

ACOUSTASONIC JUNIOR

p/n 022-1302-000 (120V)

SERVICE MANUAL

ACOUSTASONIC JUNIOR
(This is the model name for warranty claims)

SERVICE MANUAL

AUGUST 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



CONTENTS:

- Notices
- Specifications
- Theory of operation
- Parts lists:
 - PCB assembly
 - Chassis assembly
 - Cabinet assembly
 - Unit assembly
- Schematic
- Service diagram
- Unit assembly

THEORY OF OPERATION

SPECIFICATIONS

Product Release No.:	PR 334 <i>(This is not a model number)</i>
Part Number:	120V Version 22-1302 240V Aust 22-1332 230V UK 22-1342 230V EUR 22-1362 100V 22-1372
Power Requirements:	100V Version: 100 VAC, 50/60 Hz, 300W 120V Version: 120 VAC, 60 Hz, 300W 230V : 230 VAC, 50 Hz, 300W 240V Version: 240 VAC, 50 Hz, 300W
Power Amplifier Section Power output:	40 Watts RMS per channel, (80W RMS Total) into 8 ohms @ < .12% THD, both channels driven
Sensitivity:	640 mV @ stereo effects return (both channels)
Preamp Section Input Impedance:	10 MΩ (inst), 3.6 kΩ (Mic), 36.4 kΩ (Line/Inst)
Sensitivity For Full Power:	12.75 mV (Inst), 5 mV (Mic), 50 mV (Line/Inst)
Tone Controls:	Treble +/- 15dB @ 15kHz (Inst) & (Mic/Line/Inst) Mid +/- 12dB @ 1 kHz (Inst) Bass +/- 12dB @ 100Hz (Inst), +/- 12dB @ 50Hz (Mic/Line/Inst)
Feedback Notch:	-10dB from 80Hz to 700Hz (Instrument Channel)
String Dynamics:	0 to -15dB @ 6.3kHz (Instrument Channel)
Phantom Power:	+15VDC (Mic)
Speaker Complement:	Two 8 Ohm Special Design 8" Speakers (P/N 051016) Single Piezo Horn (P/N 049260)
Dimensions:	Height: 15.5" (39 cm) Width: 22.4" (57 cm) Depth: 10.2" (26 cm)
Weight:	43 lbs. (19.5 kg)

Product specifications are subject to change without notice

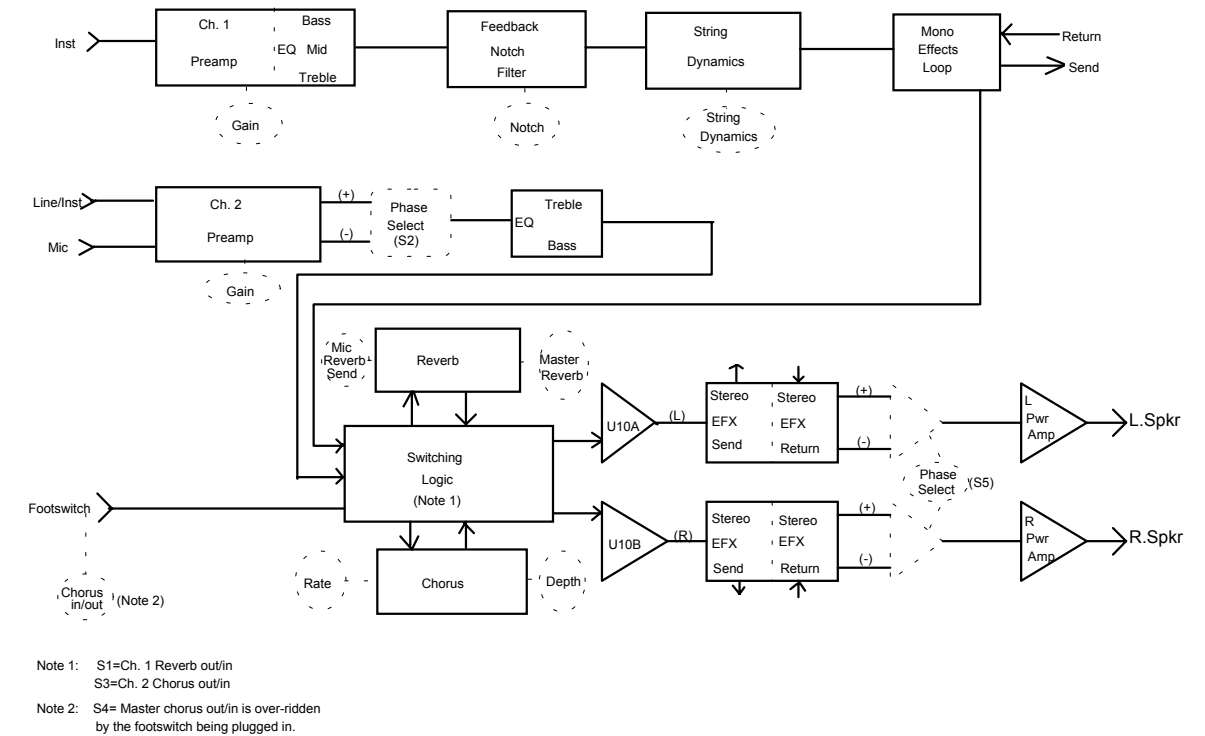


Fig. 1 Block Diagram

The **Acoustasonic Jr.** is a very different kind of guitar amplifier. The following discussion will introduce the service technician to it's unusual organization and features (refer to Fig. 1):

INSTRUMENT CHANNEL

The **Instrument Channel** (Ch. 1) is implemented with operational amplifiers, and has some very useful features:

- a) The **Feedback Notch Filter** provides a 10 dB reduction at the center frequency (which is sweepable from 80 Hz to 700 Hz.) This easily controls the most common feedback frequency of 240 Hz.
- b) The **String Dynamics** circuit provides a way of varying the amplitude of the 6.3 kHz region of the overall frequency response (to compensate for a sometimes-present harshness of the piezo pickups.)

THEORY OF OPERATION

INSTRUMENT CHANNEL (cont)

The **String Dynamics** function (Fig. 2) is the summation of three signals:

- 1) The original audio signal from U2B-7,
- 2) The bandpass amp, U4A-1, and
- 3) The notch control circuit comprised of operational transconductance amplifier, U5A, op. amps, U6A&B, and potentiometer, R40

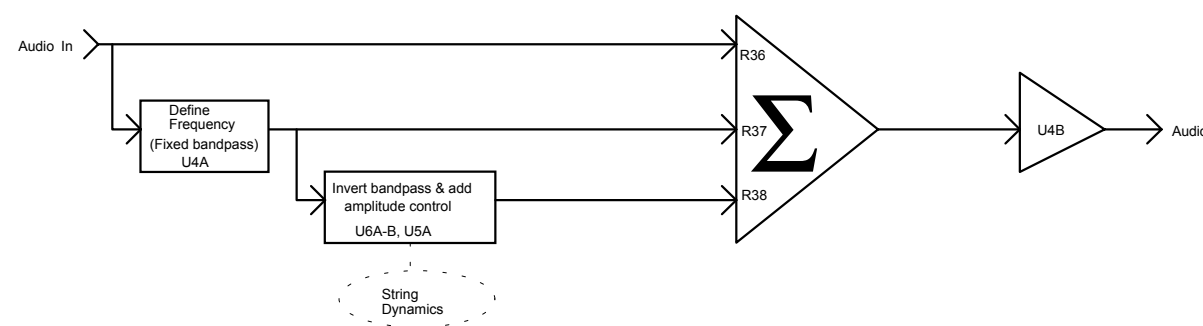


Fig. 2 String Dynamics function

- c) A **Mono-Effects Loop** allows effects to be used on the instrument channel without affecting the signal from ch. 2.

MICROPHONE CHANNEL

The **Microphone Channel** (ch. 2) can also be used as a second instrument or line-input channel. It, too, is designed with operational amplifiers. Phantom power is present at the mic jack. The phase of channel 2 can be reversed with a push-button switch.

REVERB

The **Reverb** circuit is typical of solid-state reverb circuits, except that the Reverb send from the **Microphone Channel** has a separate control allowing individual adjustment for that channel.

CHORUS

The **Chorus** circuit is typical of **Fender's** chorus circuits in which the raw signal from U12-1 is shifted down a bucket-brigade, U13, by pulses from a shift-register, U15.

The chorus is turned on and off by a master chorus in/out button. This button is completely non-functional if the **Footswitch** is plugged in (the one-and-only function of the **Footswitch** is master chorus off/on.)

THEORY OF OPERATION

SWITCHING LOGIC

The **Switching Logic** accomplishes several functions:

- a) It switches the chorused signal to the right power amp, while leaving the clean signal on the left power amp;
- b) It allows for the separate selection of reverb for channel 1;
- c) It allows for separate selection of chorus for channel 2.

STEREO BUFFERS

The **Stereo Buffers** (left: U10A, right: U10B) route the L & R signals to the **Stereo EFX Loop**. Following the loop is S5, which will switch the phase of both signals 180°.

POWER AMPS

The **Power Amps** are a traditional **Fender** design with no bias and/or offset adjustments. The input is made through a differential pair, Q11/Q12 L (Q21/Q22 R). An interesting addition is the pwr up/dwn quieting circuit (Q10) which cuts off the differential pairs through their emitter circuit while power is first turned on, or turned off.

POWER SUPPLY

The **Power Supply** is a bridge rectifier type which supplies +/- 39 V for the power amp rails; this is dropped to approximately 16 V and regulated with 7815 & 7915 regulators to provide the +/- 15 V for the IC's. An LED on the front panel serves as a power indicator.

NOTE

Please notice that the output power measurement as stated on the schematic for this product is stated slightly different than other products. It says that for a given input (640 mV, 1 kHz) inserted at the *stereo effects return* (J6), the output of each power amp should not be less than 40 Watts @ 0.2% THD into an 8Ω resistive load, with both channels driven.

The signal path through the amp still has signal (AC) measurements shown in ovals to assist in determining relative gains through the stages.

PARTS LIST

PARTS LIST

NOTE: SHADED ITEMS ARE FOR REFERENCE ONLY

PRINTED CIRCUIT BOARD ASSEMBLY

**PRINTED CIRCUIT BOARD ASSEMBLY
(CONTINUED)**

QTY	PART #	DESCRIPTION	REFERENCE	DESIGNATION
2	033605	CAP AE RDL .15uF 50V 20%	C101, C201	
2	037943	CAP AE RDL .33uF 50V 20%	C16, C72	
5	028458	CAP AE RDL 1uF 50V 20%	C20, C58-60, C66	
4	028459	CAP AE RDL 2.2uF 50V 20%	C5, C21-22, C27	
1	028460	CAP AE RDL 4.7uF 50V 20%	C4	
4	028463	CAP AE RDL 10uF 50V 20%	C97-98, C102, C202	
20	028467	CAP AE RDL 22uF 50V 20%	C6, C9, C12, C17, C23-24, C29-31, C35, C37, C44-49, C64, C78-79	
1	028471	CAP AE RDL 47uF 50V 20%	C55	
2	028474	CAP AE RDL 100uF 25V 20%	C75-76	
1	028479	CAP AE RDL 220uF 25V 20%	C77	
2	031756	CAP AE RDL 4700uF 50V 20%	C73-74	
2	051414	CAP CD 5pF 500V 5%	C104, C204	
2	051445	CAP CD 22pF 500V 5%	C18, C65	
7	051408	CAP CD 47pF 500V 5%	C28, C40, C62, C105, C107, C205, C207	
1	051409	CAP CD 68pF 500V 5%	C3	
6	051405	CAP CD 120pF 500V 5%	C25-26, C42-43, C50-51	
1	051406	CAP CD 220pF 500V 10%	C69	
1	051407	CAP CD 390pF 500V 10%	C8	
2	051459	CAP CD 560pF 500V 10%	C1-2	
15	034788	CAP CD .1UF 50V 20% .15" CUT	by-pass: C80-83, C85-95	
1	051185	CAP CD 1KV .01UF 10%	secondary	?????
1	047165	CAP MPF .01uF 250V	primary: C84	
1	027281	CAP MPF .22uF 63V	C39	
1	052003	CAP MPF .1uF 250V	C96	
7	030960	CAP PFF .1UF 50V 5%	C15, C56, C63, C106, C108, C206, C208	
2	033578	CAP PFF RDL .001uF 100V 10%	C57, C61	
1	033579	CAP PFF RDL .0015uF 100V 10%	C68	
2	030935	CAP PFF RDL .0018uF 50V 5%	C13-14	
4	033580	CAP PFF RDL .0022uF 100V 10%	C38, C52, C100, C200	
1	033581	CAP PFF RDL .0033uF 100V 10%	C34	
1	033582	CAP PFF RDL .0039uF 100V 10%	C70	
1	033586	CAP PFF RDL .0068uF 100V 10%	C7	
1	036234	CAP PFF RDL .015uF 100V 10%	C41	
4	033590	CAP PFF RDL .022uF 100V 10%	C10-11, C19, C36	
2	033591	CAP PFF RDL .033uF 100V 10%	C32-33	
2	030953	CAP PFF RDL .039uF 50V 5%	C103, C203	
4	033592	CAP PFF RDL .047uF 100V 10%	C53-54, C67, C71	
2	034720	CONTROL 100KB SNAP IN	R151, R158 (Chorus rate, depth)	
1	049402	CONTROL 25KB SNAP IN	R5 (Ch 1 gain)	
1	041913	CONTROL SNAPIN 250K 10A	R40 (String Dynamics)	
8	034719	CONTROL 50KB SNAP IN	R8-10, R54, R61, R65, R67, R76 (Ch1:bass/mid/treb; Ch2:gain/bass/treb/rev send; reverb)	
1	019994	CONTROL T-POT 100k 20% PC MTG	R165 (Chorus bias)	

QTY	PART #	DESCRIPTION	REFERENCE	DESIGNATION
1	051020	CONTROL SNAPIN 100K10C DUAL	R18 (Feedback notch)	
4	064089	DIODE 1N4003 LL	D112-113, D212-213	
34	006260	DIODE 1N4448 SIGNAL LL	D1-10, D15-18, D22, D100-101, D104, D106-111, D200-201, D204, D206-211	
2	031635	DIODE ZEN 1n5240b 10v 5% LL	D23-24	
4	029045	DIODE 6A 400v 6A4 LEAD FORMED	D11-14	
4	025821	DIODE HV FDH-400 SWITCHING LL	D103, D105, D203, D205	
2	031017	DIODE ZEN 1n5223b 2.7v 5% LL	D20-21	
13	025802	FSTN TAB MALE .250x.032 PCB MT	P1-13	
2	051094	FUSE CLIP, PCB 5mm (EXPT)	@ F1	
9	031611	IC DUAL OP AMP PC4560	U2-4, U8-12, U14	
3	016795	IC DUAL OP AMP TL072	U1, U6-7	
1	029672	IC MN3101 CLOCK GEN/DRIVER	U15	
1	029671	IC MN3007 BUCKET BRIGADE	U13	
1	027404	IC CA3080AE OTA	U5	
1	013562	IC REGULATOR +15V MC7815CT	U16	
1	013564	IC REGULATOR -15V MC7915CT	U17	
2	050849	HEATSINK PCB LEVEL	@ regulator	
2	039420	SCRW M 4-40X3/8 PHP SS SEMS	@ regulator	
2	097360	NUT HEX 4-40 EX LOCK	@ regulator	
2	051724	XSTR, PNP POWER MJW21191 TO-247	Q19, Q29	
2	051725	XSTR, NPN POWER MJW21192 TO-247	Q20, Q30	
4	040903	INSULATOR MICA TO-218	@ Q19-20, Q29-30	
4	032934	SCRW TF 4-40x1/2 HIHS ZI	@ Q19-20, Q29-30	
4	032908	SCRW TF 6-32x3/8 PHP ZI	@ heatsink	
1	031725	HEATSINK PLT LX/SR/RP/ULT/DLX		
1	051006	JACK 1/4 PCB DUAL TIP MONO	J7	
3	051007	JACK 1/4 PCB STEREO W/ SWITCH	J4-6	
2	031570	JACK PHONE PCB STEREO PREM	J1-2	
2	048466	JACK RCA SINGLE PCB MOUNT	J8-9	
1	051019	XLR, FEMALE, RT ANGLE	J3	
1	028039	LED RED 5x5mm SLB-55VR3	D19	
1	9904701440	SPACER LED .7x.125 BLUE	@ D19	
1	033177	LED RED/GREEN 5x5mm BI-COLOR	D26	
1	036178	SPACER LED .5x.1 BRN	@D26	
4	027750	RES MF 1/4W 5% 100 ohm LL	R116-117, R216-217	
4	038814	RES MF FUSE 1/4W 5% 220 ohm LL	R114-115, R214-215	
4	031819	RES MF 1/4W 1% 1.82k LL	R49-50, R130-131	
4	031818	RES MF 1/4W 1% 18.2k LL	R47-48, R51-52	

PARTS LIST

PARTS LIST

**PRINTED CIRCUIT BOARD ASSEMBLY
(CONTINUED)**

**PRINTED CIRCUIT BOARD ASSEMBLY
(CONTINUED)**

QTY	PART #	DESCRIPTION	REFERENCE	DESIGNATION
7	024947	RES CF 1/4W 5% 47 ohm LL	R71, R104-105, R168-169, R204-205	
4	024952	RES CF 1/4W 5% 100 ohm LL	R30, R126, R132, R143	
3	024956	RES CF 1/4W 5% 220 ohm LL	R186-187, R189	
13	024965	RES CF 1/4W 5% 1k LL	R4, R29, R32, R42, R44, R84, R87, R100, R107-108, R200, R207-208	
8	024970	RES CF 1/4W 5% 1.8k LL	R102-103, R109-110, R202-203, R209-210	
6	024971	RES CF 1/4W 5% 2.2k LL	R6-7, R13, R35, R113, R213	
4	024972	RES CF 1/4W 5% 2.7k LL	R112, R178, R188, R212	
5	024973	RES CF 1/4W 5% 3.3k LL	R53, R64, R66, R73, R150	
5	024977	RES CF 1/4W 5% 4.7k LL	R1, R63, R72, R106, R206	
3	028034	RES CF 1/4W 5% 5.1k LL	R167, R172-173	
25	024981	RES CF 1/4W 5% 10k LL	R14-16, R19-22, R24, R26-27, R33, R68-69, R74, R128, R133-134, R138, R140, R142, R146-149, R159	
2	024985	RES CF 1/4W 5% 15k LL	R60, R62	
5	024986	RES CF 1/4W 5% 18k LL	R153, R164, R175-177	
1	029006	RES CF 1/4W 5% 20k LL	R28	
6	024987	RES CF 1/4W 5% 22k LL	R36-39, R156, R161	
4	024988	RES CF 1/4W 5% 27k LL	R101, R111, R201, R211	
1	024989	RES CF 1/4W 5% 33k LL	R155	
2	024993	RES CF 1/4W 5% 47k LL	R129, R152	
3	028990	RES CF 1/4W 5% 51k LL	R17, R79, R81	
1	024994	RES CF 1/4W 5% 56k LL	R25	
28	024997	RES CF 1/4W 5% 100k LL	R3, R11, R43, R55-59, R70, R80, R82-83, R85-86, R91, R93, R96, R98, R127, R137, R139, R157, R160, R162, R170-171, R184-185	
2	028549	RES CF 1/4W 5% 110k LL	R180-181	
1	024999	RES CF 1/4W 5% 150k LL	R12	
2	025059	RES CF 1/4W 5% 220k LL	R163, R179	
2	025061	RES CF 1/4W 5% 330k LL	R166, R174	
1	025828	RES CF 1/4W 5% 430k LL	R31	
11	025065	RES CF 1/4W 5% 470k LL	R41, R75, R77-78, R90, R92, R94-95, R97, R99, R154	
7	025069	RES CF 1/4W 5% 1M LL	R23, R45-46, R88-89, R135, R141	
1	025079	RES CF 1/4W 5% 4.7M LL	R34	
1	025084	RES CF 1/4W 5% 10M LL	R2	
4	027750	RES MF 1/4W 5% 100 ohm LL	R116-117, R216-217	
4	038814	RES MF FUSE 1/4W 5% 220 ohm LL	R114-115, R214-215	
4	031819	RES MF 1/4W 1% 1.82k LL	R49-50, R130-131	
4	031818	RES MF 1/4W 1% 18.2k LL	R47-48, R51-52	

QTY	PART #	DESCRIPTION	REFERENCE	DESIGNATION
1	027869	RES CF 1/2W 5% 470 ohm LL	R145	
1	026549	RES CF 1/2W 5% 1.5k LL	R136	
1	028861	RES CF 1/2W 5% 3.3k LL	R183	
1	029722	RES FILM 1W 5% 1k LL	R144	
4	031628	RES MOF 2W 5% .22ohm LL	R118-119, R218-219	
2	051417	RES MOX 2 WATT 22 OHM LL	R120, R220	
1	036351	RES MOF 2W 5% 100ohm LL	R124	
1	028022	RES FILM 2W 5% 120 ohm LL	R125	
1	037845	RES WW BT 5w 10% 47 ohm	R121	
5	028091	SWITCH PUSH SLFLK SHORT STROKE	S1-5	
5	048451	BUTTON PUSH OFF WHITE	@ S1-5	
4	014689	XSTR N-CH JFET J111 TO-92	Q5, Q7-9	
6	016739	XSTR NPN 2N4401 TO-92	Q2-4, Q6, Q31-32	
2	016742	XSTR PNP 2N4403 TO-92	Q1, Q10	
4	025752	XSTR PNP 2SA1038STPS	Q13-14, Q23-24	
4	051447	XSTR PNP 2SB1236	Q15, Q18, Q25, Q28	
6	025751	XSTR NPN 2SC2362K/2SC2389STPS	Q11-12, Q16, Q21-22, Q26	
2	051448	XSTR NPN 2SD1857	Q17, Q27	
2	029719	CABLE FLAT 5 CKT 10"	P14-P15	
1	051012	PCB FAB ACOUSTASONIC JR.		

CHASSIS ASSEMBLY

QTY	PART #	DESCRIPTION	REFERENCE	DESIGNATION
1	050825	CHASSIS, ACOUSTASONIC JR.		
1	051341	PANEL, FRONT, ACOUSTASONIC JR.		
1	051013	LABEL, REAR, ACOUSTASONIC JR.		
1	049081	LABEL SERIAL (CORONA)		
1	013020	LABEL GROUNDING SEMKO		
1	050782	XFMR PWR 80W 120V	(domestic only)	
1	050783	XFMR PWR 80W 230V	230/240V units	
1	051727	XFMR PWR 80W 100V	100V units	
4	027636	SCRW TF 8-32x5/8 HWH BLX	at XFMR	
1	051014	PCB ASSEMBLY ACOUSTASONIC JR.		
1	048386	FUSE QA 20mmX5mm 250V 3A UL/CSA	100/120V units	
1	020793	FUSE QA 20mmx5mm 250v 1.6A	230/240V units	
3	028937	SCRW TF 6-32x5/8 PHP ZI TAPTYT	PCB mtg	
3	025936	STANDOFF NYL PCB SNAP 3/8" NAT	PCB mtg	

ACOUSTASONIC JUNIOR

PARTS LIST

**CHASSIS ASSEMBLY
(CONTINUED)**

QTY	PART #	DESCRIPTION	REFERENCE	DESIGNATION
1	031726	HEATSINK BAR		
5	028500	SCRW TF 8-32x3/4 HWH SLTD Z1	at HEATSINK	
2	031647	NUT HEX 12mmx1mm NI	at 1/4" JACKS	
4	016352	NUT HEX 3/8-32x3/32 TK NI	at rear 1/4" JACKS	
2	051155	SCRW #4 HI LO	at XLR	
13	051018	KNOB ROTARY BRN/WHT 180 DEG	at CONTROLS	
13	033206	BUSHING KNOB SPACER	at CONTROLS	
2	049650	CORD WRAP STYLE 2	cord wrap	
2	037623	SCRW TC25 6x1/2 PHP ZI	at cord wrap	
1	025935	SWITCH DPST .187 TAB (DOM)	100/120V units	
1	039287	SWITCH DPST .187 TAB GLOBAL	230/240V units	
1	026527	CABLE ASSY PWR 120V .187 TABS	(domestic only)	
1	036479	CABLE ASSY PWR AUST .187 TABS	240V Aust	
1	040992	CABLE ASSY PWR 5A U.K..187 TAB	230V U.K.	
1	026528	CABLE ASSY PWR 230v .187 TAB	230V Euro	
1	048465	CABLE ASSY PWR .187 100V	100V	
1	025722	CABLE REVERB 1100mm		
1	026038	BUSHING SR .625x.062x37/64 BLK	for PWR CABLE	
1	010401	BUSHING SR .625x.125x37/64 WHT	for PWR CABLE	
1	012560	BUSHING SNAP 5/8x27/32 BLK	for rev/spk cables	
1	038900	SCRW TF 6-32X1/4 PHP ZI	at ground lug	

CABINET ASSEMBLY

QTY	PART #	DESCRIPTION	REFERENCE	DESIGNATION
.255	036797	CLOTH GRILLE TAN/BRN		
.166	029085	VELCRO STRIP LOOP 1.5"wd BLK	(at frame) for grille mtg.	
1.34	036796	TOLEX BROWN COVERING		
.011	027648	TAPE ALUM 6"x60YDS	foil shield	
.166	029086	VELCRO STRIP HOOK 1.5"wd BLK	(@ baffle) for grille mtg.	
1	037121	HANDLE STRAP BRN		
1	032524	INSERT HANDLE		
2	025395	HANDLE CAP 1 HOLE NI		
2	022244	SCRW M 10-32x1-1/8 OHP NI	@ handle caps	
10	021972	NUT T 10-32x3/4 STR 3 PRNG BLX		
2	026566	CORNER 2 HOLE w/TAB NI	@ bottom, front of cab	
2	026568	CORNER 3 HOLE NI	@ bottom, rear of cab	
6	026571	SCRW SMAB 8X5/8 THP NI	@ corners	
4	019275	INSET GLIDE CUSHION 1.27 DIA.	@ feet	
4	019276	GLIDE CAB 1.24X.335 NI	feet	
4	026625	SCRW WOOD 8x1 FH	@ feet	

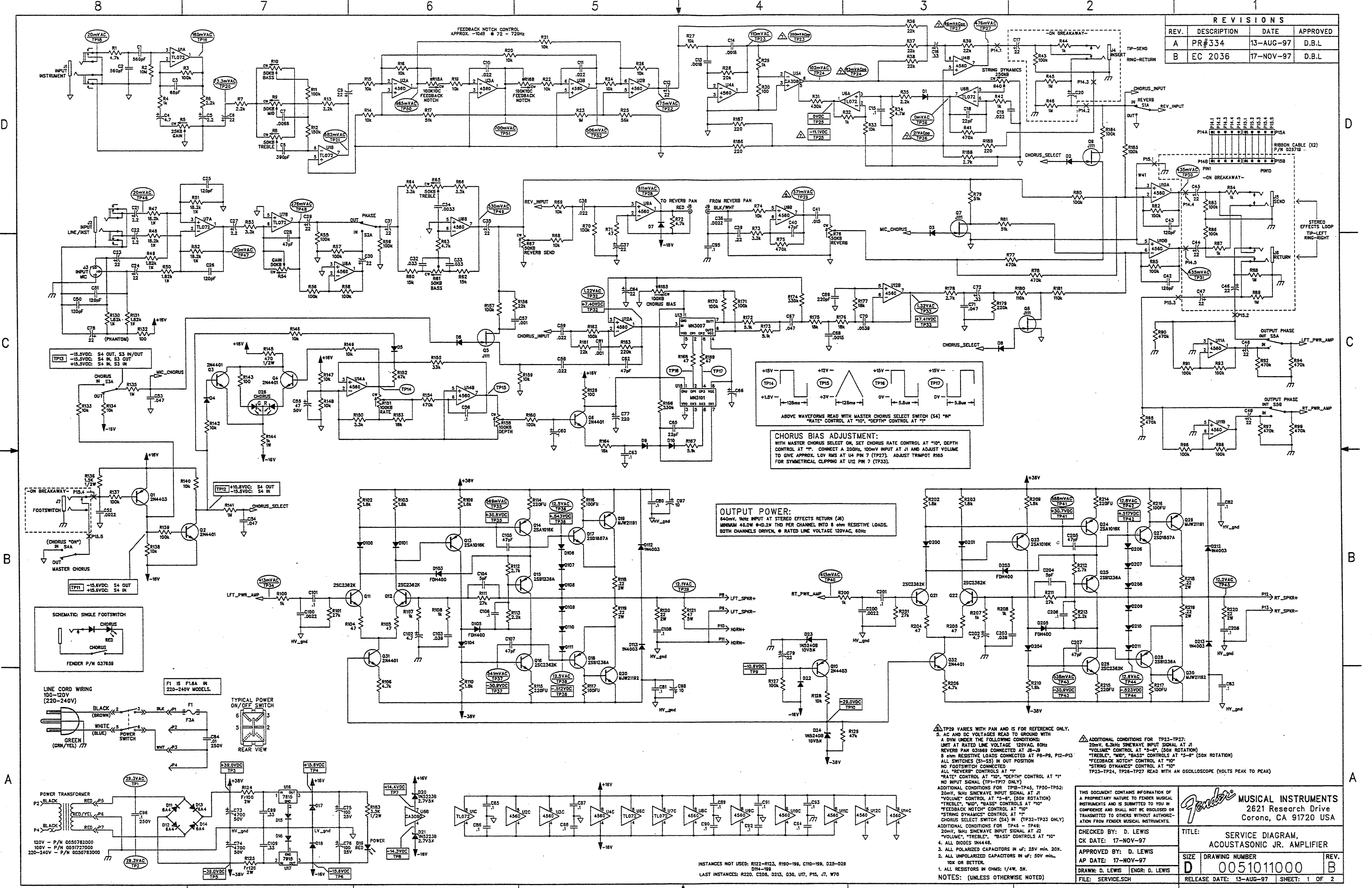
ACOUSTASONIC JUNIOR

PARTS LIST

UNIT ASSEMBLY

QTY	PART #	DESCRIPTION	REFERENCE	DESIGNATION
1	050824	CAB ASSY, ACOUSTASONIC JR.		
1	051021	CHS ASSY ACST. JR. 120V	domestic	
1	051022	CHS ASSY ACST. JR. 230V	230V Euro	
1	051023	CHS ASSY ACST. JR. 230V U.K.	230V U.K.	
1	051024	CHS ASSY ACST. JR. 240V AUST.	240V Aust	
1	051025	CHS ASSY ACST. JR. 100V	100V	
4	011655	SCRW M 8-32x1-1/2 OHP NI	chs	
2	051683	SCRW TF 8-32X1-5/16 OHP NI	chs side	
6	020690	WSHR FNSH 8-5/8 82DG FLNGD NI	@ screws	
2	051478	LEG, AMP TILT 13-3/4"		
2	021998	NUT FLEX LOCK 10-32 W/NYLON IN	@ leg	
2	022277	SCRW M 10-32x1-1/2 OHP NI	leg pivot screw	
2	022285	WSHR SP LOCK 1/4x.493 ZI	@ leg	
6	022319	WSHR FLAT 1/4x9/16 NI	@ leg	
2	024646	WASHER LEG STOP TN	@ leg stop	
2	031344	SCRW SMA 10x3/4 OHP NI	leg stop screw	
2	051016	SPEAKER 8" 8 OHM ACOUSTASONIC		
8	026577	SCRW M 10-32X1 PHP BLX	@ SPEAKER	
1	049260	HORN CERAMIC PIEZO KXR 60		
4	9904101110	SCREW PB 8x5/8 PHP BLX	@ HORN	
1	036795	NAMEPLATE 62 FENDER		
4	037210	SCREW SMA 2x3/8 OHP NI	@ LOGO	
1	051449	NAMEPLATE ACOUSTASONIC JR.		
1	031669	REVERB UNIT 800 ohm 8EB2C1D		
4	029821	EYELET RFLNGD .215 OD x.315 L	@ pan	
5	029828	SCRW PB 8X3/4 PHP ZI	@ pan/clamp	
1	022491	CLAMP CABLE NYL SCRW MNT 5/16	for rev. cable	

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
A	PR#334	13-AUG-97	D.B.L
B	EC 2036	17-NOV-97	D.B.L



CHORUS BIAS ADJUSTMENT:
 WITH MASTER CHORUS SELECT ON, SET CHORUS RATE CONTROL AT "10", DEPTH CONTROL AT "1". CONNECT A 200HZ, 100mv INPUT AT J1 AND ADJUST VOLUME TO GIVE APPROX. 1.0V RMS AT U4 PIN 7 (TP27). ADJUST TRIMPOT R165 FOR SYMMETRICAL CLIPPING AT U12 PIN 7 (TP33).

OUTPUT POWER:
 640mw, 16hz INPUT AT STEREO EFFECTS RETURN (J4)
 MINIMUM 40.0W ±0.2X THD PER CHANNEL INTO 8 ohm RESISTIVE LOADS.
 BOTH CHANNELS DRIVEN, @ RATED LINE VOLTAGE 120VAC, 60Hz.

TP29 VARIES WITH PAN AND IS FOR REFERENCE ONLY.
 5. AC AND DC VOLTAGES READ TO GROUND WITH A DVN UNDER THE FOLLOWING CONDITIONS:
 UNIT AT RATED LINE VOLTAGE 120VAC, 60Hz
 REVERB PAN 031869 CONNECTED AT "0"
 8 ohm RESISTIVE LOADS CONNECTED AT P8-P9, P12-P13
 ALL SWITCHES (S1-S5) IN OUT POSITION
 NO FOOTSWITCH CONNECTED
 ALL "REVERB" CONTROLS AT "1"
 "RATE" CONTROL AT "10", "DEPTH" CONTROL AT "1"
 NO INPUT SIGNAL (TP1-TP17 ONLY)
 ADDITIONAL CONDITIONS FOR TP18-TP45, TP50-TP52:
 20mv, 16hz SINEWAVE INPUT SIGNAL AT J1
 "TREBLE", "MID", "BASS" CONTROLS AT "50X" (50X ROTATION)
 "VOLUME" CONTROL AT "5-5", (50X ROTATION)
 "FEEDBACK NOTCH" CONTROL AT "10"
 "STRING DYNAMICS" CONTROL AT "1"
 CHORUS SELECT SWITCH (S4) IN (TP32-TP33 ONLY)
 ADDITIONAL CONDITIONS FOR TP46 - TP48:
 20mv, 16hz SINEWAVE INPUT SIGNAL AT J2
 "VOLUME", "TREBLE", "BASS" CONTROLS AT "10"
 3. ALL POLARIZED CAPACITORS IN uf: 25V min. 20X.
 2. ALL UNPOLARIZED CAPACITORS IN uf: 50V min. 10X OR BETTER.
 1. ALL RESISTORS IN OHMS: 1/4W, 5%
 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 REPRODUCED OR TRANSMITTED TO OTHERS WITHOUT AUTHORIZATION FROM FENDER MUSICAL INSTRUMENTS.

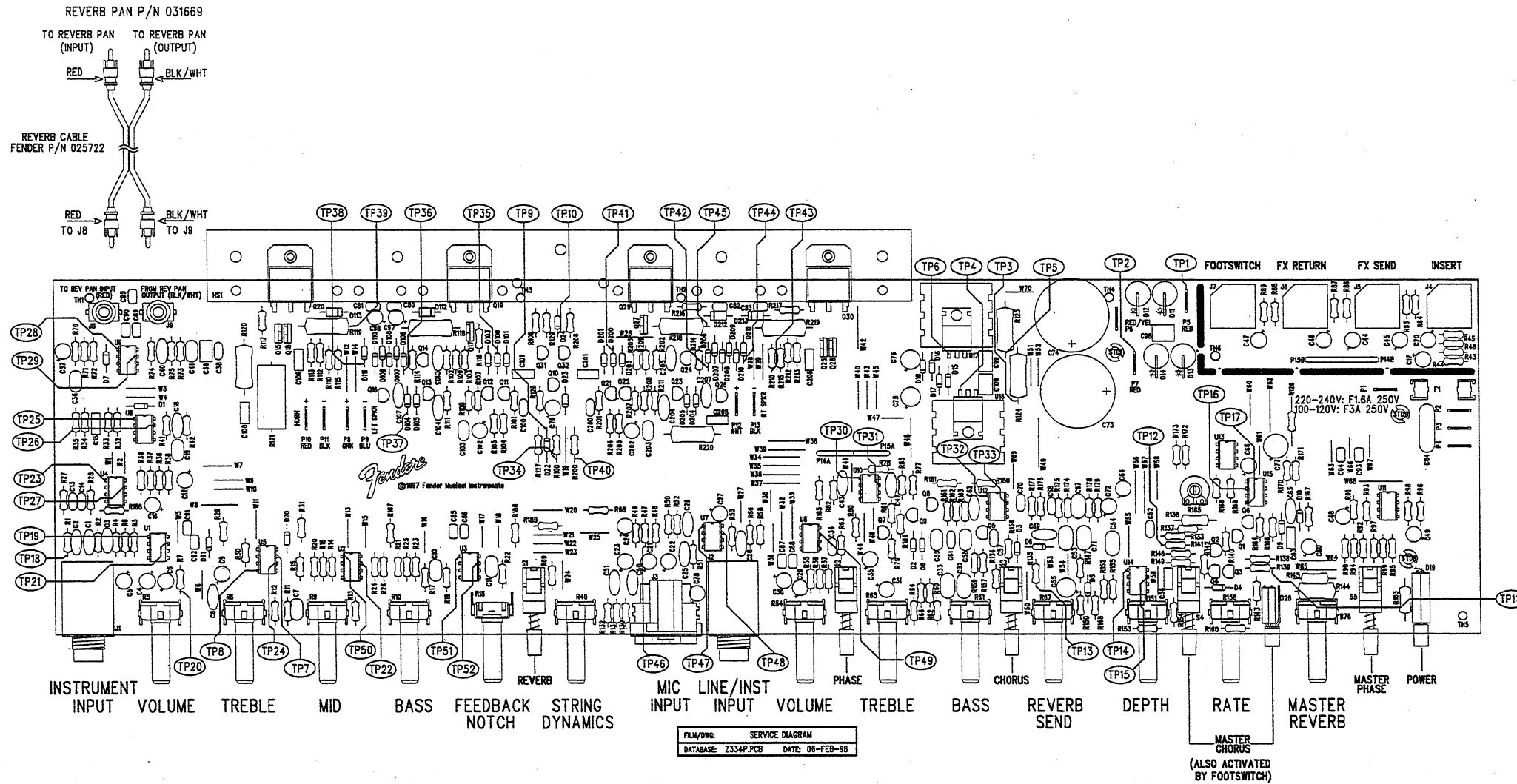
Fender MUSICAL INSTRUMENTS
 2621 Research Drive
 Corona, CA 91720 USA

CHECKED BY: D. LEWIS
 CK DATE: 17-NOV-97
 APPROVED BY: D. LEWIS
 AP DATE: 17-NOV-97
 DRAWN: D. LEWIS ENGR: D. LEWIS
 FILE: SERVICE.SCH

TITLE: SERVICE DIAGRAM, ACOUSTASONIC JR. AMPLIFIER
 SIZE: DRAWING NUMBER 0051011000
 REV: B
 RELEASE DATE: 13-AUG-97 SHEET: 1 OF 2

INSTANCES NOT USED: R122-R123, R190-199, C110-199, D25-D28
 D14-199
 LAST INSTANCES: R220, C208, D213, Q30, U7, P15, J7, W70

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
A	PR#334	13-AUG-97	DBL
B	EC 2036	20-NOV-97	DBL

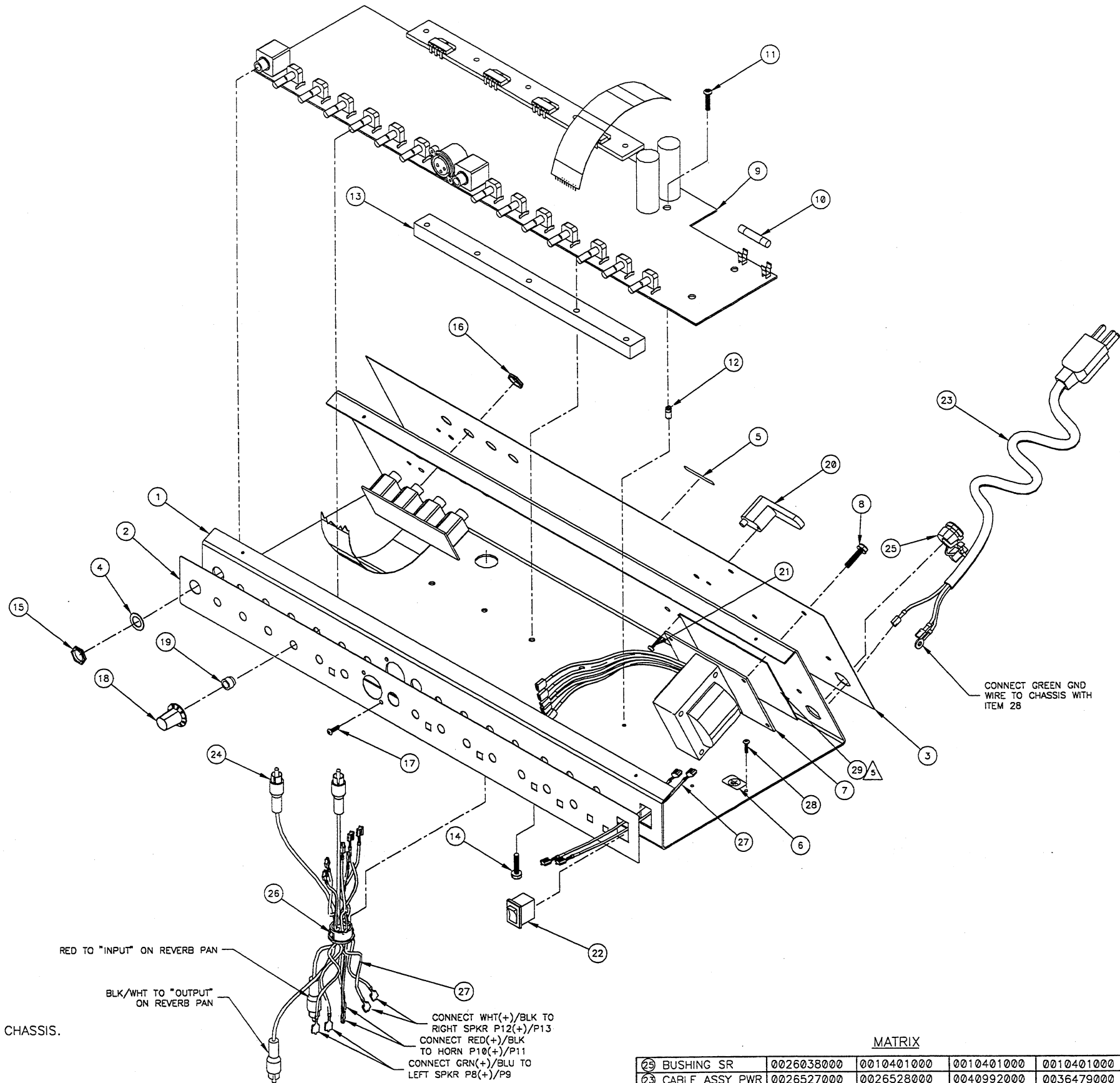


FILM/DWG: SERVICE DIAGRAM
 DATABASE: Z334P.PCB DATE: 06-FEB-98

<p>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.</p>		<p>MUSICAL INSTRUMENTS 2621 Research Drive Corona, CA 91720 USA</p>	
<p>CHECKED BY: D. Lewis CK DATE: 06-FEB-98</p>	<p>TITLE: SERVICE DIAGRAM ACOUSTASONIC JR. AMPLIFIER</p>		
<p>APPROVED BY: D. Lewis AP DATE: 06-FEB-98</p>	<p>SIZE: D</p>	<p>DRAWING NUMBER: 0051011000</p>	<p>REV. B</p>
<p>DRAWN: D. Lewis ENGR: D. Lewis DATABASE FILE: Z334P.PCB</p>	<p>RELEASE DATE: 13-AUG-97</p>	<p>SHEET 2 OF 2</p>	

1. SEE SHEET 1 FOR PRIMARY WIRING, TEST CONDITIONS, TEST POINT VALUES, AND CHORUS BIASING PROCEDURE.
 NOTES: (UNLESS OTHERWISE NOTED)

REV	EC NUMBER	BY	DATE/WORK
C	EC 2067	HB	02-17-98
D	EC 2324 - DELETE P/N 047951	BW	8/31/99
E	EC 2373 CHANGE ITEM 18	JR	3/21/2000



29	1	0053867000	GASKET XMFR FISH PAPER
28	1	0038900000	SCRW TF 6-32x1/4 PHP ZI
27	1	0051015000	WIRE SET CHS ACST JR
26	1	0012560000	BUSHING SNAP 5/8x27/32 BLK
25	1	SEE MATRIX	BUSHING SR
24	1	0025722000	CABLE REVERB 1100mm
23	1	SEE MATRIX	CABLE ASSY PWR
22	1	SEE MATRIX	SWITCH DPST
21	2	0037623000	SCRW TC25 6x1/2 PHP ZI
20	2	0049650000	CORD WRAP STYLE 2
19	13	0033206000	BUSHING KNOB SPACER
18	13	0055758000	KNOB BRWN W/CHR 180 DEG
17	2	0051155000	SCRW #4 HI LO
16	4	0016352000	NUT HEX 3/8-32x3/32 TK NI
15	2	0031647000	NUT HEX 12mmx1mm NI
14	5	0028500000	SCRW TF 8-32x3/4 HWH SLTD ZI
13	1	0031726000	HEATSINK BAR
12	3	0025936000	STANDOFF NYL PCB SNAP 3/8" NAT
11	3	0028937000	SCRW TF 6-32x5/8 PHP ZI TAPTYT
10	1	SEE MATRIX	FUSE QA
9	1	0051014000	PCB ASSEMBLY ACOUSTASONIC JR
8	4	0027636000	SCRW TF 8-32x5/8 HWH BLX
7	1	SEE MATRIX	XFMR PWR
6	1	0013020000	LABEL GROUNDING SEMKO
5	1	SEE MATRIX	LABEL VOLTAGE
4	2	9904300920	WASHER FLAT .482x.709 NI
3	1	0051013000	LABEL REAR ACST JR
2	1	0051341000	PANEL FRNT LEXAN ACST JR
1	1	0050825000	CHASSIS ACST JR
ITEM	QTY	PART #	DESCRIPTION

5. INSTALL GASKET BETWEEN XFMR AND CHASSIS.
 4. COPYRIGHT - 2000 - 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

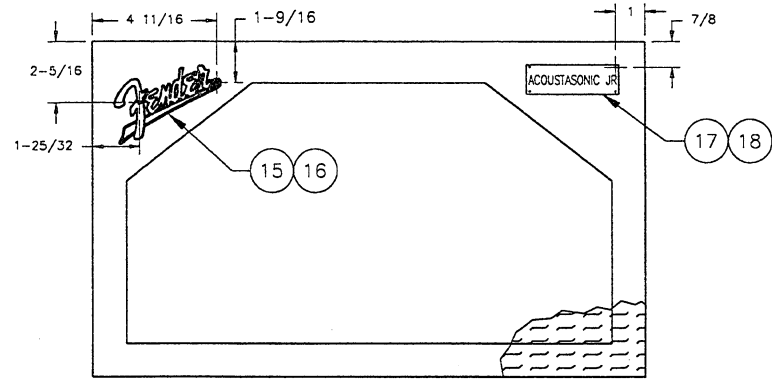
MATRIX

29	BUSHING SR	0026038000	0010401000	0010401000	0010401000	0026038000
23	CABLE ASSY PWR	0026527000	0026528000	0040992000	0036479000	0048465000
22	SWITCH	0025935000	0039287000	0039287000	0039287000	0025935000
10	FUSE	0048386000	0020793000	0020793000	0020793000	0048386000
7	XFMR, PWR	0050782000	0050783000	0050783000	0050783000	0051727000
5	LABEL VOLTAGE	N/A	0050505000	0050505000	0050506000	0050507000
CHASSIS ASSEMBLY		DOM 120V 0051021000	EUR 230V 0051022000	UK 230V 0051023000	AUS 240V 0051024000	100V 0051025000

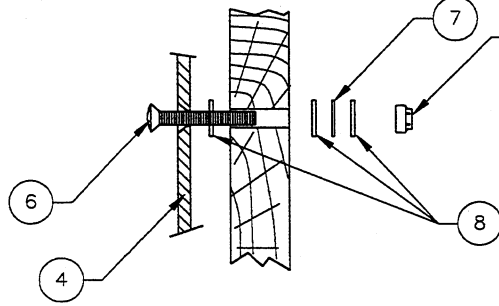
ENGINEER LEWIS			FENDER MUSICAL INSTRUMENTS CORP. CORONA, CALIFORNIA U.S.A.	
DRAWN GREENENBOOM				
DATE	5/7/97			
DFT. ENG. ENG. TITLE		CHASSIS ASSEMBLY ACOUSTASONIC JR.		
DATE DATE DATE	3/2/00 3/2/00 3/2/00	SHEET	1/1	SIZE
DATE	3/30/00	SCALE	N/A	D
DRAWING NUMBER		0051021000		
REV.		E		
MASTER/ASSEMBLY				

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.

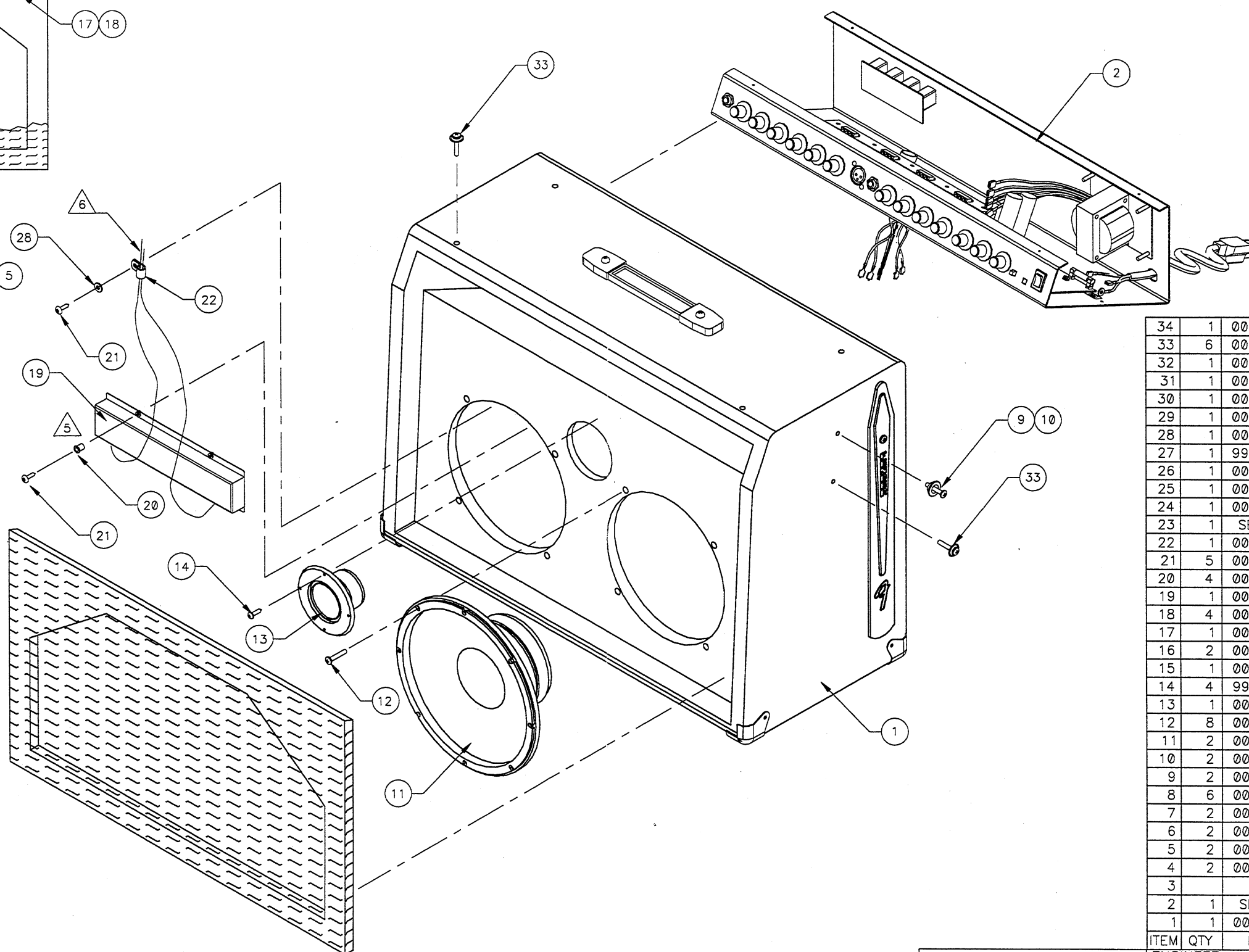
REV	EC NUMBER	BY	DATE/ARCHIVE
A	PR 334	HB	08-18-97
B	EC 2004	HB	08-26-97
C	EC CR139	KD	10-20-97 ARCHIVE
D	MEC 190 ADD WASHER	JR	2/4/99 ARCHIVE



NAME PLATE PLACEMENT DETAIL
SCALE N/A



TILT LEG MTC.
SCALE N/A



N.S. = NOT SHOWN

34	1	0049081000	LABEL SERIAL (CORONA) (N.S.)
33	6	0053483000	SCRW TF 8-32x1-5/16 OHP NI SEMS
32	1	0051729000	CARTON ACOUSTASONIC JR (N.S.)
31	1	0050753000	FOAM STYRENE BOTTOM (N.S.)
30	1	0050752000	FOAM STYRENE TOP (N.S.)
29	1	0010032000	BAG POLY BOX BTM 23x17x40 .002
28	1	0022327000	WASHER FLAT
27	1	9903320000	BAG POLY ZIP 10x13 2M (N.S.)
26	1	0051011000	SERVICE DIAGRAM, ACST. JR (N.S.)
25	1	0051009000	MANUAL, OWNER'S ACST. JR (N.S.)
24	1	0031720000	STICKER, BUMPER MADE IN USA. (N.S.)
23	1	SEE MATRIX	TAG WARRANTY 5 YR FENDER (N.S.)
22	1	0022491000	CLAMP CABLE NYL SCRW MNT 5/16
21	5	0029828000	SCRW PB 8x3/4 PHP ZI
20	4	0029821000	EYELET RFLNGD .215 ODx.315 L
19	1	0031669000	REVERB. UNIT 800 ohm 8EB2C1D
18	4	0036650000	PIN ESCUTCHEON #18x3/8 NI
17	1	0051449000	NAMEPLATE ACST JR
16	2	0051621000	SCREW SMA 2x9/16 FHP NI
15	1	0050850000	NAMEPLATE VINTAGE PLASTIC SMAL
14	4	9904101110	SCREW PB 8x5/8 PHP BLX
13	1	0049260000	HORN CERAMIC PIEZO KXR 60
12	8	0026577000	SCRW M 10-32x1 PHP BLX
11	2	0051016000	SPEAKER 8" 8 OHM ACOUSTASONIC
10	2	0031344000	SCRW SMA 10x3/4 OHP NI
9	2	0024646000	WASHER LEG STOP TN
8	6	0022319000	WSHR FLAT 1/4x9/16 NI
7	2	0022285000	WSHR SP LOCK 1/4x.493 ZI
6	2	0022277000	SCRW M10-32x1-1/2 OHP NI
5	2	0021998000	NUT FLEX LOCK 10-32 W/NYLON IN
4	2	0051478000	LEG, AMP TILT 13-3/4"
3			
2	1	SEE MATRIX	CHS ASSY ACST. JR.
1	1	0050824000	CAB ASSY ACOUSTASONIC JR

- ⚠ CABLES PART OF CHASSIS ASSY (ITEM 2), SHOWN FOR REF. ONLY.
 - ⚠ INSTALL ITEMS 19, 20, 21, AND 22 BEFORE INSTALLING SPEAKERS (ITEM 11).
 - 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

23	TAG WARRANTY	0031893000	-----	-----	-----	-----
2	CHASSIS ASSY	DOM 120V 0051021000	EUR 230V 0051022000	UK 230V 0051023000	AUS 240V 0051024000	100V 0051025000

MATERIAL n/a	ENGINEER LEWIS	
FINISH n/a	DRAWN T.GROENENBOOM	
	DATE 05-09-97	FENDER MUSICAL INSTRUMENTS CORP. CORONA, CALIFORNIA 91720
	DFT DATE	TITLE END ITEM ASSY. ACOUSTASONIC JR.
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.	DATE 2/8/99	SHEET 1/1 SCALE N/A
	DATE 2/8/99	SIZE D DRAWING NUMBER 0221302000
		REV. D