

DELUXE 90

p/n 022-6702-020 (120V)

SERVICE MANUAL

DELUXE 90
(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

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

RESISTOR CODES

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

CONTENTS:

- Notices
- Specifications
- Parts lists:
 - PCB assembly
 - Chassis assembly
 - Cabinet assembly
 - End item
- Service diagrams
- Assembly drawings



SPECIFICATIONS

Product Release No.: PR 402 *(This is not a model number)*

Part Number: 120V Version : 22-6702-020
 240V Aus : 22-6732-020
 230V UK : 22-6742-020
 230V Eur : 22-6762-020
 100V : 22-6772-020

Power Requirements: 100V Version : 100 VAC 50/60 Hz, 360W
 120V : 120 VAC 60 Hz, 360W
 230V : 230 VAC 50 Hz, 360W
 240V : 240 VAC 50 Hz, 360W

Power Amp Section
Power Output: 90 Watts into 4Ω @ 5% THD

Preamp Section
Input impedance: 850kΩ (Input 1) 66kΩ (Input 2)

Fuse: 4A 125V for 100V / 120V ver.
 2A 250V for 230V / 240V ver.

Speaker Complement: One 4Ω Celestion G12T-100 12" Speaker (P/N 054421)

Footswitch: 2 Button Footswitch, for Chan. Select & Drive/More Drive (p/n 050419)

Dimensions: Height: 16.5" (42 cm)
 Width: 20.6" (52.3 cm)
 Depth: 9" (30.5 cm)

Weight: 33 lbs. (15 kg)

Product specifications are subject to change without notice

NOTE: SHADED ITEMS ARE FOR REFERENCE ONLY

PRINTED CIRCUIT BOARD ASSEMBLY

QTY	PART #	DESCRIPTION	REFERENCE DESIGNATION
2	0038689001	CAP AE AX .47uF 100V 20%	C17, C40
1	0038690001	CAP AE AX 1uF 100V 20%	C15
4	0026517001	CAP AE AX 2.2uF 50V 20%	C18, C34, C44, C47
2	0038692001	CAP AE AX 10uF 35V 20%	C45, C59
6	0009512001	CAP AE AX 22uF 25V 20%	C10-11, C32, C39, C61-62
2	0028463003	CAP AE RDL 10uF 50V 20%	C57, C60
2	0028471003	CAP AE RDL 47uF 50V 20%	C55-56
2	0028476003	CAP AE RDL 100uF 50V 20%	C75-76
2	0031756000	CAP AE RDL 4700uF 50V	C71-72
2	0038703001	CAP CA .1uF 50V	C73-74
2	0039263001	CAP CA 1000pF 50V LL	C4, C27
3	0038699001	CAP CA 100pF 100V LL	C9, C31, C36
1	0039255001	CAP CA 10pF 100V LL	C42
2	0039259001	CAP CA 220pF 100V LL	C24, C43
1	0038700001	CAP CA 390pF 50V	C38
2	0038701001	CAP CA 470pF 50V LL	C16, C21
3	0051406003	CAP CD 220pF 500V 10%	C41, C51-52
11	0034788003	CAP CR .1uF 50V 20% .2" LS	C1, C78-87
1	0027255003	CAP MPF .001uF 100V 10%	C8
1	0027257003	CAP MPF .0022uF 100V 10%	C33
2	0027259003	CAP MPF .0033uF 100V 10%	C29-30
2	0027261003	CAP MPF .0047uF 100V 10%	C2-3
4	0027264003	CAP MPF .01uF 100V 10%	C49-50, C53-54
1	0027267003	CAP MPF .022uF 100V 10%	C26
3	0027270003	CAP MPF .033uF 100V 10%	C13-14, C37
6	0027272003	CAP MPF .047uF 63V 10%	C12, C25, C46, C65, C67-68
1	0027275003	CAP MPF .068uF 100V 10%	C7
2	0052003003	CAP MPF .1uF 250V 10%	C69-70
1	0053860000	CAP MPF .1uF 250VAC 20%	C77
2	0027278003	CAP MPF .1uF 63V 10%	C28, C58
6	0027281003	CAP MPF .22uF 63V 10%	C6, C19-20, C35, C64, C66
1	0027283003	CAP MPF .33uF 63V 10%	C48
2	0027286003	CAP MPF .47uF 63V 10%	C5, C63
1	0030950003	CAP PFF RDL .022uF 50V 5%	C23
1	0030953003	CAP PFF RDL .039uF 50V 5%	C22
2	0027947000	CONTROL SNAPIN 100k 30C	R27, R46 drive, ch2 treble
1	0027945000	CONTROL SNAPIN 100k B	R34 ch2 volume
1	0027949000	CONTROL SNAPIN 250k 30C	R45 ch2 bass
1	0027940000	CONTROL SNAPIN 50k 15A	R11 ch1 bass
4	0027941000	CONTROL SNAPIN 50k B	R10, R17, R41, R59 ch1 treble, ch1 volume, ch2 mid, reverb
1	0054390000	CONTROL SNAPIN 5k 15A	R12 ch1 middle

PARTS LIST**PRINTED CIRCUIT BOARD ASSEMBLY (CONT)**

QTY	PART #	DESCRIPTION	REFERENCE DESIGNATION
2	0064089001	DIODE 1N4003 LL	D38-39
38	0006260001	DIODE 1N4448 SIGNAL LL	D1-4, D7-17, D19, D21-27, D32-33, D35, D37, D40-42, D44-46, D50-51, D60-62
4	0029045000	DIODE 6A 400V 6A4 LEAD	D53-56
2	0054210001	DIODE BAT85	D30-31
2	0025821000	DIODE HV FDH400 SWITCHING	D28-29
4	0031729001	DIODE ZEN 1N5231B 5.1V 5%	D34, D36, D48-49
4	0031635001	DIODE ZEN 1N5240B 10V 5% LL	D18, D20, D43, D47
2	0028119000	DIODE ZEN 1N5353B 16V 5W	D57-58
4	0026000000	FASTON TAB, .187"	P6, P8, P11-12
11	0025802000	FASTON TAB, .250"	P1-5, P7, P9-10, P13-15
2	0020775000	FUSE CLIP PCB 5mm	at F1
5	0031611000	IC OP-AMP DUAL PC4560	U2-5, U7
2	0016795000	IC OP-AMP DUAL TL072	U1, U6
2	0051658000	JACK MONO R/A	J3, J7
2	0048466000	JACK RCA SINGLE VERT PC	J5-6
3	0053450000	JACK STEREO R/A	J1-2, J4
1	0054260000	LED RED CLEAR PNL MT 7"	D59
1	0040271000	LED RED/YELLOW	D52
2	0049948003	LED, RED LONG LEAD LUMEX	D5-6
5	0024937001	RES CF 1/4W 5% 10ohm LL	R1, R49, R93, R98, R117
1	0024942001	RES CF 1/4W 5% 22ohm LL	R53
2	0024952001	RES CF 1/4W 5% 100ohm LL	R116, R118
1	0024953001	RES CF 1/4W 5% 120ohm LL	R103
2	0024954001	RES CF 1/4W 5% 150ohm LL	R107, R110
2	0024960001	RES CF 1/4W 5% 390ohm LL	R108, R111
2	0024947001	RES CF 1/4W 5% 47ohm LL	R85-86
3	0024961001	RES CF 1/4W 5% 470ohm LL	R38, R83-84
3	0024965001	RES CF 1/4W 5% 1k LL	R20, R63, R73
1	0024967001	RES CF 1/4W 5% 1.2k LL	R78
1	0024969001	RES CF 1/4W 5% 1.5k LL	R24
5	0024971001	RES CF 1/4W 5% 2.2k LL	R18, R94-97
4	0024973001	RES CF 1/4W 5% 3.3k LL	R28, R56, R141-142
3	0024975001	RES CF 1/4W 5% 3.9k LL	R67, R69, R80
3	0024977001	RES CF 1/4W 5% 4.7k LL	R52, R82, R120
2	0028034001	RES CF 1/4W 5% 5.1k LL	R6, R25
1	0024979001	RES CF 1/4W 5% 6.8k LL	R8
1	0025942001	RES CF 1/4W 5% 7.5k LL	R15

PARTS LIST**PRINTED CIRCUIT BOARD ASSEMBLY (CONT)**

QTY	PART #	DESCRIPTION	REFERENCE DESIGNATION
2	0024980001	RES CF 1/4W 5% 8.2k LL	R23, R66
11	0024981001	RES CF 1/4W 5% 10k LL	R26, R55, R72, R122, R124, R127, R129-130, R135, R137, R139
3	0024985001	RES CF 1/4W 5% 15k LL	R7, R33, R65
1	0029006001	RES CF 1/4W 5% 20k LL	R70
5	0024987001	RES CF 1/4W 5% 22k LL	R9, R13, R21-22, R48
5	0024988001	RES CF 1/4W 5% 27k LL	R58, R61, R77, R79, R132
3	0024989001	RES CF 1/4W 5% 33k LL	R29, R39, R68
7	0024993001	RES CF 1/4W 5% 47k LL	R19, R40, R42, R47, R50, R71, R81
3	0024995001	RES CF 1/4W 5% 68k LL	R2-3, R43
1	0028153001	RES CF 1/4W 5% 75k LL	R32
6	0024997001	RES CF 1/4W 5% 100k LL	R44, R62, R74-75, R126, R134
1	0024999001	RES CF 1/4W 5% 150k LL	R60
2	0025058001	RES CF 1/4W 5% 180k LL	R14, R51
4	0025059001	RES CF 1/4W 5% 220k LL	R16, R31, R57, R76
2	0025828001	RES CF 1/4W 5% 430k LL	R128, R136
3	0025065001	RES CF 1/4W 5% 470k LL	R30, R123, R131
2	0028018001	RES CF 1/4W 5% 510k LL	R4-5
5	0025069001	RES CF 1/4W 5% 1M LL	R54, R64, R125, R133, R140
1	0027872001	RES CF 1/2W 5% 1.2k LL	R138
2	0031900001	RES CF 1/2W 5% 15k LL	R101, R105
2	0026549001	RES CF 1/2W 5% 1.5k LL	R92, R99
2	0037354001	RES FILM 1W 5% 4.7k LL	R91, R100
1	0028740001	RES FILM 1W 5% 470ohm LL	R121
1	0027632001	RES MF 1/4W 1% 2.43k LL	R35
1	0015582001	RES MF 1/4W 1% 10.0k LL	R36
1	0016971001	RES MF 1/4W 1% 33.2k LL	R37
2	0054208001	RES MF FUSE 1/4W 5% 470ohm	R87, R89
5	0036960001	RES MF FUSE 1/4W 5% 47ohm	R88, R90, R102, R104, R106
1	0041269001	RES MOX 2W 5% 1.2k	R119
1	0041258001	RES MOX 2W 5% 2.2k LL	R143
1	0051417001	RES MOX 2W 5% 22ohm LL	R113
4	0027478000	RES WW 5W 10% .22ohm	R109, R112, R114-115
2	0028037000	RES WW 5W 10% 330ohm	R144-145
2	0028091000	SWITCH PUSH SLFLK SHORT	S1-2
2	0048451000	BUTTON PUSH OFF WHITE	at S1-2
1	0051418003	THERMAL SENSOR PTC 100	RT2
1	0028503000	THERMISTOR 10 ohm 5A C60-	RT1

PARTS LIST

PRINTED CIRCUIT BOARD ASSEMBLY (CONT)

QTY	PART #	DESCRIPTION	REFERENCE DESIGNATION
1	0028760000	XSTR NPN 2SC4793/2SC3298B	Q18
1	0028759000	XSTR PNP 2SA1306A TO-220P	Q19
1	0054417000	XSTR PNP 2SA1294	Q21
1	0054418000	XSTR NPN 2SC3263	Q20
6	0014689003	XSTR N-CH JFET J111 TO-92	Q1-5, Q27
4	0016739003	XSTR NPN 2N4401 TO-92	Q8, Q16, Q23, Q25
2	0025751003	XSTR NPN 2SC2362K/2SC2389STPS	Q9-10
1	0051448003	XSTR NPN 2SD1857	Q14
1	0014867003	XSTR NPN MPSW42 TO-92	Q13
6	0016742003	XSTR PNP 2N4403 TO-92	Q6-7, Q17, Q22, Q24, Q26
1	0025752003	XSTR PNP 2SA1038STPS	Q11
1	0051447003	XSTR PNP 2SB1236	Q15
1	0014866003	XSTR PNP MPSW92 TO-226AE	Q12
2	0038815000	INSULATOR SILICONE TO-3P	at Q20-21
1	0055349000	HEATSINK PLATE, DELUXE 90	HS1
4	0027638000	SCRW TF 4-40x3/8 HWHS ZI .	at Q18-21/HS1
2	0032908000	SCRW TF 6-32x3/8 PHP ZI	At HS1/PCB
REF	0025936000	STANDOFF NYL PCB SNAP 3/8"	ST1-4

CHASSIS ASSEMBLY

QTY	PART #	DESCRIPTION	REFERENCE DESIGNATION
1	0025722000	CABLE REVERB 1100mm	
1	0026116000	BUSHING SR .500x.063x7/16	@ reverb cable
1	0021709000	BUSHING SR .437x.062x13/32 BLK	@ spkr cable
4	0025936000	STANDOFF NYL PCB SNAP 3/8"	
10	0053986000	KNOB, ROTARY SS W/ CHR INSERT	
1	0020794000	FUSE QA 20mmx5mm 250v 2A	230V/240V only
1	0053884000	FUSE QA 20mmx5mm 125v 4A	100V/120V only
1	0025935000	SWITCH DPST .187 TAB (DOM)	100V/120V only
1	0039287000	SWITCH DPST .187 TAB GLOBA	230V/240V only
1	0031625000	NUT HOLDER PILOT LIGHT 1/16-27	@ jewel:
5	0053479000	NUT HEX 7/16 20X1/8 NI	
3	0028500000	SCRW TF 8-32x3/4 HWH SLTD ZI	@ Heatsink
4	0028937000	SCRW TF 6-32x5/8 PHP ZI TAPTYT	@ Standoff
1	0038900000	SCRW TF 6-32X1/4 PHP ZI	@ Gnd Lug
5	0053480000	WASHER FLAT .442 X.692 NI	
1	0054275000	CHASSIS DELUXE 90	
1	0054276000	PANEL FRONT DELUXE 90	
1	0054277000	PANEL REAR DELUXE 90	
1	0054282000	PCB ASSY DELUXE 90	

PARTS LIST

CHASSIS ASSEMBLY (CONT)

QTY	PART #	DESCRIPTION	REFERENCE DESIGNATION
1	0054318000	HEATSINK BAR, PRNCTN 65/ DLX 90	
1	0054642000	CONN IEC SNAPIN	
1	0054798000	JEWEL ASSY . , LED	
1	0028560000	END BELL XFMR 85W	@ Xfmr
4	0028591000	NUT ACORN 8-32	@ Xfmr
4	0030007000	WSHR LCK INTL 8x.330x.02 ZI	@ Xfmr
1	0027668000	XFMR PWR 120v 85W	Domestic only
1	0039357000	XFMR PWR EXP DEL112/ROC PRO	Export only

CABINET ASSEMBLY

QTY	PART #	DESCRIPTION	REFERENCE DESIGNATION
4	0019275000	INSERT GLIDE CUSHION 1.27	
4	0019276000	GLIDE CAB 1.24x.335 NI	
0.35	0037788000	CLOTH GRILLE BLACK/SILVER	
4	0026566000	CORNER 2 HOLE w/TAB NI	
2	0026568000	CORNER 3 HOLE NI	
2	0019279000	HANDLE CAP 2 HOLE NICKEL	
1	0027846000	HANDLE 9.25" NO LOGO	
1	0032524000	INSERT HANDLE	
8	0021972000	NUT T 10-32x3/4 STR 3 PRNG BLX	
4	0022244000	SCRW M 10-32x1-1/8 OHP NI	
10	0026571000	SCRW SMAB 8X5/8 THP NI	
4	0026625000	SCRW WOOD 8x1 FH	
.02	0027648000	TAPE ALUM 6"x60YDS	
1.2	0026570000	TOLEX BLACK	

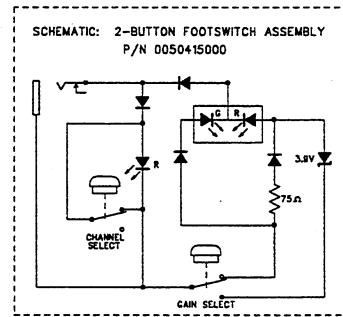
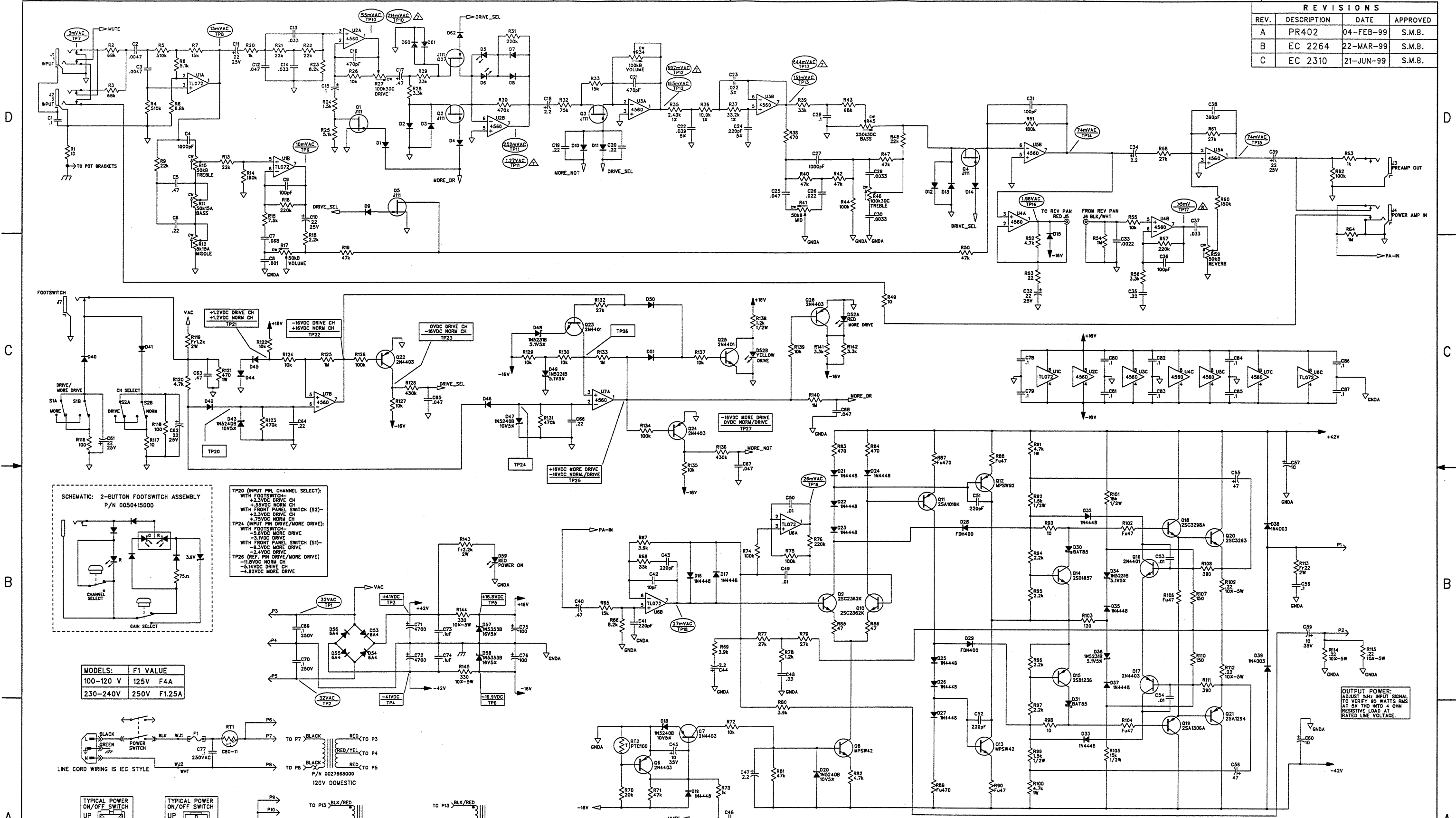
DELUXE 90

PARTS LIST

END ITEM ASSEMBLY

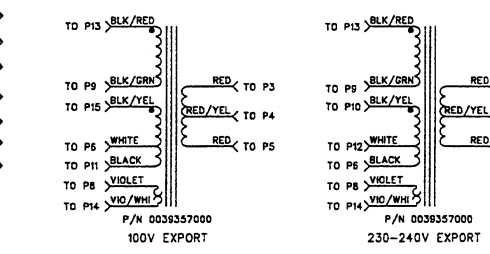
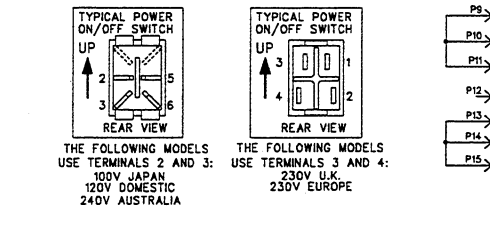
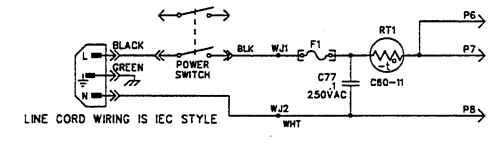
QTY	PART #	DESCRIPTION	REFERENCE DESIGNATION
1	0055723000	CAB ASSY DLX 90	
1	0053997000	CORD PWR W/IEC CONN 100V	100V JAPAN
1	0047248000	CORD PWR W/IEC CONN DOM	120V
1	0047249000	CORD PWR W/IEC CONN 230V UK	230V UK
1	0047250000	CORD PWR W/IEC CONN 240V	240V AUST
1	0047251000	CORD PWR W/IEC CONN 230V	230V EURO
1	0054270000	CHS ASSY DELUXE 90 120V	120V
1	0054271000	CHS ASSY DELUXE 90 230V	230V
1	0054272000	CHS ASSY DELUXE 90 230V UK	230V UK
1	0054273000	CHS ASSY DELUXE 90 240V AUST	240V AUST
1	0054274000	CHS ASSY DELUXE 90 100V	100V
1	0050419000	FOOTSWITCH 2 BTN CH DRV/MDRV	SEE FOOTSWITCH MANUAL
1	0029906000	NAMEPLATE FENDER GENERIC SMALL	
1	0028055000	REVERB UNIT 800 ohm 8EB2C1B DN	
1	0054421000	SPEAKER 12" 4 OHM G12T-100	
6	0029527000	WSHR FNSH 8-5/8 FLNGD BLX WX	CHASSIS MOUNT
4	0029821000	EYELET RFLNGD .215 OD x.315	
5	0029828000	SCRW PB 8x3/4 PHP ZI	REVERB & CABLE CLAMP
6	0036199000	SCRW M 8-32x1-3/16 OHP BLX	CHASSIS MOUNT
2	0018113000	SCRW SMA 4x1/2 OHP BLX	@ LOGO
1	0022491000	CLAMP CABLE NYL SCRW MNT 5/16	@ REVERB CABLE
4	0026577000	SCRW M 10-32x1 PHP BLX	@ SPEAKERS
1	0022327000	WSHR FLAT 8x7/16 NI	@ REVERB CLAMP

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
A	PR402	04-FEB-99	S.M.B.
B	EC 2264	22-MAR-99	S.M.B.
C	EC 2310	21-JUN-99	S.M.B.



TP20 (INPUT PIN CHANNEL SELECT):
WITH FOOTSWITCH:
+1.2VDC DRIVE CH
+1.2VDC NORM CH
WITH FRONT PANEL SWITCH (S2):
+2.3VDC DRIVE CH
+2.3VDC NORM CH
TP24 (INPUT PIN DRIVE/MORE DRIVE):
WITH FOOTSWITCH:
-5.6VDC MORE DRIVE
-5.6VDC NORM CH
WITH FRONT PANEL SWITCH (S1):
-3.3VDC DRIVE
-3.3VDC MORE DRIVE
-2.4VDC DRIVE
TP28 (REF. PIN DRIVE/MORE DRIVE):
-11.8VDC NORM CH
-5.14VDC DRIVE CH
-4.82VDC MORE DRIVE

MODELS:	F1 VALUE
100-120 V	125V F4A
230-240V	250V F1.25A



6. AC AND DC VOLTAGES READ TO GROUND WITH A DVM UNDER THE FOLLOWING CONDITIONS:
UNIT AT RATED LINE VOLTAGE
NO INPUT SIGNAL (TP1-TP6, TP20-TP26 ONLY)
VOLTAGES MAY VARY +/-20%
ADDITIONAL CONDITIONS FOR TP7-TP18:
3mV, 1kHz SINEWAVE INPUT SIGNAL AT J1
4 OHM RESISTIVE LOAD AT TP-22
CH SELECT (S2) IN "DRIVE SELECT (S1) OUT "YELLOW"
DRIVE CONTROL AT "3" ALL OTHER CONTROLS AT "1"
ALL OTHER CONTROLS AT "1" (50% ROTATION)

9. LAST REFERENCE DESIGNATORS: C76, D62, J7, P15, Q26, R44, S2, TP21, U7, W99

TP17 VARIES AND IS DEPENDENT UPON SPECIFIC EXITATION FREQUENCY AND PARTICULAR REVERSE PAN FREQUENCY RESPONSE

ADDITIONAL CONDITION FOR TP10-TP13: DRIVE SELECT (S1) IN "RED"

5. THIS SCHEMATIC IS FOR PCB FABRICATION P/N 0054281000 AND PCB ASSEMBLY P/N 0054282000.

4. ALL DIODES ARE 1N4448.

3. ALL POLARIZED CAPACITORS IN uF, 20%; 50V MINIMUM.

2. ALL UNPOLARIZED CAPACITORS IN uF, 10% OR BETTER; 50V MINIMUM. (POWER SUPPLY BYPASS CAPACITORS ARE 20%).

1. ALL RESISTORS IN OHMS, 5%; 1/4W.

NOTES: (UNLESS OTHERWISE NOTED)

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.

Fender MUSICAL INSTRUMENTS
2621 Research Drive
Corona, CA 91720 USA

CHECKED BY: B. Desi
DATE: 22-JUN-99

APPROVED BY: S. Bankhead
DATE: 6-22-99

DRAWN: S.BANKHEAD ENGR: S.BANKHEAD
DATABASE FILE: Z402S.SCH

TITLE: SERVICE DIAGRAM, COMBINED (schematic)
DELUXE 90 AMPLIFIER

SIZE	D	DRAWING NUMBER	0054284000	REV.	C
RELEASE DATE:	03-FEB-99	SHEET:	1 OF 2		

8

7

6

5

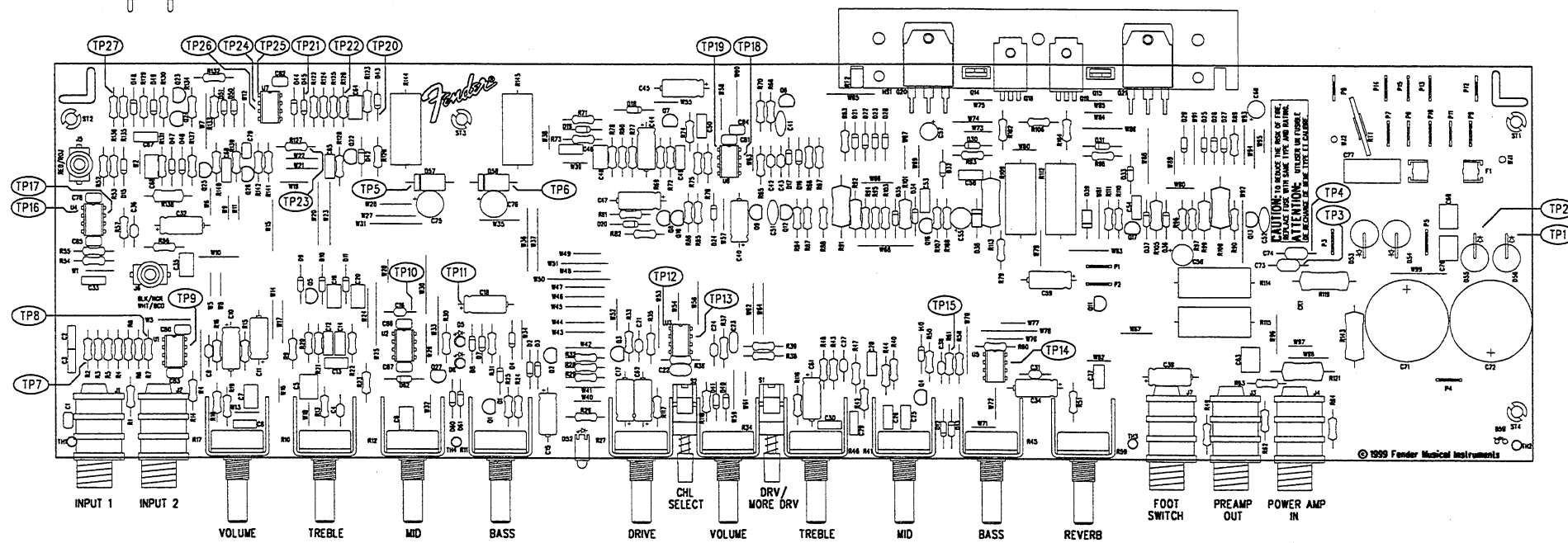
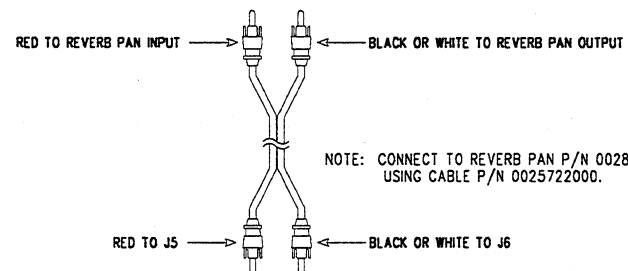
4

3

2

1

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
A	PR402	03-FEB-99	S.M.B.
B	EC 2264	03-MAR-99	S.M.B.
C	EC 2310	21-JUN-99	S.M.B.



FILM/REV: SERVICE DIAGRAM
 DATABASE: 2402P.PCB DATE: 21-JUN-99

ATTENTION: USER NOTICE
 THIS BOARD IS DESIGNED TO BE USED WITH THE DELUXE 90 AMPLIFIER. IT IS NOT TO BE USED IN ANY OTHER INSTRUMENT.
 PLEASE CONTACT FENDER FOR MORE INFORMATION.

© 1999 Fender Musical Instruments

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

NOTES: (UNLESS OTHERWISE NOTED)

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>B. Venz</i>	DATE: <i>22-JUN-99</i>	TITLE: SERVICE DIAGRAM, COMBINED (PCB assy) DELUXE 90 AMPLIFIER	
APPROVED BY: <i>S. Sandhead</i>	DATE: <i>6-22-99</i>	SIZE: D	DRAWING NUMBER: 0054284000
DRAWN: R.MURRAY	ENGR: S.SANDHEAD	RELEASE DATE: 03-FEB-99	SHEET 2 OF 2
DATABASE FILE: 2402P.PCB		REV. C	

8

7

6

5

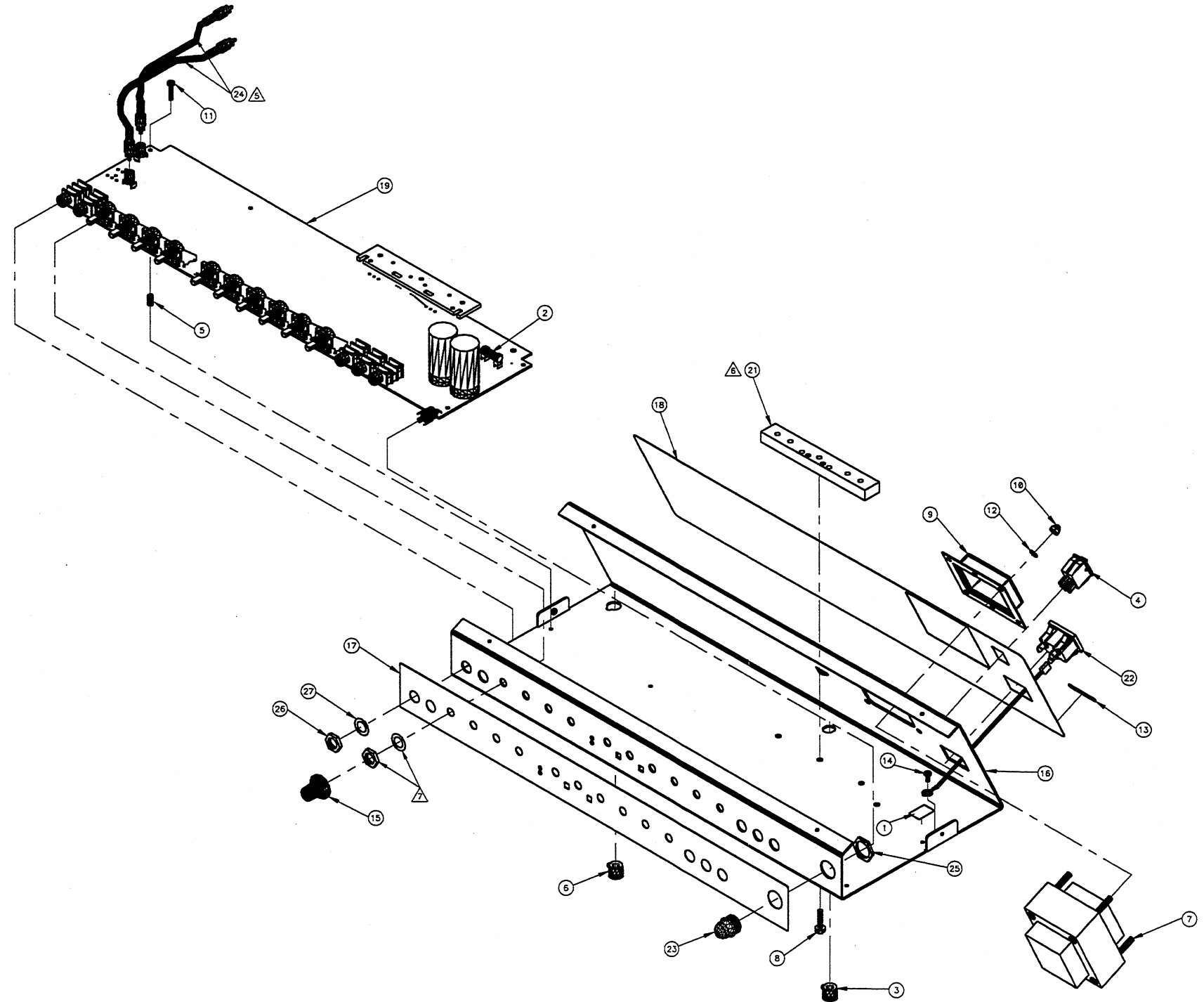
4

3

2

1

REV	EC NUMBER	BY	DATE/AMOUNT
B	EC 2284- CHG P/N'S FOR ITEM 13 IN MATRIX TABLE	BW	3/22/99
C	EC 2283- CHG P/N'S IN MATRIX FOR AUS&EUR	BW	4/28/99
D	EC 2310- CHG P/N'S IN MATRIX FOR FUSE	BW	6/16/99



N.S. = NOT SHOWN

27	5	0053480000	WASHER FLAT .442 X.692 NI
26	5	0053479000	NUT HEX 7/16 20X1/8 NI
25	1	0031625000	NUT HOLDER PILOT LIGHT 1/16-27
24	1	0025722000	CABLE REVERB 1100mm
23	1	0054798000	JEWEL ASSY LED
22	1	0054642000	CONNECTOR IEC SNAP IN
21	1	0054318000	HEATSINK BAR PRINCETON 65/ DLX90
20	1	0054287000	WIRE SET CHASSIS DELUXE 90 (N.S.)
19	1	0054282000	PCB ASSY DELUXE 90
18	1	0054277000	PANEL, REAR DELUXE 90
17	1	0054276000	PANEL, FRONT DELUXE 90
16	1	0054275000	CHASSIS DELUXE 90
15	10	0053986000	KNOB ROTARY SS W/CHR INSERT
14	1	0038900000	SCRW TF 6-32X1/4 PHP ZI
13	1	SEE MATRIX	LABEL VOLTAGE W ON BLK
12	4	0030007000	WSHR LCK INTL Bx.330x.02 ZI
11	4	0028937000	SCRW TF 6-32x5/8 PHP ZI TAPTYT
10	4	0028591000	NUT ACORN 8-32
9	1	0028560000	END BELL XFMR 85w
8	3	0028500000	SCRW TF 8-32x3/4 HWH SLTD ZI
7	1	SEE MATRIX	XFMR PWR
6	1	0026116000	BUSHING SR .500x.063x7/16 BLK
5	4	0025936000	STANDOFF NYL PCB SNAP 3/8" NAT
4	1	SEE MATRIX	SWITCH DPST .187 TAB
3	1	0021709000	BUSHING SR .437x.062x13/32 BLK
2	1	SEE MATRIX	FUSE QA 20mmX5mm
1	1	0013020000	LABEL GROUNDING SEMKO

- △7. HARDWARE INCLUDED WITH PART.
 - △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 VOLTAGE	QTY.	COMPONENT & ITEM NO.	DOM 120V DELUXE 90	AUS 240V DELUXE 90	UK 230V DELUXE 90	EUR 230V DELUXE 90	JAPAN 100V DELUXE 90
(13)	1	NONE	0050506000	0050505000	0050505000	0050507000	0050507000
XFMR	1		0027668000	0039357000	0039357000	0039357000	0039357000
SWITCH	1		0025935000	0025935000	0039287000	0039287000	0025935000
FUSE	1		0053884000	0020791000	0020791000	0020791000	0053884000

MATERIAL n/o
FINISH n/o

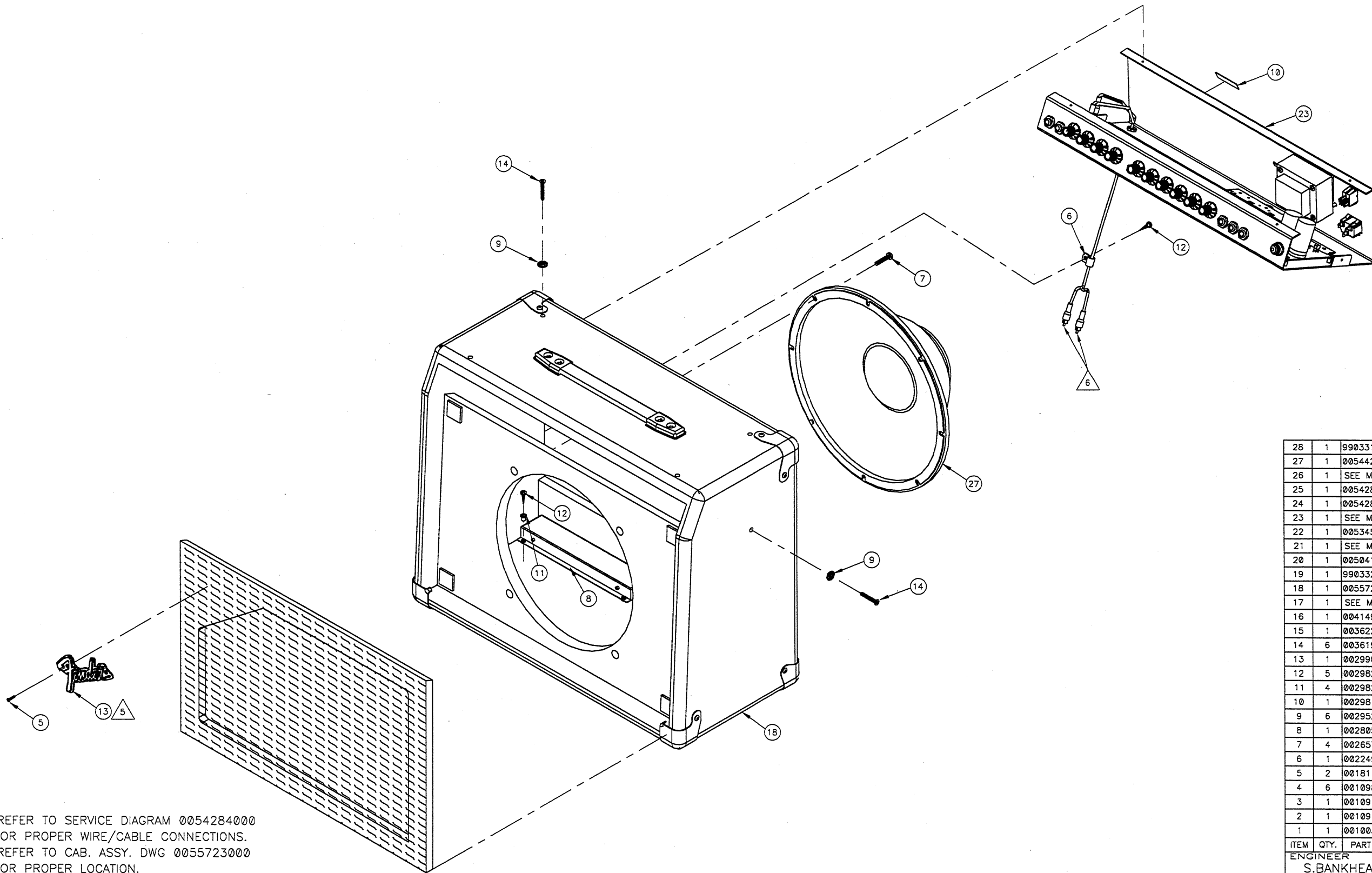
TOL. UNLESS NOTED
FRACT. ----- 1/32
.X ----- 0.050
.XX ----- 0.010
.XXX ----- 0.010
ANGLES ----- ± 0.5 DEGREES
HOLE D.A. ----- +0.005 - 0.001
UNMARKED ANGLES ARE 90 DEGREES.

ENGINEER S.BANKHEAD
DRAWN BEATA S.
DATE 12/14/99
DFT ENG LENG.
DATE DATE DATE
DATE DATE DATE
APPROVED
DATE 6/22/99

Fender
FENDER MUSICAL INSTRUMENTS CORP.
CORONA, CALIFORNIA 91720

TITLE
CHASSIS ASSY
DELUXE 90

SHEET 1/1
SCALE N/A
DRAWING NUMBER 0054270000
REV. D
ASSEMBLY



N.S. = NOT SHOWN

28	1	9903311400	BAG JIFFY #1 7-1/4x12 (N.S.)
27	1	0054421000	SPEAKER 12" 4 OHM G12T-100
26	1	SEE MATRIX	REGISTRATION CARD (N.S.)
25	1	0054285000	MANUALS OWNERS DLX 90 (N.S.)
24	1	0054284000	SERVICE DIAGRAM COMB. DLX 90 (N.S.)
23	1	SEE MATRIX	CHS. ASSY. DELUXE 90
22	1	0053454000	STICKER BUMPER FEND SINCE 1946 (N.S.)
21	1	SEE MATRIX	TAG WARRANTY 5 YR FENDER-NEW (N.S.)
20	1	0050419000	FTSWCH 2 BTN CH/DRV(099-4062) (N.S.)
19	1	9903320000	BAG POLY ZIP 10x13 2M (N.S.)
18	1	0055723000	CAB ASSY DLX 90
17	1	SEE MATRIX	CORD PWR W/IEC CONN (N.S.)
16	1	0041492000	CARTON DLX112/PRF650 (N.S.)
15	1	0036226000	TAG HANGING FTSW (N.S.)
14	6	0036199000	SCRW M 8-32x1-3/16 OHP BLX CP
13	1	0029906000	NAMEPLATE FENDER GENERIC SMALL
12	5	0029828000	SCRW PB 8x3/4 PHP ZI
11	4	0029821000	EYELET RFLNGD .215 OD x.315 L
10	1	0029816000	LABEL SERIAL MEXICO
9	6	0029527000	WSHR FN5H 8-5/8 FLNGD BLX WX
8	1	0028055000	REVERB UNIT 800 ohm 8E82C1B DN
7	4	0026577000	SCRW M 10-32x1 PHP BLX
6	1	0022491000	CLAMP CABLE NYL SCRW MNT 5/16
5	2	0018113000	SCRW SMA 4x1/2 OHP BLX
4	6	0010981000	FOAM CORNER AMP (N.S.)
3	1	0010919000	FOAM BLOCK FORMED RH 3/4" (N.S.)
2	1	0010917000	FOAM BLOCK FORMED LH 3/4" (N.S.)
1	1	0010032000	BAG POLY BOX BTM 23x17x40 .002 (N.S.)

ITEM	QTY.	PART NO.	DESCRIPTION
ENGINEER S.BANKHEAD			
DRAWN BEATA S.			
DATE 12/21/98			
DATE	DATE	DATE	DATE
2/4/99	2/4/99	2-4-99	2-4-99
APPROVED S. Bankhead			
DATE 2-4-99			
TITLE			END ITEM DELUXE 90
SHEET 1/1	SIZE D	DRAWING NUMBER 0226702020	
SCALE N/A			REV. A

- 6. REFER TO SERVICE DIAGRAM 0054284000 FOR PROPER WIRE/CABLE CONNECTIONS.
 - 5. REFER TO CAB. ASSY. DWG 0055723000 FOR PROPER LOCATION.
 - 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

MATRIX

REGISTRATION CARD (26)	1	0054387000	-	-	-	-
CHASSIS ASSY. (23)	1	0054270000	0054273000	0054272000	0054271000	0054274000
TAG, WARRANTY (21)	1	0053412000	-	-	-	-
POWER CORD (17)	1	0047248000	0047250000	0047249000	0047251000	0053997000
COMPONENT & ITEM NO.	QTY.	0226702020 DOM 120V DELUXE 90	0226732020 AUST. 240V DELUXE 90	0226742020 UK 230V DELUXE 90	0226762020 EUR. 230V DELUXE 90	0226772020 JAPAN 100V DELUXE 90