

(This is the model name for warranty claims) p/n 4420500010 (120V)

## SERVICE MANUAL



# ATTENTION: WARRANTY SERVICE PROCEDURES

Service of the Digital Power Amp Module and Ancillary Power Supply contained in the SWR Spellbinder Blue is to be accomplished by module replacement only.

The Class D Power Amp Module outputs a PWM Signal. You can not evaluate the output waveform without a specially designed filter. *Please note: that if the speaker ground should contact chassis or preamp ground it will instantly destroy the Power Amp Module. Use caution when connecting test equipment to the speaker ground as it could result in a connection to Earth Ground and destruction of the Power Amp Module. Ground must be lifted on any test equipment used in troubleshooting the Power Amp Module.* 



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#### September 2008

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

#### **PARTS LIST CODES**

The description codes used in the itemized Parts Lists are defined below:

#### **CAPACITOR CODES**

CAP AE = Aluminum Electrolytic
CAP CA = Ceramic Axial
CAP CB = Ceramic Disk
CAP CR = Ceramic Radial

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 MOX = Metal Oxide RES WW = Wire Wound

#### **HARDWARE CODES**

BLXBlack Oxide CR Chrome Plated **HWH** Hex Washer Head Machine Screw М NΙ Nickel Plated OHP Oval Head Phillips PB Particle Board PHP Pan Head Phillips PHPS = Pan Head Phillips Sems = Sheet Metal "A" Point SMA = Sheet Metal "B" Point SMB SS Stainless Steel TF Thread Forming ZΙ Zinc Plated



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## **SPECIFICATIONS**

Model Name: SPELLBINDER BLUE

Release Number: PR 761

Part Numbers (120V, 60Hz) US: 4420500010

(240V, 50Hz) AUS: 4420503010 (230V, 50Hz) UK: 4420504010 (230V, 50Hz) EUR: 4420506010 (100V, 50Hz) JPN: 4420507010

Power Requirement: 575 W

**Power Output:** 160W RMS into  $4\Omega$  @ <1% THD

Power Amp Sensitivity: 9mV (1/4") 900μV (XLR) for 160W into  $4\Omega$ 

Impedances Input (Pre-Amp):  $4.7M\Omega (1/4") 20k\Omega (XLR)$ 

Effects Send: 1kΩEffects Receive: 10kΩ

**Speaker Complement:** Eminence Neodymium 4Ω, 10" (P/N 0076017000)

Eminence Super-Tweeter  $8\Omega$  (P/N 0067254000)

**Dimensions** Height: 19.62 in (49.8 cm)

**Width:** 15.38 in (39.0 cm) **Depth:** 14.5 in (36.8 cm)

**Weight:** 26.5 lbs (11.6 kg)

Product specifications are subject to change without notice

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## **SERVICE NOTES**

- 1. CHASSIS REMOVAL is accomplished by removing the four (4) screws from the top of the cabinet that secure the chassis. Pull the chassis out toward the rear about 4" (10cm) and disconnect the two speaker cable connectors from the speaker On/Off switch (white wire) and Speakon® jack PCB (black wire).
- 2. PREAMP PCB REMOVAL is accomplished by removing the nuts, washers, and screws that secure the PCB to the chassis front panel, and one chassis standoff screw near the power switch. Care must be taken to ensure that the removed PCB is insulated from any exposed metal or other hardware when power is applied.
- 3. REAR PANEL PCB REMOVAL is accomplished by removing the nuts, washers, and screws that secure the PCB to the chassis rear panel. There is enough cabling to remove the PCB and place it in front of the chassis. Care

- must be taken to ensure that the removed PCB is insulated from any exposed metal or other hardware when power is applied.
- 4. 160W POWER AMP MODULE, ANCILLARY POWER SUPPLY, & TUBE PCB REMOVAL is accomplished by removing the chassis standoff screws. The cables to these boards are not long enough to allow their removal and operation out of the chassis.
- **5. XOVER PCB REMOVAL** is accomplished by removing the front grille (4 screws), 10" speaker (4 screws), then removing the XOVER PLATE located inside the cabinet (4 screws). It's ok to touch the white insulation with your bare hands.



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#### PCB EXCHANGE POLICY

Parts marked with a single asterisk (\*) in the Part Lists are not field replaceable. If a failure due to one of these components is detected, please contact the FMIC Customer Service Department to order the complete PCB Assembly.

#### **CIRCUIT DESCRIPTION**

This section provides concise information about new or unusual circuitry designs incorporated into this amplifier model. The purpose is to aid the service technician by providing insight into the design areas most likely to become obstacles in troubleshooting. Information is focused for its effective use while maintaining the security of Fender® proprietary information wherever possible.

#### **Preamp PCB:**

The following discussion follows the signal path through the functional blocks of the amplifier. The signal is introduced at J8-A (XLR) or J8-B ( $^{1}\!\!\!/^{2}$ ). The XLR input will see a 20k $\Omega$  input impedance while the  $^{1}\!\!\!/^{2}$  input will see a 4.7M $\Omega$  input impedance. U6A provides a gain of 10 for the XLR input while the  $^{1}\!\!\!/^{2}$  input goes directly into the tube gain stage of V1-A.

The GAIN stage at U7A provides up to 1.1X gain, followed by the PHASE reversal stage at U5A. This allows the phase of the channel to be changed 180° depending on the position of S3.

The EQ IN/OUT Switch (S6) selects either the passive Aural Enhancer circuit (the classic circuit found in other SWR bass amplifiers) or the active attenuation of U5B. The signal then goes to the second tube stage at V1-B.

Following the tube buffer at U13A is the EQ circuitry comprising U9A&B, U10A and U13B. This architecture is similar to the SWR Baby Baby Blue amplifier, and boosts or attenuates each frequency range by +/-15dB. The frequency response of this stage is flat when all of the level knobs are at their center-detent position.

S6-D selects the post-EQ path from U13B or the pre-EQ path from U13A. From here the signal goes to the Effects Send buffer at U11A, the EFFECTS BYPASS switch (S7), and also to the EFFECTS BLEND pot (R91) which blends the Send and Return signal before U10B, which contains a -12dB/octave high-pass filter.

U8B is the Compressor chip which works with U15A to reduce the signal at this point when the COM-PRESSION pot (R92) is turned clockwise. U8 pin 16 is a current driven pin. The circuitry for this current is produced by U14A&B, U15B, and U16A&B. The maximum amount of compression available is approximately 20dB.

The MASTER Volume control (R93) is at U12A which has a maximum gain of 3.5X. This stage and the inverted signal at U12B serve as a gain buffer for the power amp at P6.4 and P6.7.

The Preamp Clip Detect circuits operate simply by monitoring several stages of the preamp. If any of the sense points rise above the overload threshold (approximately 12V), the Clip LED will be illuminated.

The MUTE circuitry is engaged using S8. The Speaker mute circuitry is on the Power Amp PCB while the Balanced Line Output mute circuitry is on the Rear Panel PCB.

### Rear Panel PCB:

The Rear Panel PCB is a breakaway from the Preamp PCB and is connected to the Preamp PCB through a 12 circuit ribbon cable assembly (P7 on the Preamp, P1 on the Rear Panel). The signals



are: TUNER\_RP, EFX\_RTN-, EFX\_RTN+, LINE\_RP, MUTE\_RP, HEADPHONE, EFX\_SEND+, and EFX\_SEND-. There is also +/-15V as well as analog ground.

TUNER\_RP feeds both the tuner output buffer at U1B as well as the DIRECT signal for the BAL-ANCED LINE OUTPUTS. The DIRECT or LINE\_RP signal is selected using S1, and is muted by FETs Q1 and Q2. The signal is then buffered at U1A, where the PAD control (R4) sets the output level. A balanced line driver DRV134 (U2) is employed to produce a high quality signal at both the balanced 1/4" (J3) and XLR jack (J7).

The HEADPHONE output (J5) employs a paralleled pair of 4560 opamps to obtain high current drive capability for all types of headphones.

#### XOVER PCB:

The speaker crossover components are located on the XOVER PCB, inside the speaker cabinet. L1 is a -6dB/octave low-pass filter for the 10" speaker and C3 is a -6dB/octave high-pass filter for the Horn. A 50W L-PAD (connected to the PCB via wires) controls the volume of the Horn.

### 160W Power Amp:

The power amp assembly is the Bang & Olufsen 50ASX2. This is a complete power supply and 160 Watt amplifier on a single PCB Assembly. The power amplifier is produced and tested independently, and is a non-serviceable part.

The amplifier output connects to the Internal Speaker On/Off switch and Speakon jack via the twisted pair black and white wires, which are terminated with insulated faston receptacles. The Speaker Output ground can not, must not, ever connect to Preamp ground or chassis ground. Doing this will immediately destroy the power amp module. Be careful when connecting test equipment (such as oscilloscopes) to the

## SPELLBINDER BLUE™

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speaker output ground, as this can result in a connection to Earth ground.

The power amp module also produces a low voltage +/-25V supply at P103. This low voltage supply is made available to the Ancillary Power Supply (Fender p/n 0076036000), which in turn produces the other voltages needed by the Preamp circuits. See the Ancillary Power Supply section for more information.

## Ancillary Power Supply:

The Ancillary Power Supply is a non-serviceable switching power supply module that takes the +/-25V AUX Supply output from the B&O 50ASX2 and creates the following voltages: +300V (Tube), 12.6V (Tube Heater), and +/-15V (Preamp Op amps). The module must be loaded to get the correct voltages out of it, so do not operate it with the 6 pin header unconnected.



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.PA	.PARTS LIST: PREAMP – PCB ASSEMBLY		
QTY.	PART#	DESCRIPTION	REFERENCE DESIGNATION
9	0028463003	CAP AE RDL 10uF 50V 20%	C31-32 C38 C40 C43 C49 C81 C96 C99
3	0028474003	CAP AE RDL 100uF 25V 20%	C87 C93-94
1	0028459003	CAP AE RDL 2.2uF 50V 20%	C80
10	0028467003	CAP AE RDL 22uF 50V 20%	C2 C10-11 C20 C35-36 C44 C54 C86 C88
1	0028460003	CAP AE RDL 4.7uF 50V 20%	C46
1	0028471003	CAP AE RDL 47uF 50V 20%	C33
8	0051457003	CAP CD 100pF 500V 5%	C8 C13 C55 C60-61 C67 C69 C91
4	0051405003	CAP CD 120pF 500V 5%	C37 C42 C71 C77
3	0051445003	CAP CD 22pF 500V 5%	C12 C45 C66
11	0051406003	CAP CD 220pF 500V 10%	C4-5 C14-15 C17-18 C21 C23 C25 C68 C89
2	0051407003	CAP CD 390pF 500V 10%	C50 C65
1	0051408003	CAP CD 47pF 500V 5%	C41
2	0051458003	CAP CD 470pF 500V 10%	C28 C30
1	0051409003	CAP CD 68pF 500V 5%	C95
18	0034788003	CAP CR .1uF 50V 20% .2" LS	C6 C9 C16 C19 C24 C29 C34 C39 C47-48 C72-74 C76 C79 C82 C85 C101
1	0066051000	CAP MPF AX 3.3uF 250V 10%	C3
1	0027255003	CAP MPF .001uF 100V 10%	C52
7	0027264003	CAP MPF .01uF 100V 10%	C7 C22 C58 C78 C90 C92 C98
1	0027278003	CAP MPF .1uF 63V 10%	C56
1	0027281003	CAP MPF .22uF 63V 10%	C64
1	0027283003	CAP MPF .33uF 63V 10%	C57
1	0027261003	CAP MPF .0047uF 100V 10%	C62
6	0027272003	CAP MPF .047uF 63V 10%	C53 C59 C63 C83-84 C100
1	0027286003	CAP MPF .47uF 63V 10%	C51
1	0027263003	CAP MPF .0082uF 100V 10%	C75
1	0024823000	CAP MPF RDL .01uF 400V 10%	C1
2	0024845000	CAP MPF RDL .047uF 400V 10%	C26-27
1	0030936003	CAP PFF RDL .0022uF 50V 5%	C70
1	0048488003	CAP PFF RDL .22uF 50V 5%	C97
3	0076660000	CONTROL HORZ DUAL CONC 1M15C 50k1B	R3 R23 R42
2	0064621000	CONTROL VERT 50k B TAPER	R89 R92
1	0076659000	CONTROL VERT 10k B TAPER	R91
2	0073613000	CONTROL VERT 50k 30C	R4 R93
1	0072481000	CNTRL VERT 24mm 500k 10A	R87
4	0064089001	DIODE 1N4003	D1-2 D4-5
25	0006260001	DIODE 1N4448 SIGNAL	D3 D6-8 D10-16 D20 D22 D25-29 D31 D34-39
1	0031635001	DIODE ZEN 1N5240B 10V 5% LL	D40
2	0076792001	DIODE ZEN 1N5230B 4.7V 5% LL	D17-18
1	0027327001	DIODE ZEN 1N5234B 6.2V 5% LL	D30
9	0025802000	FSTN TAB MALE .250x.032 PCB MT	P3-5 P8 P11-14 P17
2	0072485000	HDR .1 CTR 6 CKT SQ PIN LONG	P9-10

\*Non-serviceable part. Replace complete parent assembly. See PCB EXCHANGE POLICY section above.

shaded Unique Fender® part. Order directly from the FMIC Parts Department.

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\*\* Safety Requirement part. Replacement must match Safety Agency...-Value, if specified -Type, if specified -Approval Mark(s) if on part.



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.PA	.PARTS LIST: PREAMP – PCB ASSEMBLY		
QTY.	PART#	DESCRIPTION	REFERENCE DESIGNATION
2	0027419000	HDR .1 CTR 10 CKT SQ PIN	P2 P15
2	0027421000	HDR .1 CTR 12 CKT SQ PIN	P1 P7
1	0027413000	HDR .1 CTR 6 CKT SQ PIN	P16
1	0076663000	HDR 2MM CTR 7 CKT SQ PIN	P6
4	0031611000	IC OP-AMP DUAL PC4560	U3-4 U6 U11
1	0072486000	IC BAL LINE DRIVER DRV134	U2
1	0069312000	IC OTA DUAL LM13700N	U8
11	0016795000	IC OP-AMP DUAL TL072	U1 U5 U7 U9-10 U12-17
1	0076661000	INDUCTOR AIR CORE RDL 220uH	L1
1	0063756000	JACK SPEAKON 4-POLE PCB HOR MNT	J4
2	0030987000	JACK 1/4 PCB 3/CD DOC	J3 J5
2	0066432000	JACK 1/4 PCB STEREO W/TS	J1 J6
1	0073421000	JACK 1/4 PCB 3/CD DCC INS	J2
1	0073245000	JACK NEUTRIK COMBO XLR & 1/4" STEREO	J8
1	0066471000	LED BLUE #480010	D9
1	0064404000	LED HIGH EFFECIENCY GREEN T-1 3mm CLEAR	D32
4	0064511000	LED HIGH EFFECIENCY RED T-1 3mm CLEAR	D19 D21 D24 D33
1	0070997000	LED YELLOW T1 LONG LEAD	D23
2	0025116001	RES CF 1/2W 5% 100k LL	R28 R31
2	0024952001	RES CF 1/4W 5% 100ohm LL	R79 R123
10	0024965001	RES CF 1/4W 5% 1k LL	R2 R6-7 R10 R12 R30 R44 R71 R127 R162
25	0024981001	RES CF 1/4W 5% 10k LL	R15 R17 R39 R43 R47 R49-50 R52 R54 R56 R59 R65 R77 R95 R102 R105-107 R110 R118 R122 R126 R150 R154 R166
24	0024997001	RES CF 1/4W 5% 100k LL	R13-14 R18 R24-26 R36-37 R45 R60 R66 R78 R81-82 R84 R86 R90 R98 R103 R108 R128 R144 R155 R169
7	0025069001	RES CF 1/4W 5% 1M LL	R62 R69 R75 R131 R161 R165 R167
1	0025084001	RES CF 1/4W 5% 10M LL	R170
2	0029002001	RES CF 1/4W 5% 11k LL	R85 R111
4	0024969001	RES CF 1/4W 5% 1.5k LL	R16 R68 R76 R117
1	0024999001	RES CF 1/4W 5% 150k LL	R120
1	0025073001	RES CF 1/4W 5% 1.5M LL	R121
2	0024970001	RES CF 1/4W 5% 1.8k LL	R73 R104
1	0024986001	RES CF 1/4W 5% 18k LL	R83
2	0029005001	RES CF 1/4W 5% 2k LL	R67 R109
1	0024971001	RES CF 1/4W 5% 2.2k LL	R129
8	0024987001	RES CF 1/4W 5% 22k LL	R9 R21 R88 R132 R135 R137 R151 R168
3	0025059001	RES CF 1/4W 5% 220k LL	R29 R139 R152
5	0024973001	RES CF 1/4W 5% 3.3k LL	R116 R124 R148 R156 R163
6	0024989001	RES CF 1/4W 5% 33k LL	R74 R96 R112 R145 R153 R160
1	0025077001	RES CF 1/4W 5% 3.3M LL	R22

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.PA	.PARTS LIST: PREAMP – PCB ASSEMBLY		
QTY.	PART#	DESCRIPTION	REFERENCE DESIGNATION
1	0024991001	RES CF 1/4W 5% 39k LL	R147
1	0028956001	RES CF 1/4W 5% 43k LL	R97
10	0024947001	RES CF 1/4W 5% 47ohm LL	R8 R19 R32-35 R40 R53 R57 R61
2	0024961001	RES CF 1/4W 5% 470ohm LL	R63 R171
3	0024977001	RES CF 1/4W 5% 4.7k LL	R38 R41 R58
4	0024993001	RES CF 1/4W 5% 47k LL	R80 R130 R136 R143
2	0025065001	RES CF 1/4W 5% 470k LL	R64 R70
2	0025079001	RES CF 1/4W 5% 4.7M LL	R55 R114
1	0024994001	RES CF 1/4W 5% 56k LL	R94
4	0024995001	RES CF 1/4W 5% 68k LL	R72 R115 R125 R172
1	0024980001	RES CF 1/4W 5% 8.2k LL	R113
10	0015582001	RES MF 1/4W 1% 10.0k LL	R1 R11 R20 R27 R99-100 R134 R140 R146 R164
4	0031819001	RES MF 1/4W 1% 1.82k LL	R46 R48 R158-159
2	0031818001	RES MF 1/4W 1% 18.2k LL	R51 R101
4	0025816001	RES MF 1/4W 1% 20.0k LL	R119 R133 R141 R149
2	0016944001	RES MF 1/4W 1% 562ohm LL	R142 R157
2	0016960001	RES MF 1/4W 1% 5.62k LL	R138 R173
1	0055750000	RES WW BT 10W 10% 2.7ohm	R5
2	0072483000	SOCKET .1 CTR 6 CKT RA	PS1-2
1	0056312000	SOCKET TUBE 9 PIN W/COLLAR PCB	XV1
7	0050817000	SWITCH PB PC VERT MNT DPDT	S1-5 S7-8
1	0050816000	SWITCH PB PC VERT MNT 4P2T	S6
1	0049892000	XLR CONNECTOR MALE GOLD	J7
2	0016739003	XSTR NPN 2N4401 TO-92	Q3-4
2	0016742003	XSTR PNP 2N4403 TO-92	Q5-6
2	0041465003	XSTR N-CH JFET J113 TO-92	Q1-2
8	0065384000	EXTENSION BUTTON 2.8mm SHAFT	@ switches
8	0070524000	BUTTON SWITCH ROUND BLACK	@ switches
7	0065470000	SPACER LED VERTICAL .1"x .935"	@ LEDs

PA	PARTS LIST: ANCILLARY POWER SUPPLY - PCB ASSEMBLY		
QTY.	PART#	DESCRIPTION	REFERENCE DESIGNATION
6	REF	*CAP AE RDL 22uF 100V 20% 105C	C8 C13-14 C19 C22-23
2	REF	*CAP AE RDL 47uF 350V 20% 85C	C24-25
1	REF	*CAP CD 100pF 500V 5%	C9
1	REF	*CAP CA 3300pF 100V	C6
1	REF	*CAP CD 220pF 500V 10%	C7
2	REF	*CAP MPF .01uF 100V 10%	C3-4
2	REF	*CAP MPF RDL .1uF 250V 10%	C17-18
13	REF	*CAP SF .1uF 100V 10%	C1-2 C5 C10-12 C15 C20-21 C27-30

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PA	PARTS LIST: ANCILLARY POWER SUPPLY - PCB ASSEMBLY		
QTY.	PART #	DESCRIPTION	REFERENCE DESIGNATION
2	REF	*DIODE 1N4448 SIGNAL	D3 D5
1	REF	*DIODE SCHOTTKY 100V 3.3A 31DQ10	D7
2	REF	*DIODE SCHOTTKY BAT85	D1 D4
4	REF	*DIODE HV FDH400 SWITCHING LL	D10-13
13	REF	*DIODE SB1H100 1A	D6 D14-25
1	REF	*DIODE ZEN 1N5245B 1/2W 15V 5% LL	Z1
1	REF	*HDR .1 CTR 6 CKT SQ PIN	P2
1	REF	*HDR 2MM CTR 3 CKT SQ PIN	P1
1	REF	*IC DIP DUAL FLIP-FLOP CD4027BCN	U1
1	REF	*IC DIP-14 INVERTER CD4069UBC	U2
1	REF	*IC I-MODE PWM CONTROLLER UC3843 DIP 8	U3
1	REF	*INDUCTOR ANCILLARY P.S.	T1
1	REF	*RES CF 1/4W 5% 2.2k LL	R4
1	REF	*RES CF 1/4W 5% 27k LL	R2
1	REF	*RES CF 1/4W 5% 470ohm LL	R10
1	REF	*RES CF 1/4W 5% 4.7k LL	R9
1	REF	*RES CF 1/2W 5% 8.2k LL	R5
1	REF	*RES CF 1/2W 5% 1M LL	R14
1	REF	*RES CF 1/2W 5% 5.6ohm LL	R8
1	REF	*RES MF 1/4W 1% 1.00k LL	R12
1	REF	*RES MF 1/4W 1% 48.7k LL	R1
1	REF	*RES MF 1/4W 1% 4.75k LL	R11
1	REF	*RES MF 1/4W 1% 1.37k LL	R7
1	REF	*RES MF 1/4W 1% 8.25k LL	R3
1	REF	*RES FILM 1W .47ohm 5%	R13
1	REF	*RES FILM 1W 390ohm 5% LL	R6
2	REF	*RES FILM 1W 680ohm 5%	R15-16
1	REF	*XFMR ANCILLARY P.S. MOSFET DRIVER	T2
1	REF	*XFMR ANCILLARY P.S. TUBE PWR	T3
1	REF	*XFMR ANCILLARY P.S. +/-15V	T4
2	REF	*XSTR NPN 2N4401 TO-92	Q4 Q11
1	REF	*XSTR PNP 2SA1038STPS	Q2
1	REF	*XSTR PNP 2SB1236	Q5
1	REF	*XSTR NPN 2SD1857	Q1
5	REF	*XSTR POWER MOSFET IRF530NLPbF	Q6-10
1	REF	*XSTR NPN MPSW42 TO-226AE	Q3
4	REF	*STANDOFF NYL PCB SNAP 3/8	
1	REF	*SUPPORT TO-220 STANCHION PAD	(Q6)

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PAR	PARTS LIST: CHASSIS ASSEMBLY		
QTY.	PART #	DESCRIPTION	REFERENCE DESIGNATION
1	0076030000	* PWR AMP MOD ICEpower 50ASX2 BTL BRIDGED	
1	0076018000	* PANEL CHASSIS FRONT SPELLBINDER BLUE	
1	0076019000	* PANEL CHASSIS REAR SPELLBINDER BLUE	
1	0076032000	* PCB ASSY PREAMP SPELLBINDER BLUE	
1	0076036000	* PCB ASSY POWER SUPPLY ANCILLARY 15/HV	
6	0064836000	SCRW M 6-32x1/4 PHP ZI SEMS	@ PCB MOUNTS
1	0031188000	SCRW M 4-40x1/4 PHP ZI ITLW	@ ANCILLARY POWER SUPPLY
6	0051155000	SCRW SMB 4x3/8 PHP BLX	@ XLR & SPEAKON JACKS
1	0038900000	SCRW TF 6-32X1/4 PHP ZI	@ IEC GND LUG
7	0025936000	STANDOFF NYL PCB SNAP 3/8	AUX Supply, Tube & Speaker Out PCB
7	0028937000	SCRW TF 6-32x5/8 PHP ZI SELL 049	AUX Supply, Tube & Speaker Out PCB
4	0051404000	STANDOFF NYLON BLK .375	@ IEC PCB
2	0041602000	SCRW M 6-32x3/8 FHP BLX sell 049	@ IEC CONNECTOR
1	0073513000	CABLE RIBBON ASSY 12 CKT 16"	PREAMP TO REAR PANEL
1	0056588000	CABLE RIBBON ASSY 10 CKT 6"	PREAMP TO TUBE PCB
1	0076503000	CABLE VH 3-CKT 2-COND 10"	POWER AMP TO IEC PCB
1	0076012000	CABLE ASSY VH 2-CKT 2-COND 6"	POWER AMP TO SPKR OUT PCB
1	0076504000	CABLE B&O ANCILLARY POWER SUPPLY	POWER AMP TO ANCILLARY POWER SUPPLY
1	0056586000	CABLE RIBBON ASSY 6 CKT 6"	ANC. POWER SUPPLY TO PREAMP
1	0076505000	CABLE RIBBON VH 7-CKT 10"	POWER AMP TO PREAMP
1	0047213000	** CONNECTOR AC LINE MALE IEC	
1	0065927000	BADGE SWR HUBCAP MINI	
2	0067098000	SPEED NUT PUSH ON TYPE SMALL	
1	0068325000	** SWITCH ROCKER SPST 16A EURO	POWER SWITCH
1	0076035000	SWITCH ROCKER SPDT 16A	INTERNAL SPEAKER ON/OFF SWITCH
1	0067248000	TUBE 12AX7-A PRE-SELECTED	V1
1	0023598000	TUBE SHIELD (099-0723-000)	
3	0066460000	KNOB DUAL CON INNER #DR110-006	
3	0066461000	KNOB DL-CON OTR #TPP151-008-90	
3	0066454000	KNOB CAP BLK W/WHT LINE #C111	
6	0066459000	KNOB CONE-SHAPED W/WHT LINE sell 049	

PARTS LIST: CHASSIS ASSEMBL			<u>Y</u>
QTY.	PART #	DESCRIPTION	REFERENCE DESIGNATION
1	0076029000	**XFMR B&O 160W AMP 100V 50Hz	JAPAN MODEL ONLY
2	0022004000	NUT KEPS #8-32 ZINC sell 049	JAPAN MODEL ONLY  @ TRANSFORMER MOUNT
2	0016473000	SCRW M 8-32x1/2 PHP ZI	JAPAN MODEL ONLY  @ TRANSFORMER MOUNT

\*Non-serviceable part. Replace complete parent assembly. See PCB EXCHANGE POLICY section above.

shaded Unique Fender® part. Order directly from the FMIC Parts Department.

shaded + \* Access to this part or assembly is controlled. Please contact the FMIC Customer Service Department.

\*\* Safety Requirement part. Replacement must match Safety Agency...-Value, if specified -Type, if specified -Approval Mark(s) if on part.



(This is the model name for warranty claims)

PAF	PARTS LIST: CABINET ASSEMBLY		
QTY.	PART#	DESCRIPTION	REFERENCE DESIGNATION
1	0070639000	HANDLE RUBBER CONTOUR	@ TOP
8	0021972000	NUT T 10-32x3/4 STR 3 PRNG BLX	@ SPEAKERS & TOP HANDLE
AR	0064107000	CARPET BLUE TWEED	
1	0070629000	CORNER PLASTIC 100DEG LEFT SIDE	
1	0070630000	CORNER PLASTIC 100DEG RIGHT SIDE	
4	0070452000	CORNER PLASTIC CHEVRON BEVEL EDGE	
24	0016627000	SCRW SMA 8x3/4 OHP BLX	@ PLASTIC CORNERS
4	0048471000	SCRW M 10-32x1 OHP STL BLX	@ TOP HANDLE
4	0033380000	SCRW SMAB 8x1 THP BLX	@ FEET
12	0026576000	SCRW SMA 8x5/8 THP BLK SELL 049	@ TILT-BACK FOOT
6	0017439000	SCRW SMA 6x1/2 PHP BLX	@ VENT
1	0067259000	VENT BABY BABY BLUE	
4	0048976000	FOOT RUBBER 1-1/2" BXR 115	@ BOTTOM
1	0070640000	FOOT CABINET TILT-BACK	@ ВОТТОМ

PAF	PARTS LIST: <b>END ITEM ASSEMBLY</b>		
QTY.	PART#	DESCRIPTION	REFERENCE DESIGNATION
1	0076011000	*CABINET ASSY SPELLBINDER BLUE	
1	0076027000	*GRILLE CHROME SPELLBINDER BLUE	
1	0076017000	SPKR 10" 4 OHM EMINENCE NEO	
1	0067254000	TWEETER NEW CAL. BLONDE	
1	0076028000	*PLATE ASSY XOVER SPELLBINDER BLUE	
4	0065940000	BLACK STOPPER GRILLE MOUNT	GRILLE MOUNT
4	0067025000	SMS #8X1-1/2 PH TRUSS S/STEEL	GRILLE MOUNT
4	0054264000	SCRW SMAB 8x3-4 THP BLX	HORN MOUNT
4	0026577000	SCRW M 10-32x1 PHP BLX	10" SPEAKER MOUNT
4	0036199000	SCRW M 8-32x1-3/16 OHP BLX CP sell 049	CHASSIS MOUNT
4	0029527000	WSHR FNSH 8-5/8 FLNGD BLX WX	CHASSIS MOUNT
4	0026576000	SCRW SMA 8x5/8 THP BLK	XOVER PLATE MOUNT
	0053997000	** CORD PWR W/IEC CONN 100V	
1	0047248000	** CORD PWR W/IEC CONN DOM	
	0047249000	** CORD PWR W/IEC CONN 230V UK	
	0047250000	** CORD PWR W/IEC CONN 250V	
	0047251000	** CORD PWR W/IEC CONN 230V	

PAF	PARTS LIST: XOVER PLATE ASSEMBLY		
QTY.	PART#	DESCRIPTION	REFERENCE DESIGNATION
1	0076013000	PLATE XOVER SPELLBINDER BLUE	
1	0066495000	LPAD 8 OHM 50W #AT-50H - L-8 OHM	

\*Non-serviceable part. Replace complete parent assembly. See PCB EXCHANGE POLICY section above.

shaded Unique Fender® part. Order directly from the FMIC Parts Department.

shaded + \* Access to this part or assembly is controlled. Please contact the FMIC Customer Service Department.

\*\* Safety Requirement part. Replacement must match Safety Agency...-Value, if specified -Type, if specified -Approval Mark(s) if on part.



(This is the model name for warranty claims)

PAF	RTS LIST	: XOVER PLATE ASSEM	BLY
QTY.	PART#	DESCRIPTION	REFERENCE DESIGNATION
1	0064463000	KNOB PLASTIC W/POINTER, XOVER	
4	0073612000	STNDOFF HX M/F AL 6-32x1-1/4	
1	0029894000	WSHR LCK INTL 3/8x .500x .022 NI	@ LPAD
1	0016352000	NUT HEX 3/8-32x3/32 TK NI( sell 049)	@ LPAD
4	0031184000	SCRW M 6-32x1/4 PHP BLX ITLW	@ STANDOFFS

\*Non-serviceable part. Replace complete parent assembly. See PCB EXCHANGE POLICY section above.

shaded Unique Fender® part. Order directly from the FMIC Parts Department.

shaded + \* Access to this part or assembly is controlled. Please contact the FMIC Customer Service Department.

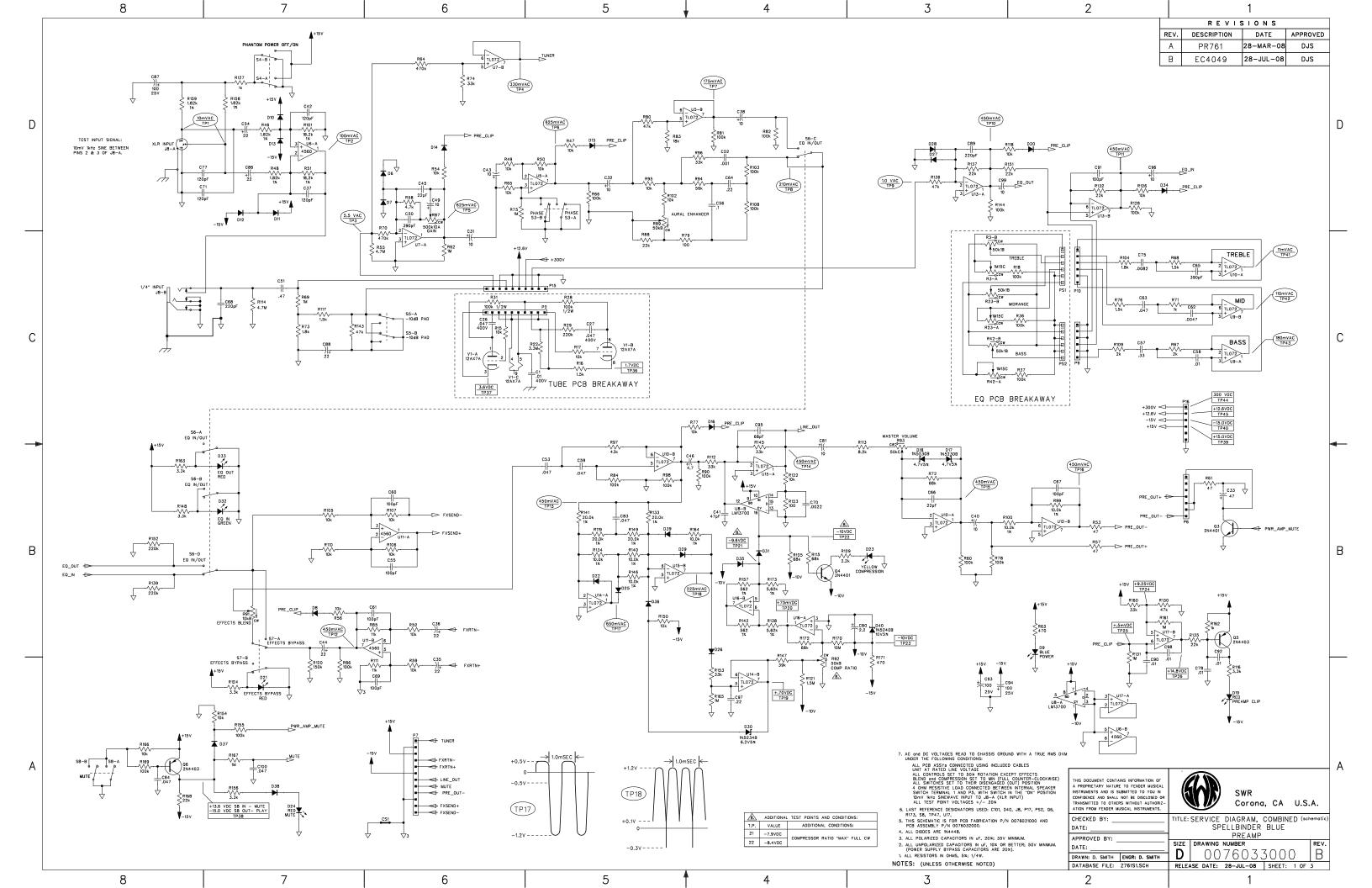
\*\* Safety Requirement part. Replacement must match Safety Agency...-Value, if specified -Type, if specified -Approval Mark(s) if on part.

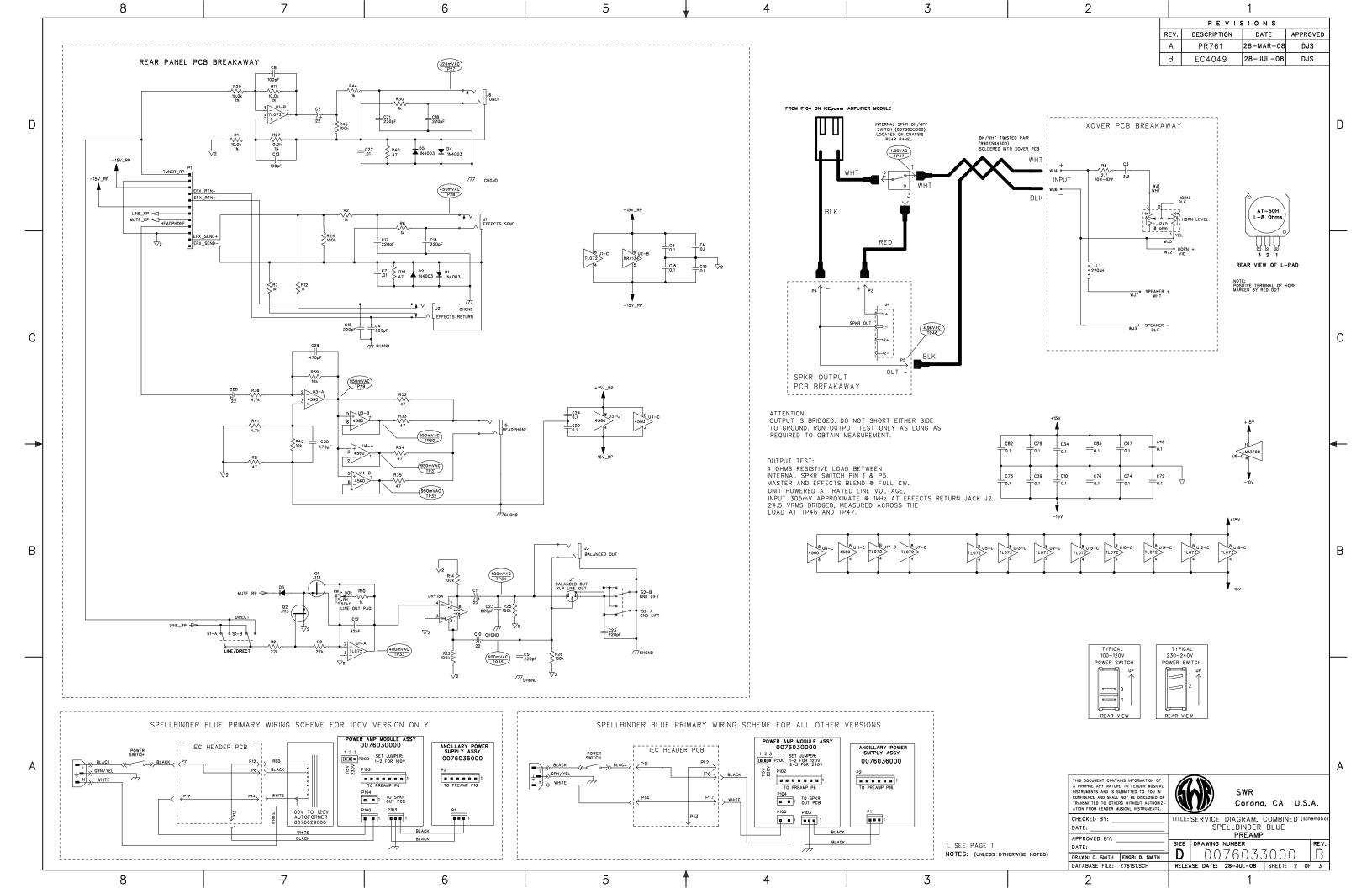


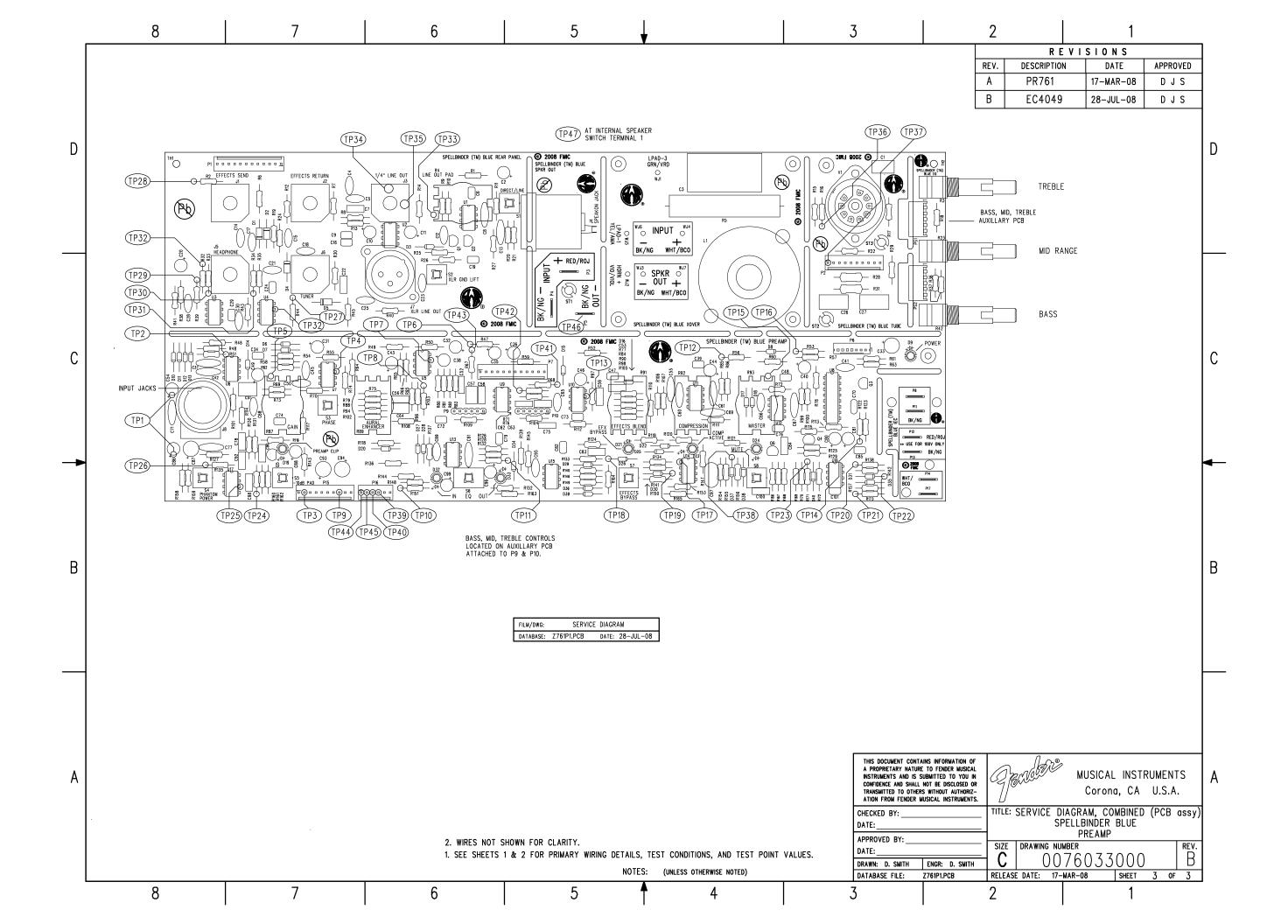
(This is the model name for warranty claims)

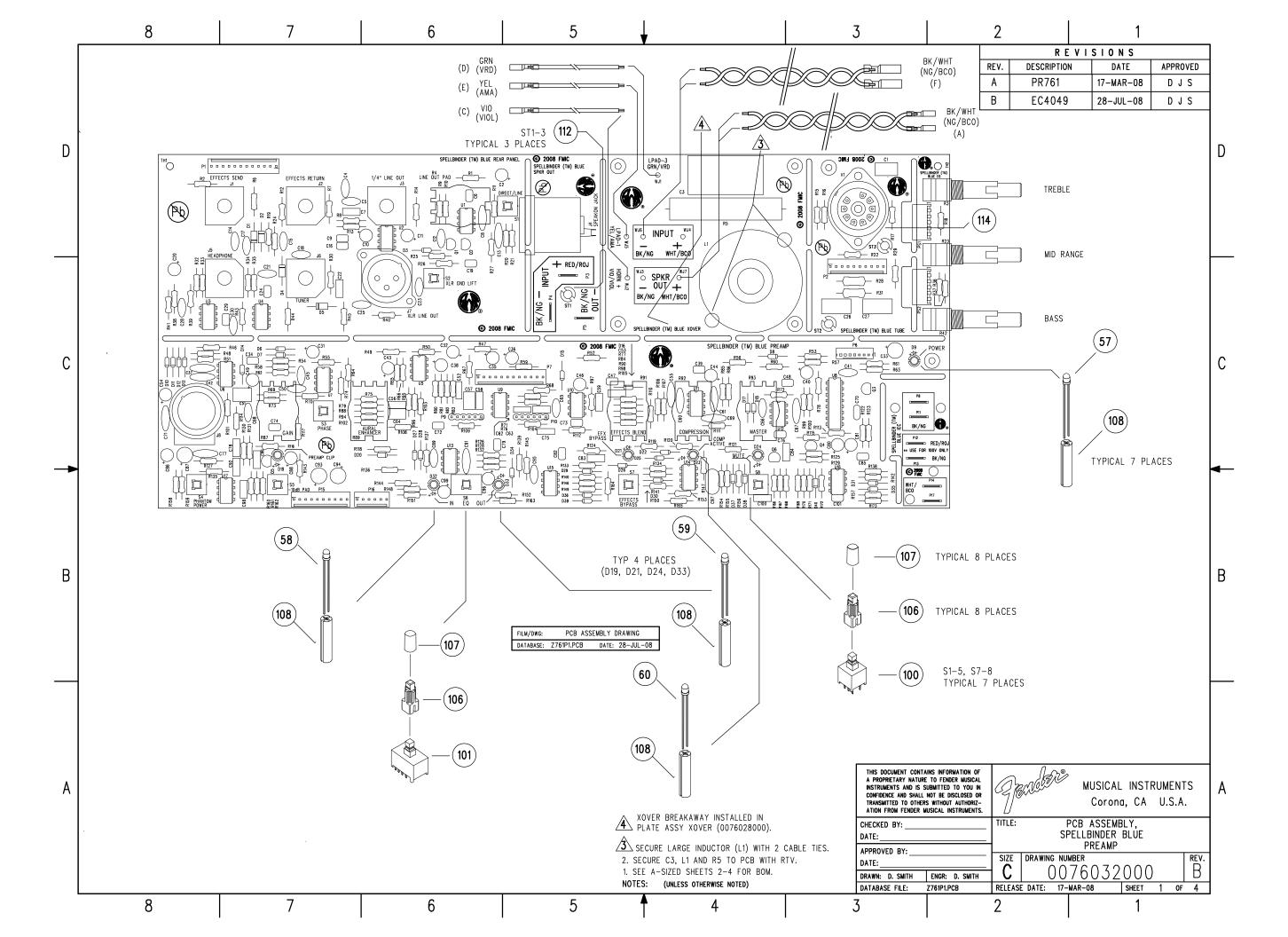
## Service Diagram List

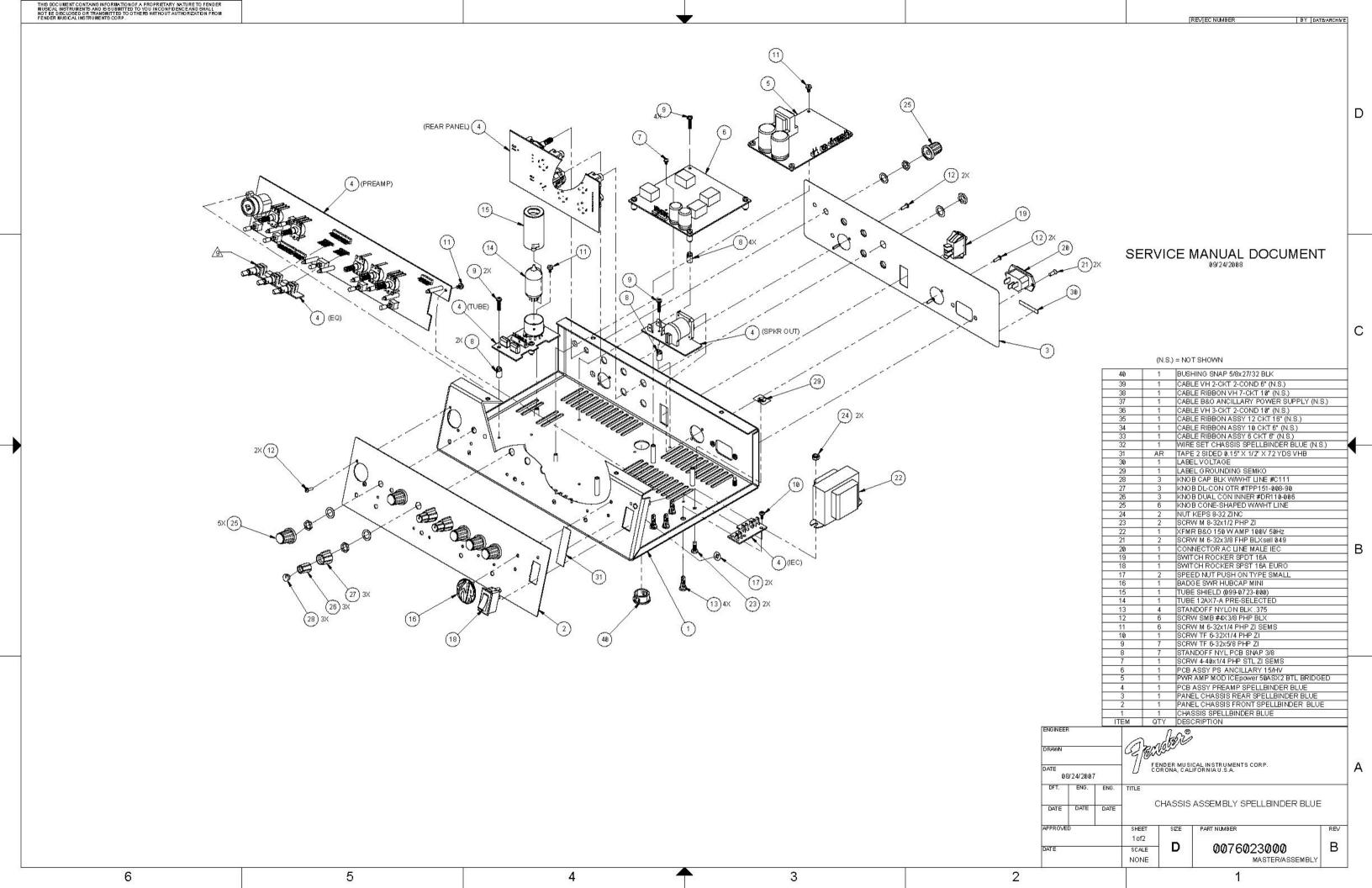
Service Diagram (Schematic)	PREAMP PCB
Service Diagram (PCB Assembly)	PREAMP PCB
Chassis Assembly	SPELLBINDER BLUE
End Item Assembly	SPELLBINDER BLUE
Wire Set (PCB Assembly)	SPELLBINDER BLUE
Wire Set (Chassis Assembly)	SPELL RINDER BLLIE











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В

	TABLE I CABLE INT	ERCONNECT
ITEM NO.	FROM	T0
33	PREAMP P16	ITEM 6 ANCILLARY POWER SUPPLY ASSY P2
34	PREAMP P15	TUBE PCB P2
35	PREAMP P7	REAR PANEL PCB P1
36	ITEM 5 POWER AMP MODULE ICEpower P100	WHT - IEC PCB P17; BK - P8 / BK - P13 (JPN ONLY)
37	ITEM 6 ANCILLARY POWER SUPPLY ASSY P1	ITEM 5 POWER AMP MODULE ICEpower P103
38	PREAMP P6	ITEM 5 POWER AMP MODULE ICEpower P102
39	BK - SPKR OUT PCB P4	ITEM 5 POWER AMP MODULE ICEpower P104
39	WHT - ITEM 17 TERM 2 (MIDDLE)	ITEM 5 POWER AMP MODULE ICEpower P104

TABLE II WIRE SET INTERCONNECT 120V/230V								
WIRE COLOR	FROM	TO						
GRNYEL	ITEM 18 IEC GND	ITEM 1 CHASSIS GND						
BLACK	ITEM 18 IEC L	ITEM 16 POWER SWITCH						
BLACK	ITEM 16 POWER SWITCH	ITEM 4 IEC PCB P11						
WHITE	ITEM 18 IEC N	ITEM 4 IEC PCB P14						
RED	ITEM 4 SPKR OUT PCB P3	ITEM 17 TERMINAL 3 (TOP CONNECTOR)						

	TABLE III WIRE SET INTERCONNECT 10	NOV JPN MODEL
WIRE COLOR	FROM	TO
GRNYEL	ITEM 18 IEC GND	ITEM 1 CHASSIS GND
BLACK	ITEM 18 IEC L	ITEM 16 POWER SWITCH
BLACK	ITEM 4 IEC PCB P11	ITEM 16 POWER SWITCH
6" WHITE	NOT USED	NOTUSED
RED	ITEM 4 SPKR OUT PCB P3	ITEM 17 TERMINAL 3 (TOP CONNECTOR)
100V AUTOFORMER WHITE	342	ITEM 18 IEC N
100V AUTOFORMER WHITE	)##J.	ITEM 4 IEC PCB P14
100V AUTOFORMER RED	V77.6	ITEM 4 IEC PCB P12
100V AUTOFORMER BLACK		ITEM 4 IEC PCB P8

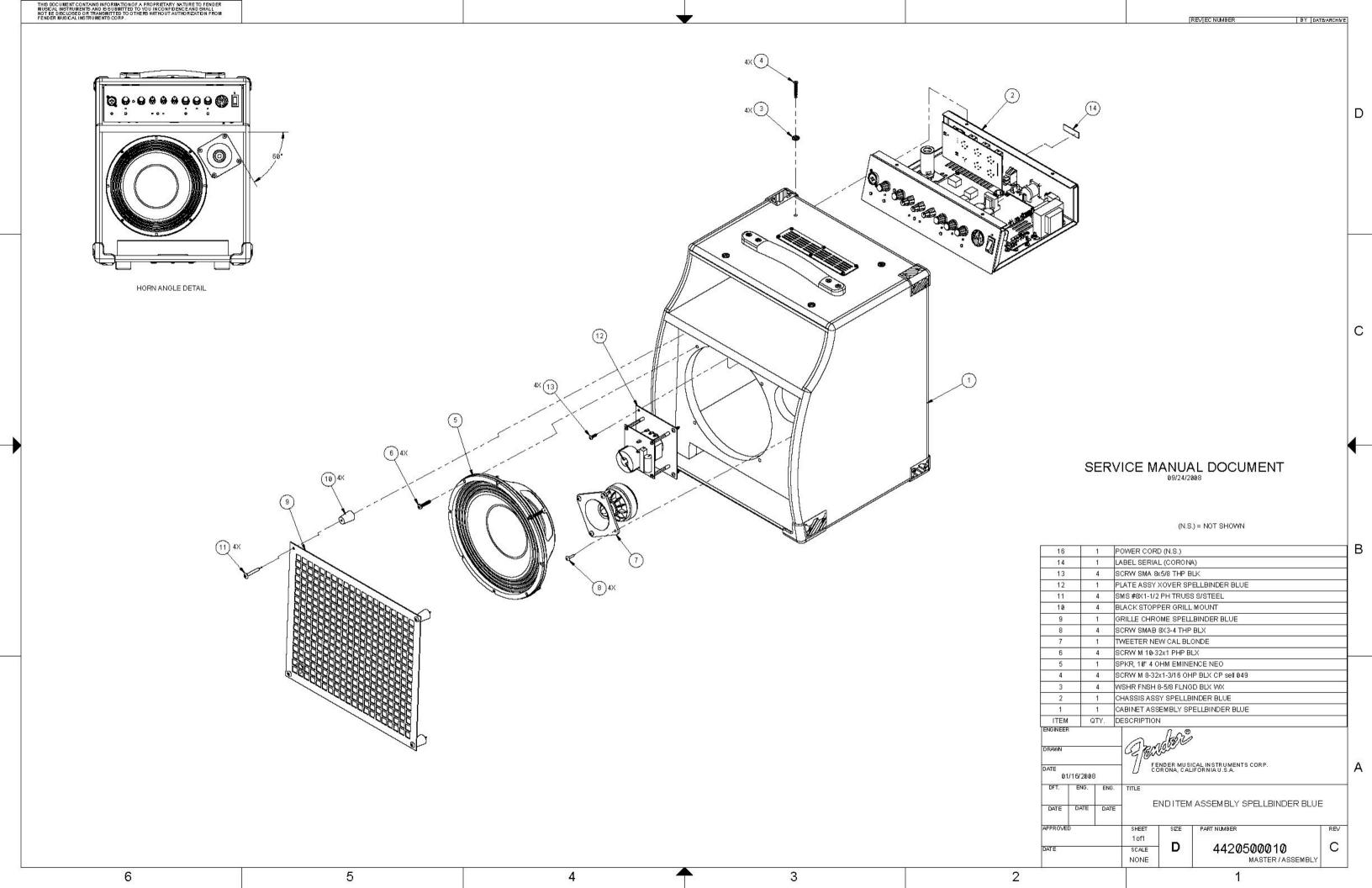
5

FENDER MUSICAL INSTRUMENTS CORP. CORONA, CALIFORNIA U.S.A. DATE 08/24/2007 CHASSIS ASSEMBLY SPELLBINDER BLUE DATE DATE DATE 2of2 В 0076023000 MASTER/ASSEMBLY SCALE NONE

6

3

2



BY DATE/ ARCHIVE REV EC NUMBER

# SERVICE MANUAL DOCUMENT

ITEM		QTY		WIRE GAUGE	WIRE COLOR	CUT LENGTH	STRIP ENDS		APPLY TERMINATION TO ENDS		REFERENCE	
			NUMBER	0. 10 0 1	002011		(A)	(B)	(A)	(B)	(A)	(B)
	Α	1	0027182000	18	BK	3 1/2	1/4	1/4	0025737000	0025737000	IEC PCB P11	PWR SW (HOT)
	В	1	0027195000	18	WHT	6	1/4	1/4	0025737000	0025737000	IEC (N)	IEC PCB P14
	С	1	0027182000	18	BK	7	1/4	1/4	0025737000	0025737000	IEC (L)	PWR SW (HOT)
	D	1	0055811000	18	GRN/YEL	3	1/4	1/4	0025737000	0027113000	IEC (E)	CHASSIS GROUND
	E	1	0038581000	18	RED	3	1/4	1/4	0025737000	0025737000	SPKR ON/OFF SWITCH TERM 3	SPKR OUT PCB P3 (INPUT+)

ENGI	NEER		- Constant										
DRAW	/N		Can be so										
DATE 09/	12/200	)7	FENDER MUSICAL INSTRUMENTS CORP. CORONA, CALIFORNIA U.S.A.										
DFT.	ENG.	ENG.	TITLE	TITLE									
DATE	DATE	DATE	WIRE	WIRE SET CHASSIS SPELLBINDER BLUE									
APPR	OVED		SHEET	SIZE	PART NUMBER	REV							
DATE			1of1	В	0076014000	В							
DATE			SCALE NONE	1	ASSEMBLY								

REV EC NUMBER	BY	DATE/ ARCHIVI
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# SERVICE MANUAL DOCUMENT

#### TABLE 1

ITEM	QTY	MATERIAL PART	VIICE	WIRE	CUT LENGTH	STRIP ENDS		APPLY TERMINATION TO ENDS		REFERENCE	
		NUMBER	0, 1002	002011	22.10111	(A)	(B)	(A)	(B)	(A)	(B)
А	1	9907584600	18	BK/WHT TWPR	18	3/16	3/16	0010735000 0010735000		(BK) SPEAKER - (WHT) SPEAKER +	(BK) SPKR OUT - (PCB) (WHT) SPKR OUT + (PCB)
В	1	0038579000	18	BK	18	3/16	1/4	0010735000	0074226000	HORN -	L-PAD 2
С	1	0038586000	18	VIO	18	3/16	3/16	0010735000		HORN +	HORN + (PCB)
D	1	0038584000	18	GRN	4	1/4	3/16	0074226000		L-PAD 3	LPAD-3 (PCB)
E	1	0038583000	18	YEL	4	1/4	3/16	0074226000		L-PAD 1	LPAD-1 (PCB)
_		0007504000	40	BK/WHT	40	0/40	4/4		0026475000	(BK) INPUT - (PCB)	(BK) OUT - (P5 ON SPKR OUT PCB; INSIDE CHASSIS)
F	1	9907584600	18	TWPR	18	3/16	1/4		0025737000	(WHT) INPUT + (PCB)	(WHT) TERMINAL 1 - INTERNAL SPKR ON/OFF SWITCH (INSIDE CHASSIS)

ENGIN	NEER												
DRAW	/N		GENERI										
DATE /80	30/200	)7	FENDER MUSICAL INSTRUMENTS CORP. CORONA, CALIFORNIA U.S.A.										
DFT.	ENG.	ENG.	TITLE	TITLE									
DATE	DATE	DATE	WIR	WIRE SET XOVER SPELLBINDER BLUE									
APPR	OVED		SHEET	SIZE	PART NUMBER	REV							
			1of1	В	0076015000	В							
DATE			SCALE NONE	ASSEMBLY									