



Bassbreaker™ 45 & Bassbreaker™ 45 Head

(This is the model name for warranty claims)
P/N 226500000 (COMBO 120V)
P/N 226600000 (HEAD 120V)

SERVICE MANUAL



ATTENTION:

WARRANTY SERVICE PROCEDURES

The Bassbreaker 45 Combo & Head Amplifiers are considered to be field serviceable to the component level. As such stuffed PCB Assemblies are not readily available for these units. Any Fender Authorized Service Center in need of a warranty replacement PCB Assembly for this unit should contact FMIC Tech Support and you will be instructed on how to proceed.



Bassbreaker™ 45 & Bassbreaker™ 45 Head

(This is the model name for warranty claims)

IMPORTANT NOTICE

• Copyright © 2016 FMIC. All rights reserved. All information contained herein is CONFIDENTIAL and PROPRIETARY and is the property of Fender Musical Instruments Corporation. It is not to be sold or assigned to another party and is disclosed solely for use by Fender® Authorized Service Centers for purposes of product service and maintenance. All information is not to be disclosed to others without the expressed permission of Fender Musical Instruments Corporation. All

specifications are subject to change without notice. This information and any copies produced electronically or otherwise must be surrendered upon demand of Fender Musical Instruments Corporation.

- 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 CD = 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

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



Bassbreaker™ 45 & Bassbreaker™ 45 Head

(This is the model name for warranty claims)

SPECIFICATIONS

Model Name:	BASSBREAKER 45 (Combo) BASSBREAKER 45 Head		
Release Number: <i>(Not a model number)</i>	PR 3614 PR 3613		
Part Numbers, Combo:	(120V, 60Hz) US:	2265000000	
	(110V, 60Hz) TW:	2265001000	
	(240V, 50Hz) AUS:	2265003000	
	(230V, 50Hz) UK:	2265004000	
	(230V, 50Hz) ARG:	2265005000	
	(230V, 50Hz) EUR:	2165506000	
	(100V, 50/60Hz) JPN:	2265007000	
	(220V, 60Hz) ROK:	2265009000	
Part Numbers, Head:	(120V, 60Hz) US:	2266000000	
	(110V, 60Hz) TW:	2266001000	
	(240V, 50Hz) AUS:	2266003000	
	(230V, 50Hz) UK:	2266004000	
	(230V, 50Hz) ARG:	2266005000	
	(230V, 50Hz) EUR:	2166506000	
	(100V, 50/60Hz) JPN:	2266007000	
	(220V, 60Hz) ROK:	2266009000	
Power Requirement:	350W		
Power Output:	45W RMS minimum into 4, 8, or 16 ohms @ 5% THD		
Impedance	All Inputs:	1 Meg ohm	
Dimensions	Combo Height:	22.00 in (55.9 cm)	Head Height: 10.75 in (27.3 cm)
	Combo Width:	26.23 in (66.6 cm)	Head Width: 26.23 in (66.6 cm)
	Combo Depth:	10.75 in (27.3 cm)	Head Depth: 8.50 in (21.6 cm)
Weight	Combo:	55 lbs (25 kg)	Head: 32 lbs (14.5 kg)

Product specifications & Material Numbers are subject to change without notice.



Bassbreaker™ 45 & Bassbreaker™ 45 Head

(This is the model name for warranty claims)

SERVICE NOTES

Disassembly, Combo Version:

1. Remove the cabinet upper back panel. NOTE: Be careful to not damage the foam tape on the cabinet cleats.
2. Remove the cabinet lower back panel.
3. Disconnect the speaker wire from speakers.
4. Remove the side chassis-mounting screws.
5. While supporting the chassis, remove the top chassis-mounting screws.
6. Remove the chassis from the cabinet and set the chassis, transformers down, on a work surface.
7. Cut the tie-wrap that secures the speaker wires to the chassis. (This facilitates opening the chassis back panel.)
8. Cut the tie-wrap at the egress where the output transformer wires enter the chassis. (This facilitates opening the chassis back panel.)
9. Remove the 4 each pan head back panel screws at the top of the back panel and the 4 each undercut flat head screws at the bottom of the back panel.
10. Hinge the back panel open at the bottom of the chassis while feeding the speaker wires and output transformer wires into the chassis.

Reassembly, Combo Version:

1. Hinge the back panel closed while pulling the slack of the speaker wires and output transformer wires out of the chassis.
2. Install the 4 each pan head back panel screws at the top of the back panel and the 4 each undercut flat head screws at the bottom of the back panel.
3. Install a tie-wrap at the egress where the output transformer wires enter the chassis.

4. Install a tie-wrap to re-secure the speaker wires to the chassis.
5. Reverse combo disassembly operations 5 through 1.

Disassembly, Head Version:

1. Remove the cabinet back panel.
2. Remove the side chassis-mounting screws.
3. While supporting the chassis, remove the top chassis-mounting screws.
4. Remove the chassis from the cabinet and set the chassis, transformers down, on a work surface.
5. Cut the tie-wrap that secures the speaker wires to the chassis. (This facilitates opening the chassis back panel.)
6. Remove the 4 each pan head back panel screws at the top of the back panel and the 4 each undercut flat head screws at the bottom of the back panel.
7. Hinge the back panel open at the bottom of the chassis while feeding the output transformer wires into the chassis.

Reassembly, Head Version:

1. Hinge the back panel closed while pulling the slack of the output transformer wires out of the chassis.
2. Install the 4 each pan head back panel screws at the top of the back panel and the 4 each undercut flat head screws at the bottom of the back panel.
3. Install a tie-wrap at the egress where the output transformer wires enter the chassis.
4. Reverse head disassembly operations 3 through 1.



Bassbreaker™ 45 & Bassbreaker™ 45 Head

(This is the model name for warranty claims)

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 circuit 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.

PRE-AMPLIFIER

The NORMAL and BRIGHT guitar inputs are isolated from each other. The signal level from the NORMAL input is controlled by the VOL NORM control, and the signal level from the BRIGHT input is controlled by the VOL BRIGHT control. Plugging into the BOTH input internally straps the NORMAL and BRIGHT inputs together. The signal level from the BOTH input is controlled by both the VOL NORM and VOL BRIGHT controls.

V1A is the front end amplifier for the NORM input jack. V1B is the front end amplifier for the BRIGHT input jack. Plugging into the BOTH jack feeds both V1A and V1B and provides add about 6dB of available gain.

The output of the VOL NORM and VOL BRIGHT controls feeds one section of the two-sectioned OUTPUT control. This section controls the signal level to compensate for the variable headroom of the power amplifier. (The other section of the OUTPUT control controls power amplifier headroom. More on this later under the POWER SUPPLY section.)

V2 is a combination voltage amplifier and cathode follower buffer that feeds the tone controls.

POWER AMPLIFIER

The output of the tone controls feed V3 which is a standard "long-tail" phase splitter. The plates of phase splitter V3 feed the grids of output tubes V4 and V5 which are arranged as a push-pull pair. The plates of V4 and V5 feed the primary of output transformer T2.

The secondary of T2 provides 16, 8, or 4 ohms output by way of IMPEDANCE SELECT switch S1 on the back panel. The IMPEDANCE SELECT switch feeds J4 MAIN SPEAKER jack. In the combo amp, the tip shunt of J4 goes to the internal 16 ohm speaker load in the cabinet (two 12", 8 ohm speakers wired in series). In the head amp, the tip shunt of the MAIN SPEAKER jack J4 goes to ground as with most Fender tube guitar amps. In both of the combo and head amps, EXTENSION SPEAKER jack J5 is wired in parallel with MAIN SPEAKER jack.

In the combo version, the internal speakers are driven via the tip shunt of the MAIN SPEAKER jack J4. (The IMPEDANCE SELECT switch should always be set to 16 ohms when the internal speakers are used exclusively.) Plugging a speaker into the MAIN SPEAKER jack disconnects the internal speakers so that only the speaker plugged into the MAIN SPEAKER jack is driven. If a speaker is plugged into the EXTENSION SPEAKER jack J5 instead of the MAIN SPEAKER jack, the external speaker will be put in parallel with the internal speakers. Plugging a speaker into the MAIN SPEAKER and EXTERNAL SPEAKER jacks will



Bassbreaker™ 45 & Bassbreaker™ 45 Head

(This is the model name for warranty claims)

disconnect the internal speakers, and put the speakers plugged into the MAIN SPEAKER and EXTENSION SPEAKER jacks in parallel.

The network consisting of R79, 15 ohms, 10W and C27, .47uF, 100V is connected across the 16 ohm output of T2 to provide for high-frequency stability of the power amplifier.

POWER SUPPLY

The power supply circuitry is found on the large PCA that is between the control PCA and tube PCA. Certain aspects of the power supply are not typical of power supplies found in other Fender tube amplifiers. It has a regulated variable voltage screen supply for the output tubes, and a grid bias supply that tracks the screen supply. The screen supply voltage is controlled by one of the two sections of the OUTPUT control. The bias supply tracks the screen supply to properly set the output tube idle current. This allows the OUTPUT control to set the output power of the amplifier to any value between 1 watt and 45 watts.

Because of this scheme of variably controlling the screen and bias supplies, setting the output tube idle current in the Bassbreaker 45 is different than in other Fender amplifiers, though it is not difficult. (See the Service Diagram for details.) If the bias is not set correctly, the OUTPUT control circuitry will not function properly, which will result in poor tone at low OUTPUT control settings and/or excessive output tube idle current at high OUTPUT control settings.

SETTING THE BIAS: 1.) With the line voltage set to the amplifier's specified rating, adjust the OUTPUT control to obtain a reading of 135 VDC at TP14. 2.) Adjust bias control R61 to obtain a reading of 23 mVDC across R38 at TP21. (Done!)

The high voltage red-red secondary winding of T1 is rectified by a full wave bridge and is filtered by C32 to provide the high voltage DC plate supply (B+) for output tubes V4 and V5. B+ is then isolated by D21 and further R-C filtered to provide plate supplies for V3 (Y), V2, and V1 (X). The B+ supply is also used

to feed the input to the screen supply for V4 and V5.

The brown-brown secondary winding of T1 is rectified by a full wave bridge and filtered by C17 to provide a raw bias supply. This raw supply feeds regulator U7 which has a precision voltage reference in its reference leg to provide a well-regulated bias supply. This provides a supply for the bias adjustment, and pass transistors Q1 and Q5.

The orange-orange/yellow-orange secondary winding of T1 is rectified by a full wave bridge and filtered by C24 and C25 to provide +/- 22 VDC. This feeds regulators U4 and U5 that provide a regulated split supply for the screen voltage control and screen voltage tracking circuitry. U4 and U5 also provide a DC filament voltage for tubes V1 and V2. The +22 VDC supply also feeds a precision +15.0 VDC reference provided by U6. The precision reference is used by the screen voltage control and bias supply screen voltage tracking circuitry.

The green-green secondary winding of T1 provides AC power for the filaments of V3, V4, and V5.

As stated earlier, the B+ supply from the red-red winding also feeds the input to the variable-voltage screen (Z) supply. The supply is controlled by U1-B with FET pass element Q3. U1-B gets its reference voltage from the R15-B section of the OUTPUT control.

The circuitry around U1-A is used to sample the screen voltage at Z to control the bias voltage. The output of U1-A is used to drive Q2 which is configured as a V to I converter. The current from the collector of Q2 is used to subtract voltage across R64 in the bias supply circuitry.

FAULT DETECTION

Op amps U2-A and U2-B are used as comparators for fault detection. U2A is used to sense the absence of the bias supply. If the bias supply is not present, the output of U2-A goes high and turns on transistor Q6, which shuts off the screen supply, which shuts off the output tubes to keep them from running away and overheating. The comparator consisting of U2-A and surrounding circuitry will self-reset should the fault in the bias supply clear.



Bassbreaker™ 45 & Bassbreaker™ 45 Head

(This is the model name for warranty claims)

U2-B is used to sense overcurrent in the output stage caused by an output tube short. If the current in the output stage exceeds 750 mA, the output of U2-B goes high and turns on transistor Q6, which shuts off the screen supply, which shuts off the output tubes to protect FET Q3. The comparator at

U2-B will latch to prevent the screen supply from “chattering” (acting as a relaxation oscillator) which would speed the destruction of FET Q3. To unlatch U2-B, cycle power. If U2-B latches again, troubleshoot.



Bassbreaker™ 45 & Bassbreaker™ 45 Head

(This is the model name for warranty claims)

PARTS LIST:		MAIN PCB ASSEMBLY	
QTY.	PART #	DESCRIPTION	REFERENCE DESIGNATION
1	0024819000	CAP AE AX 22µF 500V +50%-10%	C35
2	0041589000	CAP AE AX 47µF 500V +50%-10%	C32, C34
1	0031040000	CAP AE RDL 100 µF 100V 20%	C17
1	0031069000	CAP AE RDL 10µF 100V 20%	C16
2	0028461000	CAP AE RDL 10µF 35V 20%	C48, C63
2	0033607000	CAP AE RDL 2200µF 35V 20%	C24- C25
1	0028467000	CAP AE RDL 22µF 50V 20%	C43
1	0051960000	CAP CD 180pF 500V 10%	C5
2	0051406000	CAP CD 220pF 500v 10%	C31, C33
1	0020917000	CAP CD 250pF 1000V 10%	C6
1	0051458000	CAP CD 470pF 500V 10%	C38
1	0020909000	CAP CD 47pF 1000V 10%	C14
4	0025995000	CAP CD 8200pF 1000V 20%	C22, C39-C41
6	0034788000	CAP CR .1µF 50V 20% .2" LS	C20-C21, C26, C59, C75-C76
1	0027257000	CAP MPF .0022µF 100V 10%	C19
4	0027264000	CAP MPF .01µF 100V 10%	C28-C29, C45-C46
1	0027280000	CAP MPF .15µF 63V 10%	C42
4	0027279000	CAP MPF .1µF 100V 10%	C18, C23, C36, C44
1	0053860000	△CAP MPF .1µF 250VAC 20%	C30
2	0033477000	CAP MPF .68µF 63V 10%	C1-C2
1	0095947000	CAP MPF AX .47µF 100V 10%	C27
5	0024833000	CAP MPF RDL .022µF 400V 10%	C3-C4, C7-C9
1	0024846000	CAP MPF RDL .047µF 630V 10%	C37
2	0024853000	CAP MPF RDL .1µF 250V 10%	C10-C11
3	0024855000	CAP MPF RDL .1µF 630V 10%	C12-C13, C15
1	7706796000	CONTROL SNAPIN 1M 10A TAPER 180-D SHAFT	R24
2	0096457000	CONTROL SNAPIN 1M 30A TAPER 180-D SHAFT	R10-R11
1	7706520000	CONTROL SNAPIN 250KB/25KB 180-D SHAFT	R15
1	7706518000	CONTROL SNAPIN 25K 10A TAPER 180-D SHAFT	R25
1	7706519000	CONTROL SNAPIN 25K20C TAPER 180-D SHAFT	R31
1	0096461000	CONTROL SNAPIN 250K B TAPER 180-D SHAFT	R23
1	0027873000	CONTROL PC MOUNT 25K LIN	R61
10	0064089000	DIODE 1N4003	D7-D11, D13, D18-D20, D27
7	0026730000	DIODE 1N4006 800V 1A	D3-D4, D14-D17, D21
7	0006260000	DIODE 1N4448 SIGNAL	D5-D6, D12, D22-D23, D25-D26
2	0029690000	DIODE HV 3KV 200mA	D1-D2
25	0025802000	FSTN TAB MALE .250x.032 PCB MT	P1-P5, P7-P16, P26-P35 BB 45 COMBO
23	0025802000	FSTN TAB MALE .250x.032 PCB MT	P1-P5, P7-P16, P28-P35 BB 45 HEAD
5	0031041000	FSTN TAB ML RTANG PCB .25X.032	P17-P21
1	0026000000	FSTN TAB MALE .187X.032 PCB MT	P6
1	0068329000	△FUSE 1-1/4 x 1/4 TD PIGTAIL 8AL 250VAC	F2
2	0070687000	△FUSE TD AXIAL LEAD 1A 125V	F3-F4
1	0073586000	△FUSE QA AXIAL LEAD 1A 125V	F5
2	0027410000	HDR .1 CTR 3 CKT SQ PIN	P25-A, P25-B

* 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 Critical Part. Replacement must match Safety Agency –Value, if specified –Type, if specified –Approval Mark(s), if on part.

shaded + △ Both a unique Fender® part and a Safety Critical Part as defined above



Bassbreaker™ 45 & Bassbreaker™ 45 Head

(This is the model name for warranty claims)

PARTS LIST:		MAIN PCB ASSEMBLY	
QTY.	PART #	DESCRIPTION	REFERENCE DESIGNATION
6	0027413000	HDR .1 CTR 6 CKT SQ PIN	P22-A, P22-B, P23-A, P23-B, P24-A, P24-B
2	0016795000	IC OP-AMP DUAL TL072	U1, U3
1	0013562000	IC REGULATOR +15V MC7815CT	U4
1	0013564000	IC REGULATOR -15V MC7915CT	U5
1	0051261000	IC VOLT REF LM4040DIZ-10.0	U2
2	0056935000	IC VREF SHUNT ADJ TL431ACLP	U6, U8
1	7707856000	IC REGULATOR -12V MC7912CT	U7
5	0063213000	JACK PCB STEREO CLOSED CKT	J1-J5
2	REF	WIRE JUMPER (.500")	W1-W2
1	REF	WIRE JUMPER (.800')	W3
1	7706449000	LED TULIP PANEL MOUNT ASSEMBLY WHITE	D24
3	0025116000	RES CF 1/2W 5% 100K LL	R8-R9, R18
2	0025829000	RES CF 1/2W 5% 150ohm LL	R83-R84
1	0025830000	RES CF 1/2W 5% 220ohm LL	R87
2	0025832000	RES CF 1/2W 5% 22K LL	R36-R37
2	0028580000	RES MOX FP 1/2W 5% 100ohm LL	R71-R72
4	0024967000	RES CF 1/4W 5% 1.2K LL	R43-R44, R48, R52
2	0024969000	RES CF 1/4W 5% 1.5K LL	R6-R7
3	0024997000	RES CF 1/4W 100K LL	R39, R47, R66
7	0024981000	RES CF 1/4W 5% 10K LL	R4-R5, R55, R64, R68, R80
2	0024985000	RES CF 1/4W 5% 15K LL	R62, R90
6	0025069000	RES CF 1/4W 5% 1M LL	R1-R3, R26-R27, R93
1	0024971000	RES CF 1/4W 5% 2.2K LL	R92
2	0025059000	RES CF 1/4W 5% 220K LL	R34-R35
2	0025060000	RES CF 1/4W 5% 270K LL	R12, R14
1	0024988000	RES CF 1/4W 5% 27K LL	R63
1	0025077000	RES CF 1/4W 3.3M LL	R17
2	0024973000	RES CF 1/4W 5% 3.3K LL	R46, R57
3	0024975000	RES CF 1/4W 5% 3.9K LL	R42, R59, R78
1	0028956000	RES CF 1/4W 5% 43K LL	R16
4	0024977000	RES CF 1/4W 5% 4.7K LL	R30, R54, R56, R70
1	0024961000	RES CF 1/4W 5% 470ohm LL	R29
1	0024994000	RES CF 1/4W 5% 56K LL	R22
1	0024979000	RES CF 1/4W 5% 6.8K LL	R91
2	0026507000	RES CF 1/4W 5% 62K LL	R49, R58
1	0025067000	RES CF 1/4W 5% 680K LL	R51
1	0025068000	RES CF 1/4W 5% 820K LL	R50
1	0024964000	RES CF 1/4W 5% 820ohm LL	R19
1	0024996000	RES CF 1/4W 5% 82K LL	R67
2	0041706000	RES FILM 1W 470K 5%	R53, R75
2	0027353000	RES FILM 1W 5% 100K LL	R20, R33
2	0027349000	RES FILM 1W 5% 10K LL	R28, R89
1	0029717000	RES FILM 1W 5% 2.7K LL	R82
1	0037354000	RES FILM 1W 5% 4.7K LL	R65

* 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 Critical Part. Replacement must match Safety Agency –Value, if specified –Type, if specified –Approval Mark(s), if on part.

shaded + △ Both a unique Fender® part and a Safety Critical Part as defined above



Bassbreaker™ 45 & Bassbreaker™ 45 Head

(This is the model name for warranty claims)

PARTS LIST: MAIN PCB ASSEMBLY			
QTY.	PART #	DESCRIPTION	REFERENCE DESIGNATION
3	0037619000	RES FILM 1W 5% 82K LL	R32, R41, R69
1	0049642000	RES MF 1/4W 1% 2.00K LL	R86
1	0031819000	RES MF 1/4W 1% 1.82K LL	R60
1	0015582000	RES MF 1/4W 1% 10.0K LL	R85
1	0027630000	RES MF 1/4W 1% 22.1K LL	R88
2	0051417000	RES MOX 2W 5% 22ohm LL	R76, R81
1	0033095000	RES MOX FP 1W 5% 1ohm LL	R38
2	0079186000	RES MOX FP 1W 5% 20 LL	R77, R94
1	0057222083	RES MOX FP 2W 5% 10K	R74
1	0041740083	RES MOX FP 2W 5% 4.7K	R73
1	0025944000	RES WW BT 10W 10% 15ohm	R79
2	0036924000	RES WW BT 5W 10% 1K	R13, R21
1	0081409000	RES WW BT STANDOFF 10W 5% 390 ohm	R40
1	7706795000	SWITCH SLIDE DPTT PC MOUNT BTN SLOT	S1
1	0028503002	△THERMISTOR 10ohm 5A C60-11	RT1
3	0029167000	△TUBE SOCKET 9 PIN PCB MOUNT	V1-V3
2	0057238000	△TUBE SOCKET 8 PIN PCB MOUNT	V4-V5
1	0096493000	XSTR MOSFET N-CH 600V FDP7N60NZ	Q3
2	0096492000	XSTR NPN BUJ103A 700V 4A TO-220	Q4, Q6
1	0025752000	XSTR PNP 2SA1038STPS	Q1
2	0014866000	XSTR PNP MPSW92 TO-226AE	Q2, Q5

PARTS LIST: CHASSIS ASSEMBLY BB 45 COMBO			
QTY.	PART #	DESCRIPTION	REFERENCE DESIGNATION
1	7706651000	△*PCB ASSY BASSBREAKER 45 (COMBO)	COMPLETE STUFFED PCB
1	0078274000	CABLE ASSY RIBBON 3CKT 3"	
15	0025936000	STANDOFF NYL PCB SNAP 3/8	PCB MOUNTING
15	0028937000	SCRW TF 6-32x5/8 PHP ZI	PCB MOUNTING
3	0070999000	CABLE ASSY RIBBON 6CKT 3-1/2"	
1	0078274000	CABLE ASSY RIBBON 3CKT 3"	
1	7706678000	*PANEL REAR CHS BASSBREAKER 45 120V	DOMESTIC
1	7706679000	*PANEL REAR CHS BASSBREAKER 45 230V	EXPORT
7	7706165000	KNOB BASSBREAKER FLAT 0 DEG	
1	7706673000	△XFMR PWR BASSBREAKER 45 120V	120V DOMESTIC
1	7706674000	△XFMR PWR BASSBREAKER 45 230V	220/230/240V EXPORT
1	7706675000	△XFMR PWR BASSBREAKER 45 100V	100/110V JAPAN/TAIWAN
1	7706676000	△XFMR OUTPUT 60W 4/8/16	
8	0022004000	NUT KEPS #8-32 ZINC	XFMR MOUNTING
8	0026553000	SCRW M 8-32x3/8 PHP BLX	XFMR MOUNTING
3	0072185000	BUSHING SNAP 5/16x17/32 BLK	
1	5550113569	TUBE GT-EL34-R	MATCHED DUET EL34 TUBES for V4, V5
1	5550112391	TUBE GT-ECC83-S SELECT	at V1

* 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 Critical Part. Replacement must match Safety Agency –Value, if specified –Type, if specified –Approval Mark(s), if on part.

shaded + △ Both a unique Fender® part and a Safety Critical Part as defined above



Bassbreaker™ 45 & Bassbreaker™ 45 Head

(This is the model name for warranty claims)

PARTS LIST: CHASSIS ASSEMBLY BB 45 COMBO			
QTY.	PART #	DESCRIPTION	REFERENCE DESIGNATION
1	0059718000	STABILIZER TUBE HOT ROD	
2	5550112406	TUBE ST-12AX7-R SILVER	at V2, V3
8	0031184000	SCRW M6-32x1/4 PHP BLX ITLW	
2	0020424000	TUBE RING UNIVERSAL (27H-2)	
2	0038900000	SCRW TF 6-32x1/4 PHP ZI	
4	0032806000	SCRW TF 6-32x1/4 PHP BLX	
1	0037039000	△SWITCH TOGGLE SPST W/NUTS	
1	0036570000	△SWITCH TOGGLE DPST W/NUTS	
2	0021568000	SCRW M6-32x3/16 PHP NI	
1	0096482000	HEAT SINK BAR	
2	0028500000	SCRW TF 8-32x3/4 HWH SLTD ZI	
1	0032219000	COLLAR-PILOT LIGHT	
1	0091860000	JEWEL PILOT LITE CLEAR	
1	0031625000	NUT HOLDER PILOT LIGHT 11/16-27	
5	0016352000	NUT HEX 3/8-32x3/32 TK NI	
5	0031153000	WSHR FLAT 3/8x.614 NI	
2	9904300100	WASHER LCK INTL 3/8x681x.032	
4	0014999000	SCRW M 6-32x1/4 PHP BLX	
4	0014206000	SCRW M 6-32x1/4 UFHP BLX	
1	0036702000	△FUSE HOLDER 3AG FINGER GRIP	120V units
1	0036703000	△FUSE HOLDER 5MM FINGER GRIP	All except 120V units
1	0077982000	△FUSE QA 1-1/4x1/4 250V 3A	120V units
1	0020794000	△FUSE QA 20mmx5mm 250V 2A	220-240V units
1	0020797000	△FUSE QA 20mmx5mm 250V 4A	100-110V units
1	0054642000	△CONNECTOR IEC SNAP-IN	

PARTS LIST: CHASSIS ASSEMBLY BB45 HD			
QTY.	PART #	DESCRIPTION	REFERENCE DESIGNATION
1	7707152000	△*PCB ASSY BASSBREAKER 45 HD	COMPLETE STUFFED PCB
15	0025936000	STANDOFF NYL PCB SNAP 3/8	PCB MOUNTING
15	0028937000	SCRW TF 6-32x5/8 PHP ZI	PCB MOUNTING
3	0070999000	CABLE ASSY RIBBON 6CKT 3-1/2"	
1	0078274000	CABLE ASSY RIBBON 3CKT 3"	
1	7706678000	*PANEL REAR CHS BASSBREAKER 45 120V	DOMESTIC
1	7706679000	*PANEL REAR CHS BASSBREAKER 45 230V	EXPORT
7	7706165000	KNOB BASSBREAKER FLAT 0 DEG	
1	7706673000	△XFMR PWR BASSBREAKER 45 120V	120V DOMESTIC
1	7706674000	△XFMR PWR BASSBREAKER 45 230V	220/230/240V EXPORT
1	7706675000	△XFMR PWR BASSBREAKER 45 100V	100/110V JAPAN/TAIWAN
1	7706676000	△XFMR OUTPUT 60W 4/8/16	
8	0022004000	NUT KEPS #8-32 ZINC	TRANSFORMER MOUNTING
8	0026553000	SCRW M 8-32x3/8 PHP BLX	TRANSFORMER MOUNTING

* 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 Critical Part. Replacement must match Safety Agency –Value, if specified –Type, if specified –Approval Mark(s), if on part.

shaded + △ Both a unique Fender® part and a Safety Critical Part as defined above



Bassbreaker™ 45 & Bassbreaker™ 45 Head

(This is the model name for warranty claims)

PARTS LIST: CHASSIS ASSEMBLY BB45 HD			
QTY.	PART #	DESCRIPTION	REFERENCE DESIGNATION
3	0072185000	BUSHING SNAP1x29/64 BLK	
1	5550113569	TUBE GT-EL34-R	Duet Matched EL34 Tubes for V4, V5
1	5550112391	TUBE GT-ECC83-S SELECT	at V1
2	5550112406	TUBE ST-12AX7-R SILVER	at V2, V3
1	0059718000	STABILIZER TUBE HOT ROD	
8	0031184000	SCRW M 6-32x1/4 PHP BLX ITLW	
2	0020424000	△TUBE RING UNIVERSAL (277H-2)	
2	0038900000	SCRW TF 6-32x1/4 PHP ZI	
4	0032806000	SCRW TF 6-32x1/4 PHP BLX	
1	0037039000	△SWITCH TOGGLE SPST W/NUTS	
1	0036570000	△SWITCH TOGGLE DPST W/NUTS	
2	0021568000	SCRW M 6-32x3/16 PHP NI	
1	0096482000	HEAT SINK BAR EVH 5150III COMBO	
1	0028500000	SCRW TF 8-32x3/4 HWH SLTD ZI	
1	0032219000	COLLAR-PILOT LIGHT	
1	0091860000	JEWEL PILOT LITE CLEAR	
1	0031625000	NUT HOLDER PILOT LIGHT 11/16-27	
5	0016352000	NUT HEX 3/8-32x3/32 TK NI	
5	0031153000	WSHR FLAT 3/8x.614 NI	
2	9904300100	WASHER LCK INTL 3/8x.681x.032	
4	0014999000	SCRW M 6-32x1/4 PHP BLX	
4	0014206000	SCRW M 6-32x1/4 UFHP BLX	
1	0036702000	△FUSE HOLDER 3AG FINGER GRIP	120V units
1	0036703000	△FUSE HOLDER 5MM FINGER GRIP	All except 120V units
1	0077982000	△FUSE QA 1-1/4x1/4 250V 3A	120V units
1	0020794000	△FUSE QA 20mmx5mm 250V 2A	220-240V units
1	0020797000	△FUSE QA 20mmx5mm 250V 4A	100-110V units
1	0054642000	CONNECTOR IEC SNAP IN	

PARTS LIST: CABINET ASSEMBLY – BB45 COMBO			
QTY.	PART #	DESCRIPTION	REFERENCE DESIGNATION
1	7706665000	*CABINET ASSY BASSBREAKER 45 COMBO	COMPLETE CABINET ASSEMBLY
1	7706665002	*CABINET BACK ASSY BB 45 COMBO	
1	7706665001	*BAFFLE ASSY BASSBREAKER 45 COMBO	
2yd	0026317000	CLOTH GRILLE BLACK PVC	SOLD BY THE SQUARE YARD
3yd	7706172000	COVERING TWEED BLACK	SOLD BY THE SQUARE YARD
4	0037247000	SCRW M 8-32x1 OHP NI	
1	7706256000	*NAMEPLATE BASSBREAKER 18/30 45	
4	0048976000	FOOT RUBBER 1-1/2" BXR 115	
4	0033380000	SCRW SMAB 8x1 THP BLX	
3	0075721000	SCRW SMA 6x5/8 FHP BLX	
2	7706800000	△VENT TOP PERF BB18-30	

* 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 Critical Part. Replacement must match Safety Agency –Value, if specified –Type, if specified –Approval Mark(s), if on part.

shaded + △ Both a unique Fender® part and a Safety Critical Part as defined above



Bassbreaker™ 45 & Bassbreaker™ 45 Head

(This is the model name for warranty claims)

PARTS LIST: CABINET ASSEMBLY – BB45 COMBO			
QTY.	PART #	DESCRIPTION	REFERENCE DESIGNATION
12	0067014000	SCRW SMA 6x5/8 THP BLX	
10	0011678000	SCRW SMA 8x1-1/2 OHP BLX	
10	0029527000	WSHR FNSH 8-5/8 FLNGD BLX WX	
8	0021972000	NUT T 10-32x3/4 STR 3 PRNG BLX	
4	0022771000	NUT T 8-32x3/4 STR 3 SPNG BLX	
1	7706170000	△HANDLE BASSBREAKER SERIES	

PARTS LIST: CABINET ASSEMBLY – BB45 HD			
QTY.	PART #	DESCRIPTION	REFERENCE DESIGNATION
1	7706697000	*CABINET ASSY BASSBREAKER 45 HD	COMPLETE CABINET ASSEMBLY
1	7706697001	GRILLE ASSEMBLY	FRONT GRILLE
2yd	7706172000	COVERING TWEED BLACK	SOLD BY SQUARE YARD 2yd MINIMUM
1yd	0026317000	CLOTH GRILLE BLACK PVC	SOLD BY SQUARE YARD 2yd MINIMUM
1	7706170000	△HANDLE BASSBREAKER SERIES	
4	0022771000	NUT T 8-32x3/4 STR 3 SPNG BLX	
4	0037242000	SCRW M 8-32x1 OHP NI	
1	7706256000	*NAMEPLATE BASSBREAKER 18/30 45	
3	0075721000	SCRW SMA 6x5/8 FHP BLX	
4	0048976000	FOOT RUBBER 1-1/2" BXR 115	
4	0033380000	SCRW SMAB 8x1 THP BLX	
4	0029527000	WSHR FINISH 8-5/8 FLNGD BLX WX	
4	9280530414	SCRW SMA 8x1-1/4 OHP BLX	
2	7706800000	△VENT TOP PERF BB18-30	
12	0067014000	SCRW SMA 6x5/8 THP BLX	

PARTS LIST: END ITEM ASSEMBLY – BB 45 COMBO			
QTY.	PART #	DESCRIPTION	REFERENCE DESIGNATION
6	0036619000	SCRW M 10-32x1-1/2 THP NI	
1	7706157000	*LOGO FENDER BASSBREAKER SERIES	
2	0037210000	SCRW SMA 2x3/8 OHP NI	
2	7700343000	SPKR 12" 8ohm 70W T5901AX60	
8	0047821000	SCRW M 10-32 3/4 THP STL BLX	
8	0037952000	SCRW SMA #6x1 OHP NI	
8	0037215000	WSHR C/SUNK NICKEL #6	
1	7706657000	COVER AMP BASSBREAKER 45/212	
1	0047248000	△CORD PWR W/IEC CONN DOM	
1	0047249000	△CORD PWR W/IEC CONN 230V UK	
1	0047251000	△CORD PWR W/IEC CONN 230V	
1	0047250000	△CORD PWR W/IEC CONN 240V	
1	0053997000	△CORD PWR W/IEC CONN 100V JPN	

* 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 Critical Part. Replacement must match Safety Agency –Value, if specified –Type, if specified –Approval Mark(s), if on part.

shaded + △ Both a unique Fender® part and a Safety Critical Part as defined above



Bassbreaker™ 45 & Bassbreaker™ 45 Head

(This is the model name for warranty claims)

PARTS LIST: END ITEM ASSEMBLY – BB 45 COMBO			
QTY.	PART #	DESCRIPTION	REFERENCE DESIGNATION
1	0057674000	△CORD PWR W/IEC 230V ARG	
1	7700699000	*PANEL PERF REAR BB 18-30 45	
6	0067014000	SCRW SMA 6x5/8 THP BLX	

PARTS LIST: END ITEM ASSEMBLY – BB 45 HD			
QTY.	PART #	DESCRIPTION	REFERENCE DESIGNATION
6	0036619000	SCRW M 10-32x1-1/2 THP NI	
1	7706157000	*LOGO FENDER BASSBREAKER SERIES	
2	0037210000	SCRW SMA 2x3/8 OHP NI	
1	7706658000	COVER AMP BASSBREAKER 45 HEAD	
1	0047248000	△CORD PWR W/IEC CONN DOM	
1	0047249000	△CORD PWR W/IEC CONN 230V UK	
1	0047251000	△CORD PWR W/IEC CONN 230V	
1	0047250000	△CORD PWR W/IEC CONN 240V	
1	0053997000	△CORD PWR W/IEC CONN 100V JPN	
1	0057674000	△CORD PWR W/IEC 230V ARG	
1	7700699000	*PANEL PERF REAR BB 18-30 45	
6	0067014000	SCRW SMA 6x5/8 THP BLX	

* 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 Critical Part. Replacement must match Safety Agency –Value, if specified –Type, if specified –Approval Mark(s), if on part.

shaded + △ Both a unique Fender® part and a Safety Critical Part as defined above



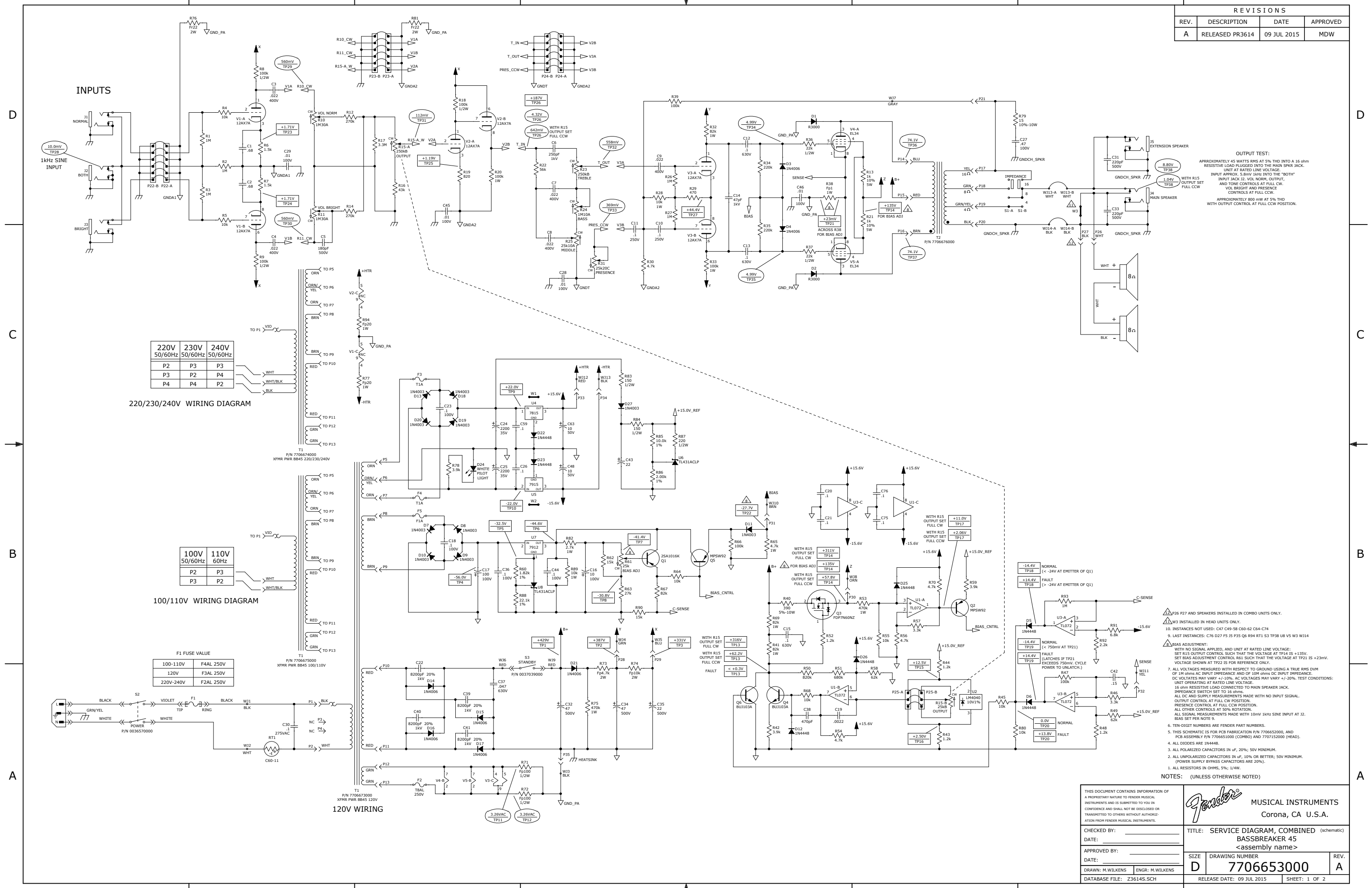
Bassbreaker™ 45 & Bassbreaker™ 45 Head

(This is the model name for warranty claims)

Service Diagram List

- Service Diagram (Schematic).....Bassbreaker 45 Combo & Head Rev. A
- Service Diagram (PCB Assembly).....Bassbreaker 45 Combo & Head Rev. A

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
A	RELEASED PR3614	09 JUL 2015	MDW



OUTPUT TEST:
 APPROXIMATELY 45 WATTS RMS AT 5% THD INTO A 16 OHM RESISTIVE LOAD PLUGGED INTO THE MAIN SPKR JACK. UNIT AT RATED LINE VOLTAGE.
 INPUT APPROX. 5.8V RMS INTO THE "BOTH" INPUT JACK J2. VOL. NORM, OUTPUT, AND TONE CONTROLS AT FULL CW. VOL. BRIGHT AND PRESENCE CONTROLS AT FULL CCW.
 APPROXIMATELY 800 mW AT 5% THD WITH OUTPUT CONTROL AT FULL CCW POSITION.

220V	230V	240V
50/60Hz	50/60Hz	50/60Hz
P2	P3	P3
P3	P2	P4
P4	P4	P2

220/230/240V WIRING DIAGRAM

100V	110V
50/60Hz	60Hz
P2	P3
P3	P2

100/110V WIRING DIAGRAM

F1 FUSE VALUE	
100-110V	F44L 250V
120V	F3AL 250V
220V-240V	F2AL 250V

120V WIRING

- NOTES:** (UNLESS OTHERWISE NOTED)
- ALL RESISTORS IN OHMS, 5%, 1/4W.
 - TEN-DIGIT NUMBERS ARE FENDER FABRICATION NUMBERS.
 - THIS SCHEMATIC IS FOR PCB FABRICATION P/N 7706652000, AND PCB ASSEMBLY P/N 7706651000 (COMBO) AND 7707152000 (HEAD).
 - ALL DIODES ARE 1N4448.
 - ALL POLARIZED CAPACITORS IN μ F, 20%, 50V MINIMUM.
 - ALL UNPOLARIZED CAPACITORS IN μ F, 10% OR BETTER; 50V MINIMUM. (POWER SUPPLY BYPASS CAPACITORS ARE 20%).
 - DC VOLTAGES MAY VARY +/-10%. AC VOLTAGES MAY VARY +/-20%. TEST CONDITIONS: IMPEDANCE SWITCH SET TO 16 OHMS. PRESENCE CONTROL AT FULL CCW POSITION. ALL OTHER CONTROLS AT 50% ROTATION. ALL SIGNAL MEASUREMENTS MADE WITH 10mV 1kHz SINE INPUT AT J2. BIAS SET PER NOTE 9.
 - DC VOLTAGES MEASURED WITH RESPECT TO GROUND USING A TRUE RMS DVM OF 1M OHMS AC INPUT IMPEDANCE AND OF 10M OHMS DC INPUT IMPEDANCE. UNIT OPERATING AT RATED LINE VOLTAGE.
 - BIAS ADJUSTMENT: WITH NO SIGNAL APPLIED, AND UNIT AT RATED LINE VOLTAGE: SET BIAS ADJUSTMENT CONTROL R61 SUCH THAT THE VOLTAGE AT TP21 IS +23mV. VOLTAGE SHOWN AT TP22 IS FOR REFERENCE ONLY.
 - ALL VOLTAGES MEASURED WITH RESPECT TO GROUND USING A TRUE RMS DVM OF 1M OHMS AC INPUT IMPEDANCE AND OF 10M OHMS DC INPUT IMPEDANCE. UNIT OPERATING AT RATED LINE VOLTAGE.
 - INSTANCES NOT USED: C47 C49-58 C60-62 C64-C74
 - LAST INSTANCES: C76 D27 F5 J5 P35 Q6 R84 R11 S3 TP38 UB V5 W3 W14
 - P26 P27 AND SPEAKERS INSTALLED IN COMBO UNITS ONLY.
 - W3 INSTALLED IN HEAD UNITS ONLY.

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
 Corona, CA U.S.A.

CHECKED BY: _____ DATE: _____
 APPROVED BY: _____ DATE: _____
 DRAWN: M.WILKENS ENGR: M.WILKENS
 DATABASE FILE: Z36145.SCH

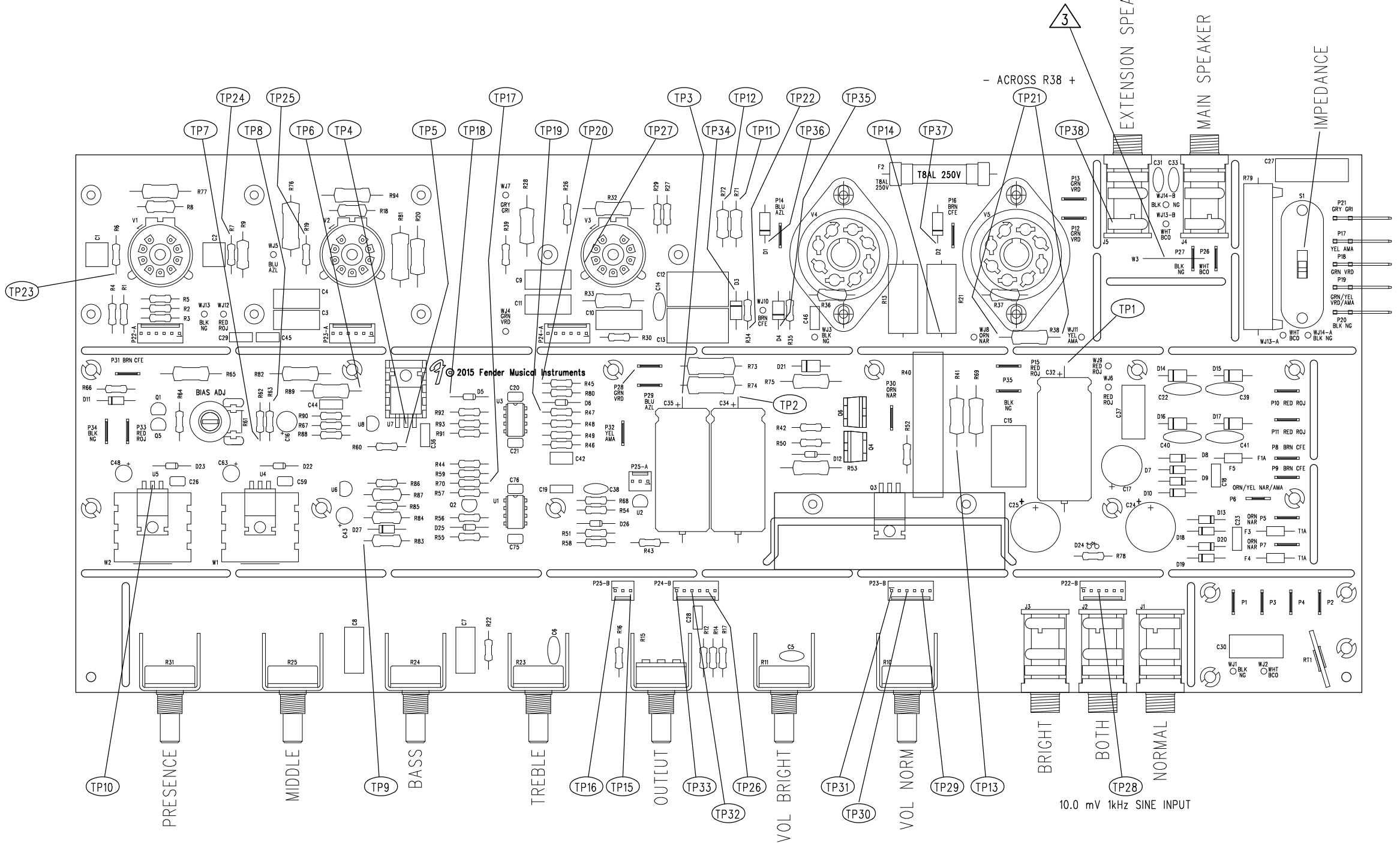
TITLE: SERVICE DIAGRAM, COMBINED (schematic)
 BASSBREAKER 45
 <assembly name>

SIZE	D	DRAWING NUMBER	7706653000	REV.	A
RELEASE DATE:	09 JUL 2015		SHEET: 1 OF 2		

8 7 6 5 4 3 2 1

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
A	RELEASED PR3614	09 JUL 2015	MDW

D
C
B
A



- 3 P26 AND P27 INSTALLED IN COMBO UNITS ONLY. W3 INSTALLED IN HEAD UNITS ONLY.
- 2 WIRES NOT SHOWN FOR CLARITY.
- 1 PCB ASSEMBLY SHOWN AS FABRICATED BEFORE INSTALLATION IN CHASSIS.

NOTES: (UNLESS OTHERWISE NOTED)

FILM/DWG: SERVICE DIAGRAM
 DATABASE: Z3614P.PCB DATE: 09 JUL 2015

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
 Corona, CA U.S.A.

CHECKED BY: _____
 DATE: _____
 APPROVED BY: _____
 DATE: _____
 DRAWN: M.WILKENS ENGR: M.WILKENS
 DATABASE FILE: Z3614P.PCB

TITLE: SERVICE DIAGRAM, COMBINED (PCB assy)
 BASSBREAKER 45
 (assembly name)
 SIZE: C DRAWING NUMBER: 7706653000 REV. A
 RELEASE DATE: 09 JUL 2015 SHEET 2 OF 2

8 7 6 5 4 3 2 1