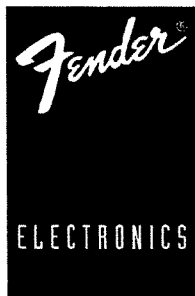


Fender Musical Instruments Corp.

SERVICE MANUAL

BRONCO Tweed Series Guitar Amplifier





BRONCO

GUITAR AMPLIFIER SERVICE MANUAL

FEBRUARY 1994 REV A

NOTICE:

The information contained herein is CONFIDENTIAL and PROPRIETARY to Fender Musical Instruments. 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. All specifications subject to change without notice.

A coded naming convention is used in the description of certain parts. The codes and what they mean follow:

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

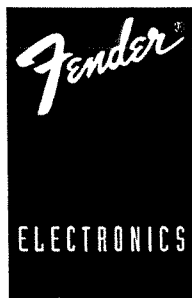
RES CC = Carbon Comp
 RES CF = Carbon Film
 RES FP = Flame Proof
 RES MF = Metal Film
 RES MOX = Metal Oxide
 RES WW = Wire Wound

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
 RHP = Round Head Phillips
 SMA = Sheet Metal "A" point
 SMB = Sheet Metal "B" point
 SS = Stainless Steel
 TF = Thread Forming
 THP = Truss Head Phillips
 ZI = Zinc Plating

NOTICE:

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



BRONCO PARTS LIST

PRINTED CIRCUIT BOARD ASSEMBLY

QTY	PART #	DESCRIPTION	REFERENCE	DESIGNATION
1	047071	PCB ASSY BRONCO ALL VOLTAGES	(STUFFED)	
1	028104	BUTTON PUSH SWITCH BLACK	(@ S1)	
1	047166	CABLE 6 CKT 5.5"	P12-13	
2	038689	CAP AE AX .47 μ F 100V	C12,13	
2	026517	CAP AE AX 2.2 μ F 50V	C4,24	
1	038691	CAP AE AX 4.7 μ F 50V	C23	
1	025960	CAP AE AX 22 μ F 16V	C7	
1	038693	CAP AE AX 47 μ F 16V	C26	
2	028471	CAP AE RDL 47 μ F 50V 20%	C31,32	
2	033607	CAP AE RDL 2200 μ F 35V 20%	C29,30	
2	038703	CAP CA .1 μ F 50V	C6,33	
1	039255	CAP CA 10PF 100V	C22	
1	038698	CAP CA 47PF 100V	C3	
1	039256	CAP CA 68PF 100V	C21	
1	038699	CAP CA 100PF 100V 10%	C25	
1	038701	CAP CA 470PF 50V	C11	
1	038874	CAP CA 560PF 50V	C14	
2	039268	CAP CA 4700PF 100V	C1,2	
1	027278	CAP MPF .1 μ F 63V 10%	C27	
1	027286	CAP MPF .47 μ F 63V	C28	
1	033580	CAP PFF RDL .0022 μ F 100V 10%	C5	
1	033581	CAP PFF RDL .0033 μ F 100V 10%	C18	
1	033583	CAP PFF RDL .0047 μ F 100V 10%	C19	
1	033590	CAP PFF RDL .022 μ F 100V 10%	C16	
2	033591	CAP PFF RDL .033 μ F 100V 10%	C9,10	
4	033592	CAP PFF RDL .047 μ F 100V 10%	C8,15,17,20	
1	034719	CONTROL SNAPIN 50KB	R29	
1	037323	CONTROL SNAPIN 50K 15A	R13	
3	037324	CONTROL SNAPIN 100K 30C	R20,24,28	
1	040552	CONTROL SNAPIN 250K 30C	R30	
4	006260	DIODE 1N4448/1N914B SIGNAL	CR1-4	
6	064089	DIODE 1N4003	CR5-10	
2	047140	DIODE ZEN 1N5349B 12V 5WATT	CR11,12	
2	025996	FUSE CLIP PCB .250 & 5MM FUSE	XF1	
1	068411	FUSE QA 1-1/4X1/4 250V 0.5A	F1	(100/120V ONLY)
1	020781	FUSE QA 20mmX5mm 250V .25 AMP	F1	(230/240V EXPORT ONLY)
1	041952	HEATSINK BRONCO		
3	016795	IC DUAL OP AMP TL072	U1,2,3	
1	029912 *	IC POWER AMP PC1188H 20W	U4	
1	029941	INSULATOR MICA 10 PIN SIP W/GR	(MICA PAD PRE-GREASED)	
1	041988	INSULATOR MICA 10 PIN SIP	(MICA PAD NO GREASE)	
1	031570	JACK PHONE PCB STEREO PREMIUM	J3	
2	037036	JACK PHONE PCB MONO CA PREMIUM	J1,2	
19	020888	JUMPER WIRE 22GA LL	W1-19	
2	9902202281*	LED RED LONG LEAD LUMEX CS02	LD1,2	
1	027287	LED RED PNL MT 4-1/2	LD3	(POWER LED)



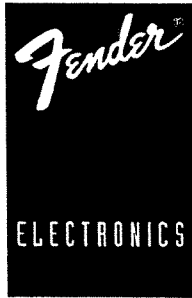
BRONCO PARTS LIST

PRINTED CIRCUIT BOARD ASSEMBLY CONTINUED

QTY	PART #	DESCRIPTION	REFERENCE	DESIGNATION
1	047070	PCB FAB BRONCO	(RAW PC BOARD)	
1	024961	RES CF 1/4W 5% 470Ω	R52	
2	024964	RES CF 1/4W 5% 820Ω	R38,42	
1	024965	RES CF 1/4W 5% 1K	R7	
1	024971	RES CF 1/4W 5% 2.2K	R12	
2	024973	RES CF 1/4W 5% 3.3K	R19,21	
1	028034	RES CF 1/4W 5% 5.1K	R5	
1	024979	RES CF 1/4W 5% 6.8K	R3	
1	024980	RES CF 1/4W 5% 8.2K	R18	
3	024985	RES CF 1/4W 5% 15K	R1,6,34	
4	024987	RES CF 1/4W 5% 22K	R8,16,17,32	
5	024993	RES CF 1/4W 5% 47K	R11,26,27,31,33	
1	026507	RES CF 1/4W 5% 62K	R43	
2	024997	RES CF 1/4W 5% 100K	R37,47	
1	024999	RES CF 1/4W 5% 150K	R39	
2	025058	RES CF 1/4W 5% 180K	R9,36	
5	025059	RES CF 1/4W 5% 220K	R10,14,15,23,25	
2	025065	RES CF 1/4W 5% 470K	R22,35	
2	028018	RES CF 1/4W 5% 510K	R2,4	
1	030737	RES CF 1/2W 5% 5.6Ω	R40	
1	037169	RES CF 1/2W 5% 1.8K	R50	
2	041594	RES FILM 1W 5% .68Ω	R41,51	
1	039128	RES FILM 1W 5% 120Ω	R44	
2	028740	RES FILM 1W 5% 470Ω	R45,46	
2	031008	RES FILM 2W 5% 240Ω	R48,49	
2	027638	SCRW TF 4-40X3/8 HWHS ZI	(POWER AMP IC MOUNT)	
2	032908	SCRW TF 6-32X3/8 PHP ZI	(HEATSINK TO PCB MOUNT)	
1	028091	SWITCH PUSH SLFLK SHORT STROKE	S1	

CHASSIS ASSEMBLY

QTY	PART #	DESCRIPTION	REFERENCE	DESIGNATION
1	047088	CHASSIS ASSY BRONCO 120V	(COMPLETE CHASSIS)	
1	026527	CABLE ASSY PWR 120V .187 TABS	(100/120V ONLY)	
1	026528	CABLE ASSY PWR 230V .187 TABS	(230V EXPORT ONLY)	
1	036479	CABLE ASSY PWR AUST .187 TABS	(240V AUSTRALIA ONLY)	
1	040992	CABLE ASSY PWR 5A U.K. .187 TABS	(240V UNITED KINGDOM ONLY)	
1	041931	CHASSIS BRONCO	(RAW CHASSIS STEEL ONLY)	
1	022491	CLAMP CABLE NYL SCRW MNT 5/16	(@ POWER CABLE 100/120V ONLY)	
1	012582	CLAMP CABLE NYL SCRW MNT 1/4	(@ POWER CABLE 230/240V ONLY)	
6	041710	KNOB POINTED BRONCO/PRO JUNIOR		
1	027288	LENS LED RED	(@ POWER LED)	



BRONCO PARTS LIST

CHASSIS ASSEMBLY CONTINUED

QTY	PART #	DESCRIPTION	REFERENCE	DESIGNATION
1	041932	PANEL TOP/REAR CHROME BRONCO		
4	014999	SCRW M 6-32X1/4 PHP BLX	(STANDOFF MOUNT)	
5	028684	SCRW SMB 6X3/8 PHP BLX	(XFMR/HEATSINK/CLAMP MOUNT)	
2	028937	SCRW TF 6-32X5/8 PHP ZI TAPTYT	(FUSE PCB MOUNT)	
1	038900	SCRW TF 6-32X1/4 PHP ZI	(@ GROUND LUG)	
1	047561	SPACER PWR SWITCH BRONCO	(4lb. FIBER)	
2	025936	STAND OFF PCB PUSH ON NY 3/8L	(@ FUSE PCB)	
2	025804	STANDOFF 6-32X1/2 RND AL	(PCB MOUNT)	
1	025935	SWITCH POWER DPST	(100/120V ONLY)	
1	039287 *	SWITCH POWER .187 TAB GLOBAL	(230/240V ONLY)	
2	022293	WSHR FLAT .473X.750 NI	(@ SPEAKER JACKS)	
5	026459	WSHR FLAT 6X3/8 ZI	(XFMR/HEATSINK/CLAMP MOUNT)	
3	9904300920	WSHR FLAT .482X.709 NI	(@ INPUT/SPEAKER JACKS)	
1	025413	XFMR PWR F1158UC SQ15	(120V DOMESTIC ONLY)	
1	031634	XFMR PWR FD15 230V	(100/230/240V EXPORT ONLY)	

CABINET ASSEMBLY

QTY	PART #	DESCRIPTION	REFERENCE	DESIGNATION
1	041930	CABINET ASSY BRONCO	(COMPLETE CABINET)	
1	041944	BACK ASSY BRONCO		
1	041942	GRILLE BAFFLE ASSY BRONCO	(COMPLETE GRILLE)	
1	022491	CLAMP CABLE NYL SCRW MNT 5/16	(@ POWER CABLE 100/120V ONLY)	
1	012582	CLAMP CABLE NYL SCRW MNT 1/4	(@ POWER CABLE 230/240V ONLY)	
4	041549	GLIDE PRESS-IN .75 DIA		
.201	036131	GRILLE CLOTH VINTAGE TYPE		
1	036129	HANDLE 9" LEATHER BROWN		
2	036478	HANDLE CAP NI		
1	041929	NAMEPLATE "FENDER" TWEED AMPS	(FENDER LOGO)	
4	069393	NUT 6-32 HEX EXT LOCK	(GRILLE BAFFLE MOUNT)	
8	021972	NUT T 10-32X3/4 STR 3 PRNG BLX	(BACK PANEL, SPEAKER MOUNT)	
4	064162	NUT T 8-332X1/2 STR 3 PRNG BLX	(HANDLE MOUNT)	
.001	036650	PIN ESCUTCHEON #18X3/8 NI	(NAMEPLATE MOUNT)	
5	015990	SCRW M 10-32X3/4 THP NI	(BACK ASSY MOUNT)	
6	036619	SCRW M 10-32X1-1/2 THP NI	(BACK ASSY/CHASSIS MOUNT)	
4	036618	SCRW M 6-32X1-1/2 OHP BRONZE	(GRILLE MOUNT)	
4	036649	SCRW M 8-32X3/4 RHP NI	(HANDLE MOUNT)	
1	029828	SCRW PB 8X3/4 PHP ZI	(CABLE CLAMP MOUNT)	
1	025421	SPEAKER, 8 INCH, PF8643		
3	022327	WSHR FLAT 8X7/16 NI		

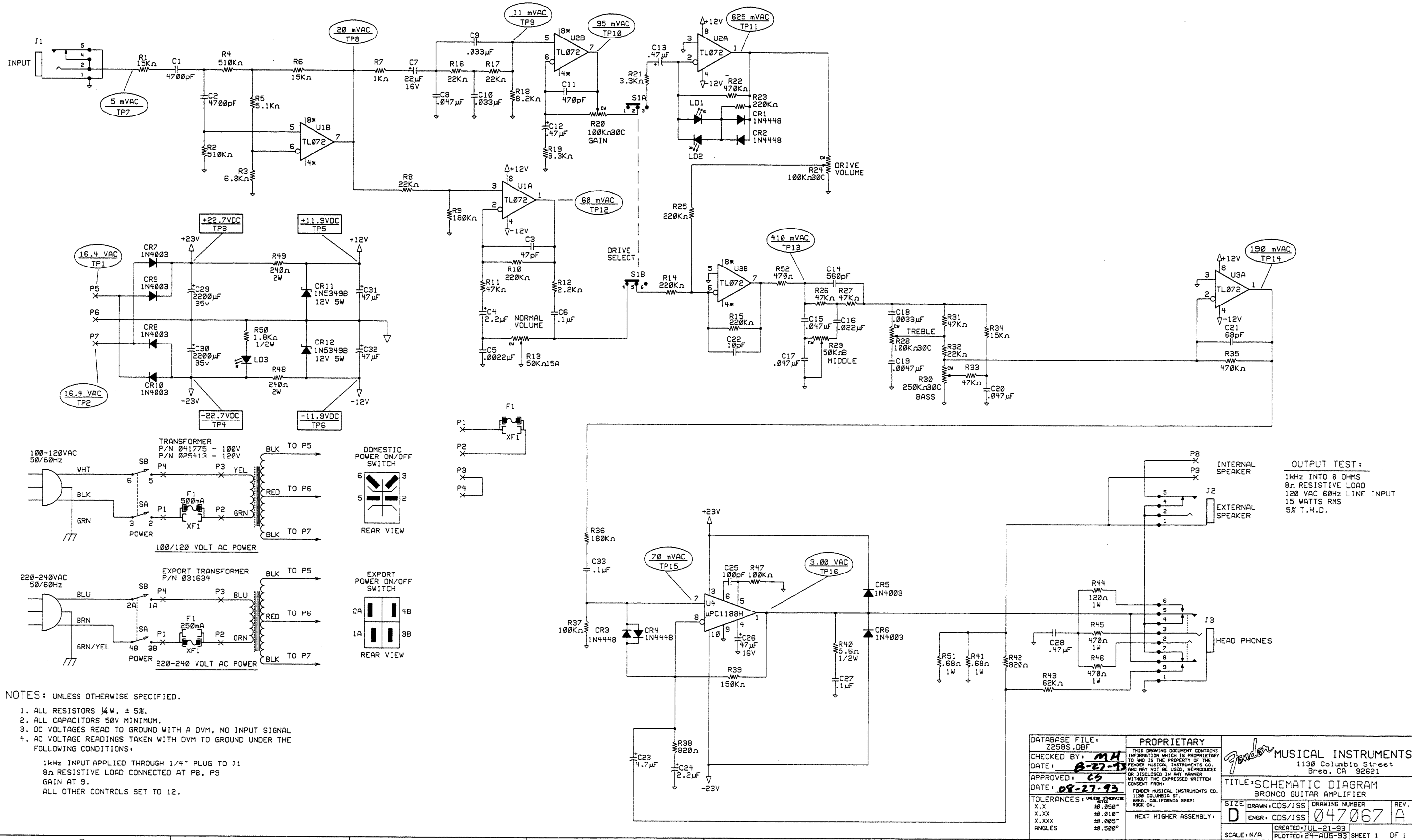


BRONCO PARTS LIST

MISCELLANEOUS

<u>QTY</u>	<u>PART #</u>	<u>DESCRIPTION</u>	<u>REFERENCE</u>	<u>DESIGNATION</u>
1	047277	MANUAL OWNERS BRONCO		
1	047068	SCHEMATIC REDU W/SVC BRONCO		

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	A	PR 258	AUG-20-93	CS



NOTES: UNLESS OTHERWISE SPECIFIED.

1. ALL RESISTORS 1/4W, ± 5%.
2. ALL CAPACITORS 50V MINIMUM.
3. DC VOLTAGES READ TO GROUND WITH A DVM, NO INPUT SIGNAL.
4. AC VOLTAGE READINGS TAKEN WITH DVM TO GROUND UNDER THE FOLLOWING CONDITIONS:
 1kHz INPUT APPLIED THROUGH 1/4" PLUG TO J1
 8Ω RESISTIVE LOAD CONNECTED AT P8, P9
 GAIN AT 9.
 ALL OTHER CONTROLS SET TO 12.

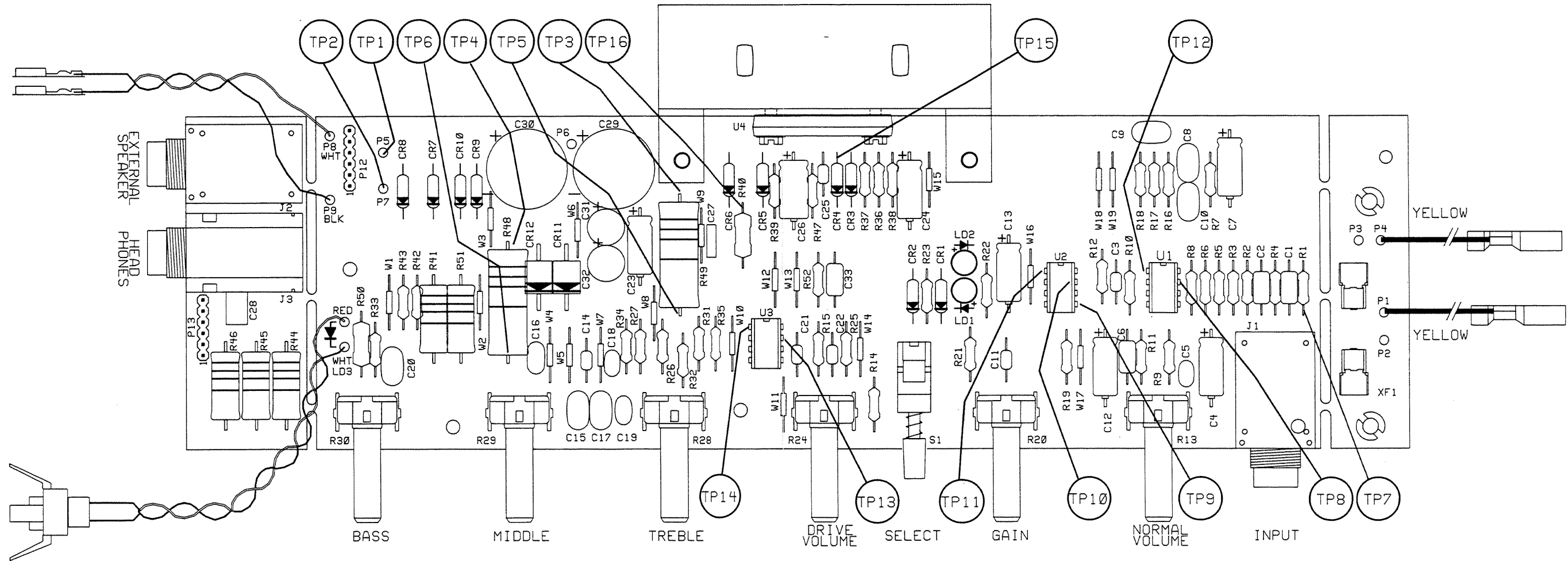
OUTPUT TEST:
 1kHz INTO 8 OHMS
 8Ω RESISTIVE LOAD
 120 VAC 60Hz LINE INPUT
 15 WATTS RMS
 5% T.H.D.

DATABASE FILE: 22585.DBF CHECKED BY: B-27-93 APPROVED: CS DATE: 08-27-93 TOLERANCES: UNLESS OTHERWISE SPECIFIED X.X ±0.050" X.XX ±0.010" X.XXX ±0.005" ANGLES ±0.500°	PROPRIETARY THIS DRAWING DOCUMENT CONTAINS INFORMATION WHICH IS PROPRIETARY TO AND IS THE PROPERTY OF THE FENDER MUSICAL INSTRUMENTS CO. AND MAY NOT BE USED, REPRODUCED OR DISCLOSED IN ANY MANNER WITHOUT THE EXPRESSED WRITTEN CONSENT FROM: FENDER MUSICAL INSTRUMENTS CO. 1138 COLUMBIA ST. BREA, CALIFORNIA 92621 RICK ON.	Fender MUSICAL INSTRUMENTS 1138 Columbia Street Brea, CA 92621 TITLE: SCHEMATIC DIAGRAM BRONCO GUITAR AMPLIFIER SIZE: DRAWN: CDS/JSS ENGR: CDS/JSS DRAWING NUMBER: 047067 REV. A CREATED: JUL-21-93 PLOTTED: 24-AUG-93 SCALE: N/A SHEET 1 OF 1
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0047068000

REVISIONS

ZONE	REV.	DESCRIPTION	DATE	APPROVED
	A	PR 258	20-AUG-93	<i>ca</i>



FILM/DWG: SERVICE DIAGRAM	
DATABASE: Z258P.DBF	DATE: 24-AUG-93
LAYERS PLOTTED: 1 2 3 4	10
	18 28

DATABASE FILE: Z258P.DBF	
CHECKED BY: <i>MH</i>	DATE: <i>8-27-93</i>
APPROVED: <i>CS</i>	DATE: <i>08-27-93</i>
TOLERANCES: UNLESS OTHERWISE NOTED	
X.X	±0.050"
X.XX	±0.010"
X.XXX	±0.005"
ANGLES	±0.500°

PROPRIETARY

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FENDER MUSICAL INSTRUMENTS CO.
1130 COLUMBIA ST.
BREA, CALIFORNIA 92621
ROCK ON.

NEXT HIGHER ASSEMBLY:

Fender **MUSICAL INSTRUMENTS**
1130 Columbia Street
Brea, Ca. 92621

TITLE: SERVICE DIAGRAM
BRONCO GUITAR AMPLIFIER

SIZE	DRAWN: CDS/JSS	DRAWING NUMBER	REV.
B	ENGR: CDS/JSS	047069	A

SCALE: CREATED: 26-JUL-93
PLOTTED: 24-AUG-93 SHEET 1 OF 1