAWING NUMBER	0226704020	REV.	B
SCALE	N/A						