

KXR 100

KEYBOARD EXTENDED RANGE

SERVICE MANUAL



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Fender Musical Instruments Corp. 7975 North Hayden Road Scottsdale, AZ 85258

KXR 100

(This is the model name for warranty claims)

KEYBOARD EXTENDED RANGE SERVICE MANUAL

FEBRUARY 1995 REV A

TYPE PR262

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

KXR 100

SPECIFICATIONS

Part Number: 120V Version : 22-8501
230V Version : 22-8561

Power Amp Section

Power output: 80 Watts RMS
Sensitivity: 370mV RMS
Input impedance: 33K Ω
Rated Load Impedance: 4 ohms
Distortion at rated power: Less than .1% @ 1kHz, before compression
Less than 1% @ 1kHz, maximum compression
DELTA COMP™ range: 20dB

PREAMP SECTION:

Input Impedance: XLR – 10k Ω
1/4" phone – 36 k Ω

Sensitivity for 80 watts: XLR – 2.8 mV
CHANNEL and MASTER 1/4" phone – 28mV
VOLUME at maximum
all tone controls at "0"

Equalization Range: Low +/- 12dB at 100Hz
Low Mid +/- 12dB at 338Hz
High Mid +/- 12DB at 1588Hz
High +/- 12dB at 4 kHz (shelving)

Dimensions: Height: 27 1/2" (69.8 cm)
Width: 20 1/2 " (52.1 cm)
Depth: 12" (30.5 cm)

Weight: 55 lbs. (25 kg)

Product specifications are subject to change without notice

KXR 100

THEORY OF OPERATION

The Channel One input will accept a Balanced or Unbalanced signal via a ¼" Phone plug or a 3 pin XLR connector. U1B provides a gain of 1 for the ¼" input, and a gain of 10 for the XLR input. A balanced low level microphone connected to Channel One, allows the KXR 100 to function as a small self contained Vocal and Instrument PA system. U1B also rolls off high frequencies at about 128kHz.

Located within the negative feedback loop of U1A is the Channel One Volume control. It provides a minimum gain of 1, and a maximum gain of 15. At maximum gain, Capacitor C6 rolls off the high frequencies at about 47kHz. Channel's Two and Three do not offer a low level XLR input Jack. They do offer a function that shorts across the Volume control via a switch contact in the ¼" input jack. This causes U2A and U3A to remain locked into a Unity Gain mode, disabling the Volume control, until a plug is inserted into the jack. This reduces noise in the input circuitry.

The three channels sum together and feed the Reverb Drive stage U4A and the Summing Amp U5A. U4B senses the return signal from the Reverb Pan. R70 and C47 provide a slight boost in the high frequencies, R29 and C20 roll off low frequencies. This produces a fairly bright reverb sound. To eliminate noise, C49 limits the high frequency response to about 5kHz. All ground connections in the Reverb circuitry are routed through a dedicated trace to the Star Ground point on the circuit board. This eliminates any bleed through of noise into other audio ground paths.

U5A sums the dry signal with the Reverb return signal and then drives the Equalizer circuit. Gytrators U6B, U7B, and U7A are used for the low (100Hz), Low Mid (338Hz), and High Mid (1588Hz)bands. The High band uses a single pole shelving filter (R47, C34) at 4kHz. U6A performs the Boost/Cut function, and also drives the Effects Loop.

The Effects Loop Send is capable of providing a pseudo balanced signal if desired. This helps to reduce hum. The Effects Loop Return will accept an Unbalanced or Balanced input.

U5B drives the Record Out jacks, and the Master Volume control. R55 and C40 boost the low frequencies at 220Hz. This boost is not desired at the Record Out jacks. Therefore C41 and R56 remove the Low boost. This allows the Record Out to see the same signal as the input channels, plus any tone shaping from the Equalizer. Between the ouptput of U5B and the Master Volume control, C43 and R60 boost high frequencies. The boost in Low and High frequencies provide a Smile Curve response.

The signal and ground line from the Master Volume control feed through a Flex Jumper to U2A, which is on the Power Amp circuit board. Any Hum induced into the signal and ground line is canceled by the Common Mode Rejection at U2A.

Using R71 and C60, U2A provides the high frequency pre-emphasis from about 1kHz on up. This prevents compressor "pumping" caused by very low frequencies. The increase in high frequencies prevents repetitive releases by the compressor when triggered by low frequencies. De-emphasis occurs just prior to the speaker connections, on a small break-away circuit board that contains R72, R73, and C61.

KXR 100

THEORY OF OPERATION (CONT)

Deltacomp™

U2B is a unity gain amplifier that drives the power amp stage, and U3. U3 is an Operational Transconductance Amplifier (OTA). In conjunction with U2B, it acts as the gain reduction circuit for the Deltacomp™. The attack/release circuit for the Deltacomp™ contains the diode, resistor, and capacitor network that drives the base of Q8. Comparator U4A senses the output of the power amplifier. As the amplifier approaches clipping, the output of U4A toggles negative. The negative voltage charges capacitors C22 – C25 all at once in parallel as a one-pole filter through a single time constant made up with R47. $[R47 \times (C22+C23+C24+C25)]=2.2k \times 8.8\mu F=19.4mSec$.

As the capacitors charge, the negative voltage at the base of transistor Q8 turns on this Darlington device. Current flows from the collector of Q8 to pin 5 of U3. This current controls the output amplitude of U3. The inverted output from U3 mixes with the signal at the input of U2B (pin 5) causing cancellation, which reduces the input to the power amplifier. This prevents the amplifier from clipping. When the output of the power amplifier is reduced, the comparator toggles positive, removing the negative control voltage from the attack/release circuit. The blocking action of diodes CR24 – CR27 force capacitors C22 – C25 to discharge (release) through a 4-pole filter with different time constants, through resistor R46.

Turn-On delay

JFET Q7 and associated components provide a 2 – 3 second turn-on delay for the audio input to the power amplifier. Upon power-up, capacitor C21 charges through resistor R40. The negative gate voltage pinches off the JFET, removing the ground from the input of the amplifier. When switching the power off, C21 immediately discharges through diode CR23, grounding the input of the amplifier. **TROUBLESHOOTING TIP:** Check for proper operation of this circuit when experiencing excessive turn-on or turn-off “pops”, or no output when signal is applied to the input. Many times the JFET itself can be the culprit. **NOTE:** Excessive turn-off “pops” can also be caused by uneven discharge of the +/- power supplies. Usually a mismatch in the filter capacitors will cause this problem. It's easy to look at both supplies on an oscilloscope. Invert one scop input and check for even discharge to zero volts.

U1 is a high-voltage op-amp that provides voltage gain for the power amplifier. Bootstrap capacitors C1 and C2 sense the output through R6. This provides more voltage swing for the op-amp with respect to ground.

Diodes CR5 – CR8 (BYV26D) make up the fixed bias circuit for the output transistors. The bodies of the diodes mount through the heatsink to properly track the temperature of the transistors. These diodes were selected because they exhibit a 2mV decrease in knee voltage for every 1 degree (Celsius) increase in temperature. Pin 6 of U1 is at 0Vdc. Therefore the bias diodes provide 2 voltage drops (1.2V) to the base of Darlington transistors Q1, Q2, Q5, Q6.

Diodes CR32 – CR35 make up a voltage clamp protection circuit. If the bases of the output transistors reach 4.5 volts with respect to the output, the diodes will turn on, clamping the voltage.

The output signal feeds through the Headphone Jack to the 1kHz de-emphasis circuit, before driving the 15” speaker and dual piezo horn.

KXR 100 PARTS LIST

PREAMP PRINTED CIRCUIT BOARD ASSEMBLY

QTY	PART #	DESCRIPTION	REFERENCE DESIGNATION
1	047755	PCB ASSY KXR 100 PREAMP	(STUFFED)
1	047974	CABLE RIBBON ASSY 9 CKT 8 INCH	(@P1,95)
2	038690	CAP AE AX 1.0UF 100V	C20,28
3	038692	CAP AE AX 10UF 35V	C48
17	009512	CAP AE AX 22UF 25V 20%	C1,2,5,7,8,11,13,14,17,21,22,25,26,35,36,37, 42
14	039256	CAP CA 68PF 100V	C3,4,6,9,10,12,15,16,18,23,24,27,38,39
1	038703	CAP CA .1uF 50V	C30
1	039270	CAP CA 10000PF 50V 5%	C34
1	039266	CAP CA 3300PF 100V	C19
2	039262	CAP CA 680PF 50V	C33,49
1	033586	CAP PFF RDL .0068uF 100V 10%	C31
1	033590	CAP PFF RDL .022uF 100v 10%	C41
2	033591	CAP PFF RDL .033UF 100V 10%	C43,40
1	033592	CAP PFF RDL .047UF 100V 10%	C47
1	036234	CAP PFF RDL .015UF 100V 10%	C29
1	038656	CONTROL 10KB	R31 (REVERB)
1	038716	CONTROL 2K B SNAP IN	R61 (MASTER)
4	038655	CONTROL 50KB W/ CD	R36-39 (@ EQUALIZER)
3	037323	CONTROL SNAPIN 50K 15A	R8,16,24
4	025802	FSTN TAB MALE.250X.032 PCB MT	CP1-4
7	016795	IC DUAL OP AMP TL072	U1-7
6	031570	JACK PHONE PCB STEREO PREMIUM	J1,3-6,8 (INPUTS EFF LOOP)
1	025933	JACK PHONO DUAL PC MT	J7 (RECORD OUT RCA'S)
2	048466	JACK RCA SINGLE PCB MOUNT	J9,10 (REVERB IN/OUT)
1	029177	JACK XLR FM PC MNT	J2 (INPUT #1,3 PIN)
23	020888	JUMPER WIRE 22GA.5X.175	W1-20,22-24
1	028039	LED RED 5X5MM SLB-55VR3	LD1
1	047754	PCB FAB KXR 100 PREAMP	(RAW CIRCUIT BOARD)
2	024937	RES CF 1/4W 5% 10Ω	R68,69
1	024942	RES CF 1/4W 5% 22Ω	R26
1	024952	RES CF 1/4W 5% 100Ω	R70
1	024965	RES CF 1/4W 5% 1K	R29
2	031819	RES MF 1/4W 5% 1.82K	R3,4
10	024971	RES CF 1/4W 5% 2.2K	R7,9,15,17,23,25,27,49,50,60
3	024972	RES CF 1/4W 5% 2.7K	R42,44,46
1	029610	RES CF 1/4W 5% 3K	R47
1	028861	RES CF 1/2W 5% 3.3K	R100
2	024977	RES CF 1/4W 5% 4.7K	R57,58
2	024986	RES CF 1/4W 5% 18K	R40,35
16	031818	RES MF 1/4W 1% 18.2K	R1,2,5,6,10,11,13,14,18,19,21,22,51,25,53,54
2	024987	RES CF 1/4W 5% 22K	R33,55
1	024989	RES CF 1/4W 5% 33K	R56
3	024993	RES CF 1/4W 5% 47K	R28,30,34
8	024997	RES CF 1/4W 5% 100K	R12,20,32,41,43,45,48,59
4	029722	RES FILM 1W 5% 1K	R64,65,66,67
2	028045	RES FILM 1W 5% 220Ω	R62,63
1	9904701440	SPACER LED.7X.125BLUE	

POWER AMPLIFIER PRINTED CIRCUIT BOARD ASSEMBLY

QTY	PART #	DESCRIPTION	REFERENCE DESIGNATION
1	047764	KXR 100 PCB ASSY POWER AMP	(STUFFED)
1	038690	CAP AE AX 1.0uF 100V	C14
9	028459	CAP AE RDL 2.2uF 50V 20%	C15-17,19,21-25
1	038692	CAP AE AX 10uF 35V	C7
2	028465	CAP AE RDL 22uF 25V 20%	C5,6
5	028471	CAP AE RDL 47uF 50V 20%	C1,2,10,11,28

KXR 100

POWER AMPLIFIER PRINTED CIRCUIT BOARD ASSEMBLY (CONT)

QTY	PART #	DESCRIPTION	REFERENCE DESIGNATION
2	031756	CAP AE 4700uF 50V	C12,13
3	027278	CAP MPF .1uF 63V 10%	C3,4
1	041501	CAP MPF AX 2.2uF 100V 10%	C61
1	024854	CAP MPF RDL .1uF 400V 10%	C46
1	033578	CAP PFF RDL .001uF 100V 10%	C20
1	033580	CAP PFF RDL .0022uF 100V 10%	C60
1	033591	CAP PFF RDL .033uF 100V 10%	C18
2	064089	DIODE 1N4003	CR21,22
13	006260	DIODE 1N4448 SIGNAL	CR1,2,23-29,32,35
4	029045	DIODE 6A 400V 6A4 LEAD FORMED	CR17-20
4	028776	DIODE BIAS BYV26D LEAD FORMED	CR5-8
2	027329	DIODE ZEN 1N5228B 3.9V 5%	CR33,34
2	028119	DIODE ZEN 1N5353B 16V 5W 5%	CR13,14
2	026000	FSTN TAB MALE PCB MT.187X.032	CP7,12
16	025802	FSTN TAB MALE.250X.032 PCB MT	CP1-6,1-11,17-22
2	025996	FUSE CLIP PCB.250 & 5MM FUSE	XF1
1	039982	FUSE QA 1-1/4X1/4 250V 4A	F1 (100/120V ONLY)
1	020794	FUSE QA 20mmX5mm 250V 2A	F1 (230/240V ONLY)
1	027418	HDR, 1CTR 9 CKT SQ PIN	P1
1	027404	IC CA3080AE QTA	U3
2	016795	IC DUAL OP AMP TL072	U2,4
1	028047	IC OMP AMP MC1436/SG1436Y	U1
4	040903	INSULATOR MICA TO-218	@Q1,2,5,6
23	020888	JUMPER WIRE 22GA	W1-22
1	047763	PCB FAB KXR 100 PWR AMP	(RAW CIRCUIT BOARD)
1	040716	PLATE COUPLER HEATSINK	
1	024952	RES CF 1/4W 5% 100Ω	R37
5	024965	RES CF 1/4W 5% 1K	R8,11,24,26
2	024971	RES CF 1/4W 5% 2.2K	R38,47
1	024973	RES CF 1/4W 5% 3.3K	R71
2	024977	RES CF 1/4W 5% 4.7K	R42,58
1	024979	RES CF 1/4W 5% 6.8K	R36
4	024981	RES CF 1/4W 5% 10K	R35,49,50,52
1	024987	RES CF 1/4W 5% 22K	R34
7	024989	RES CF 1/4W 5% 33K	R29-33,48,51
2	024993	RES CF 1/4W 5% 47K	R7,25
1	024998	RES CF 1/4W 5% 120K	RR41
2	025069	RES CF 1/4W 5% 1M	R39,40
2	025942	RES CF 1/4W 5% 7.5K	R9,10
4	028990	RES CF 1/4W 5% 51K	R43-46
2	028029	RES FILM 1W 5% 1.5K	R1,21
1	028045	RES FILM 1W 5% 220Ω	R6
2	028030	RES FILM 1W 5% 680Ω	R4,5
2	048894	RES WW 10W 10% 220Ω	R22,23
1	048468	RES WW BT 10W 10% 47Ω	R72
4	028028	RES WW BT 5W 10% .47Ω	R2,3,18,19
1	048467	RES WW BT 5W 10% 39Ω	R73
4	027638	SCREW TF 4-40X3/8 HWHS ZI.1" HD	@Q1,2,5,6
4	032908	SCRW TF 6-32X3/8 PHP ZI	(PCB TO HEATSINK MOUNT)
1	028503	THERMISTOR 10Ω 5W C60-11	TH1 (220V/230V/240V ONLY)
4	028169	WSHR SHLDR NYL 5/32X1/4	@Q1,2,5,6
1	014689	XSTR N-CH JFET J111 TO-92	Q7
2	028114	XSTR NPN TIP 142 T-218AC	Q1,5
1	014408	XSTR PNP MPSA63 TO-92	Q8
2	028115	XSTR PNP TIP 147 TO-218AC	Q2,6

KXR 100 CHASSIS ASSEMBLY

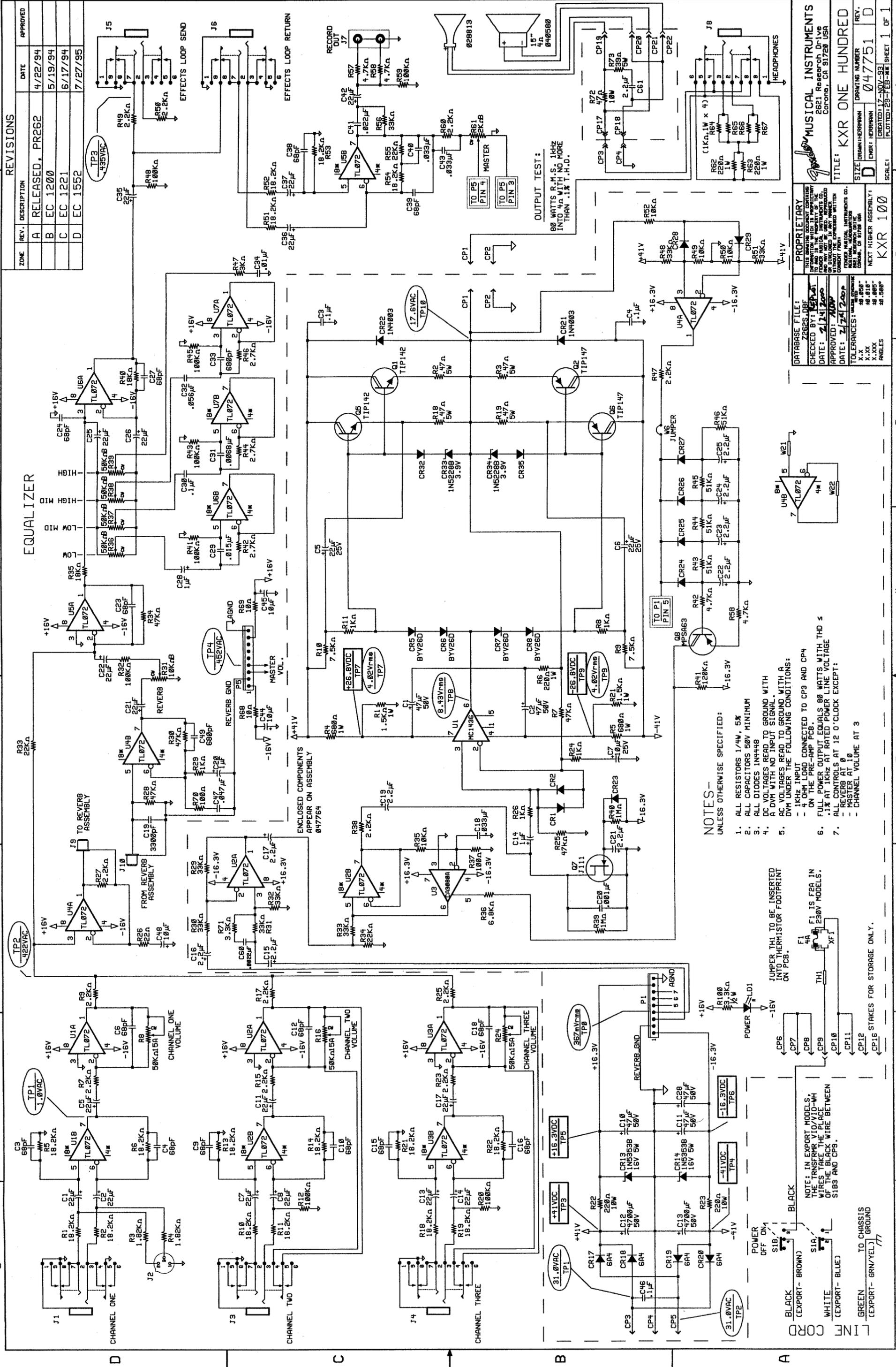
QTY	PART #	DESCRIPTION	REFERENCE DESIGNATION
1	048510	CHS ASSY KXR100	(COMPLETE CHASSIS)
1	007565	BUSHING SR.625X125X37/64 BLK	(@ PWR CABLE 100/120V ONLY)
1	040401	BUSHING SR.625X.125X37/64 WHT	(@PWR CABLE 230/240V ONLY)
1	026527	CABLE ASSY PWR 120V.187 TABS	(POWER CABLE 100/120V ONLY)
1	026528	CABLE ASSY PWR 230V .187 TABS	(POWER CABLE 230V ONLY)
1	036479	CABLE ASSY PWR AUST. .187 TABS	(PWR CABLE 240V AUSTRALIA)
1	040992	CABLE ASSY PWR 5A U.K. .187 TAB	(PWR CABLE 240V U.K. ONLY)
1	047758	CHS KXR 100	(RAW CHASSIS)
1	028560	END BELL XFMR 85W	(TRANSFORMER MOUNT)
9	048357	KNOB CUSTOMER BLK/OFF WHT 180°	
4	023591	NUT ACORN 8-32	(TRANSFORMER MOUNT)
1	047759	PANEL FRONT KXR 100	1
1	047660	PANEL REAR KXR 100	
1	9904101560	SCRW 6X3/8 HI-LO PHP BLX	(RCA JACK MOUNT)
12	017433	SCRW M 6-32X3/8 PHP BLX	(PCB TO CHASSIS MOUNT)
2	031868	SCRW PLASTITE 4X1/4	(XLR JACK MOUNT)
1	041595	SCRW TF 6-32X3/16 [J] ST; ZO SE,S	(@ GROUND LUG)
4	027636	SCRW TF 8-32X5/8 HWH BLX	(HEATSINK TO CHASSIS MOUNT)
1	025935	SWITCH DPST .187 TAB	S1 (100/120V ONLY)
1	039287	SWITCH DPST .187 TAB GLOBAL	S1 (230/240V EXPORT ONLY)
4	030007	WSHR LCK INTL 8X.330X.02 ZI	(TRANSFORMER MOUNT)
1	027668	XFMR PWR 120V 85W	T1 (DOMESTIC 120V ONLY)
1	039357	XFMR PWR EXP DELUXE 112	T1 (100/115/230/240 ONLY)

CABINET ASSEMBLY

QTY	PART #	DESCRIPTION	REFERENCE DESIGNATION
1	047757	CAB ASSY KXR 100	
1	047120	CABLE REVERB 1450MM	
1	022491	CLAMP ABL NYL SCRW MNT 5/16	
REF	026317	CLOTH GRILLE BLACK PBC	
6	031867	CORNER 2 HOLE W/NOTCH BLK PWDRD	
2	031840	CORNER 3 HOLE BLK PWDRD	
4	029821	EYELET RFLNGD .215 OD X.315 L	(REVERB PAN MOUNT)
1	028885	GASKET HORN DUAL PIEZO	
4	027849	GLIDE CAB 1/24X.335 BLX WAX	(NO INSERT)
1	047757	GRILLE ASSY KXR 100	(COMPLETE GRILLE)
2	048958	HANDLE RECESSED	(NEW STYLE ON EACH SIDE OF CABINET)
2	031845	HANDLE CAP 2 HOLE BLK PWDRD	(OLD STYLE ON TOP)
1	025884	HANDLE INSERT 7.78"	(OLD STYLE) (SPRING STEEL)
1	025883	HANDLE SHORT NO LOGO	(OLD STYLE) (NO INSERT)
1	028813	HORN DRIVER DUAL PIEZO	
4	019275	INSERT GLIDE CUSHION 1.27 DIA	(RUBBER ONLY)
1	011298	NAMEPLATE FENDER SMALL	(LOGO)
1	031669	REVERB UNIT 800 Ω 8EB2C1D	(MOUNTED INSIDE CABINET ON BOTTOM BENEATH INSULATION)
8	026577	SCRW M 10-32X1 PHP BLX	(SPEAKER MOUNT)
4	017441	SCRW M 10-32X1-1/2 OHP STL BLX	(HANDLE MOUNT, OLD STYLE)
4	036199	SCRW M 8-32X1-3/16 OHP BLX CP	(CHASSIS MOUNT)
5	029828	SCRW PB 8X3/4 PHP ZI	(REVERB PAN MOUNT)
2	018113	SCRW SMA 4X1/2 OHP BLX	(NAMEPLATE MOUNT)
14	026576	SCRW SMA 8X5/8 THP BLX	(HORN/CORNER MOUNT)
8	016627	SCRW SMA 8X5/8 THP BLK	(HANDLE MOUNT/NEW STYLE)
4	017942	SCRW WOOD 8X1 FHP BLX	(GLIDE MOUNT)
1	040580	SPEAKER 15" 4Ω 100W	
4	029527	WSHR FNSH 8-5/8 FLNGD BLX WX	(CHASSIS MOUNT)

MISCELLANEOUS

1	047761	MANUAL OWNERS KXR 100
1	047752	SCHEM REDU KXR 100
1	047753	SRVC DIAG KXR 100 W PWR AMP



ZONE	REV.	DESCRIPTION	DATE	APPROVED
	A	RELEASED, PR262	4/22/94	
	B	EC 1200	5/19/94	
	C	EC 1221	6/17/94	
	D	EC 1552	7/27/95	

PROPRIETARY
MUSICAL INSTRUMENTS
2621 Research Drive
Corona, CA 91720 USA

TITLE: KXR ONE HUNDRED
DRAWING NUMBER: 047751
REV: D

SIZE: D
ENGR: HERRMANN
CREATED: 17-NOV-92
SCALE: KXR 100
PLOTTED: 25-SEP-95

DATABASE FILE: Z369S.DBF
CHECKED BY: [Signature]
DATE: 2/21/2000
APPROVED: [Signature]
DATE: 2/21/2000

TOLERANCES: UNLESS OTHERWISE SPECIFIED:
X.X .50%
X.XX .25%
X.XXX .10%
ANGLES .50°

ENCLOSED COMPONENTS
APPEAR ON ASSEMBLY
047764

REVERB GND
MASTER VOL.

NOTES—
UNLESS OTHERWISE SPECIFIED:

- ALL RESISTORS 1/4W, 5%.
- ALL CAPACITORS 50V MINIMUM.
- ALL DIODES 1N4003.
- DC VOLTAGES READ TO GROUND WITH NO INPUT SIGNAL.
- AC VOLTAGES READ TO GROUND WITH A 1KΩ LOAD CONNECTED TO CP3 AND CP4 ON THE PRE-AMP PCB.
- FULL POWER OUTPUT EQUALS 80 WATTS WITH THD ≤ 1% AT 1KHz AT RATED POWER LINE VOLTAGE.
- ALL CONTROLS AT 12 O'CLOCK EXCEPT:
- MASTER AT 10
- REVERB AT 10
- CHANNEL VOLUME AT 3

JUMPER TH1 TO BE INSERTED INTO THERMISTOR FOOTPRINT ON PCB.

NOTE: IN EXPORT MODELS, THE TRANSFORMER IS 100-0-100V. THESE BLACK WIRE BETWEEN S1B3 AND CP5.

POWER OFF ON1
POWER ON1

BLACK (EXPORT - BROWN)
WHITE (EXPORT - BLUE)
GREEN TO CHASSIS GROUND (EXPORT - GRN/YEL) GROUND

LINE CORD

POWER OFF ON1
POWER ON1

BLACK (EXPORT - BROWN)
WHITE (EXPORT - BLUE)
GREEN TO CHASSIS GROUND (EXPORT - GRN/YEL) GROUND

1
2
3
4
5
6
7
8

1
2
3
4
5
6
7
8

EQUALIZER

NOTES—

- ALL RESISTORS 1/4W, 5%.
- ALL CAPACITORS 50V MINIMUM.
- ALL DIODES 1N4003.
- DC VOLTAGES READ TO GROUND WITH NO INPUT SIGNAL.
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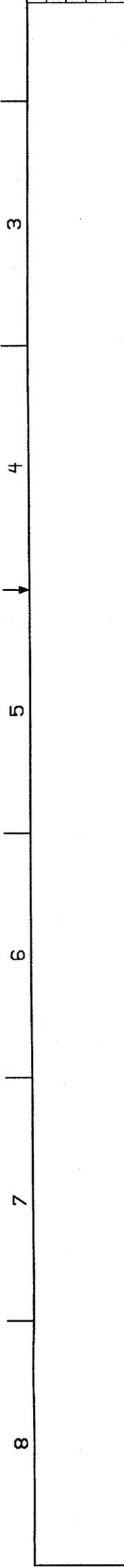
JUMPER TH1 TO BE INSERTED INTO THERMISTOR FOOTPRINT ON PCB.

NOTE: IN EXPORT MODELS, THE TRANSFORMER IS 100-0-100V. THESE BLACK WIRE BETWEEN S1B3 AND CP5.

POWER OFF ON1
POWER ON1

LINE CORD

REVISIONS			
ZONE	REV. DESCRIPTION	DATE	APPROVED
	A	RELEASED, PR262	4/22/94



REVISIONS			
ZONE	REV. DESCRIPTION	DATE	APPROVED
	A	RELEASED, PR262	4/22/94

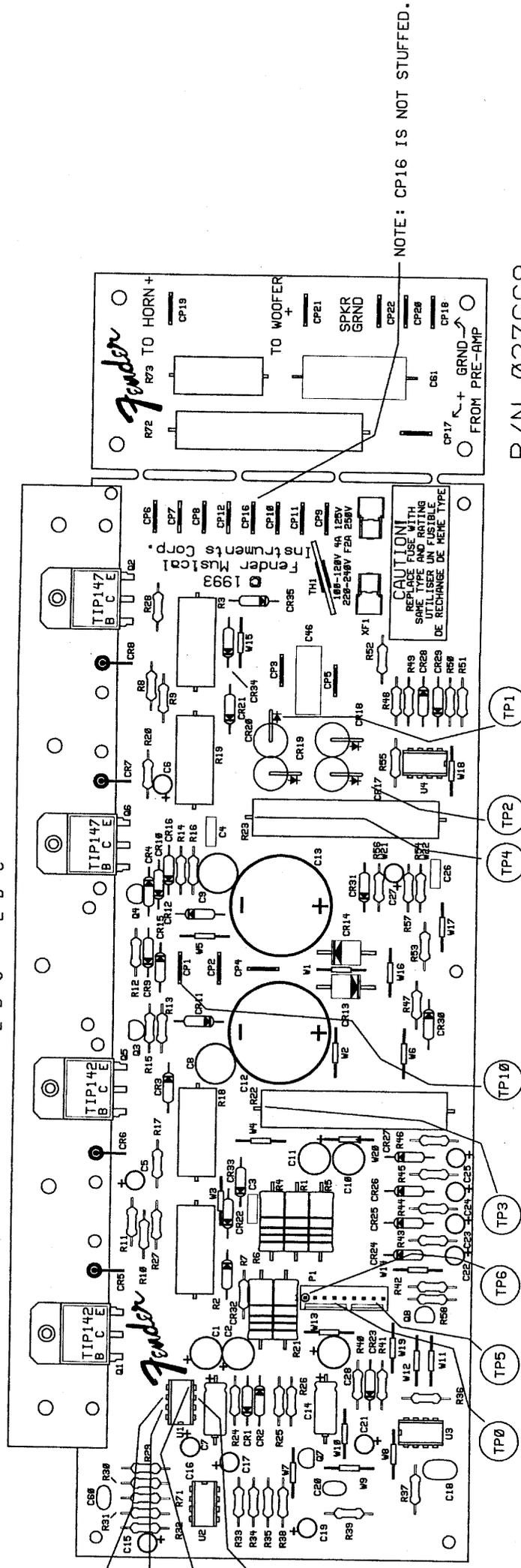
Fender
© 1994 FMIC

TP1 TP2 TP3 TP4

FILM/DWG: SERVICE DIAGRAM
 DATABASE: Z262P1.DBF DATE: 29-FEB-94
 LAYERS PLOTTED: 1 2 3 4 10 18

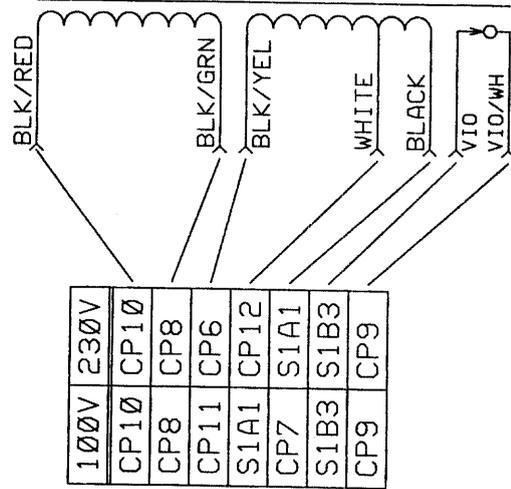
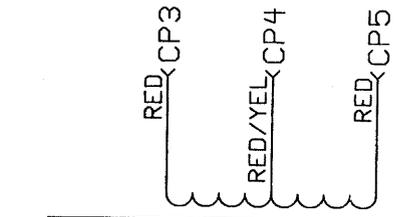
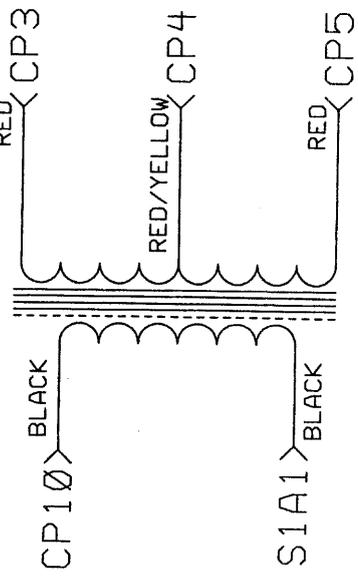
DATABASE FILE: Z262P1.DBF CHECKED BY: MS/LAT DATE: 2/24/2000 APPROVED: 7/00 DATE: 2/24/2000	PROPRIETARY THIS INFORMATION IS THE PROPERTY OF FENDER MUSICAL INSTRUMENTS CO. AND MAY NOT BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE EXPRESS WRITTEN PERMISSION OF FENDER MUSICAL INSTRUMENTS CO. MADE IN U.S.A.	TITLE: KXR ONE HUNDRED SERVICE DIAGRAM SIZE: B ENGR: HERRMANN DRAWING NUMBER: 047753 REV. A
	TOLERANCES: UNLESS OTHERWISE SPECIFIED: X.X .000" X.XX .010" X.XXX .005" ANGLES .000"	NEXT HIGHER ASSEMBLY: KXR 100

REVISIONS			
ZONE	REV. DESCRIPTION	DATE	APPROVED
A	RELEASED, PR262	4/11/94	
B	EC1458	3/29/95	



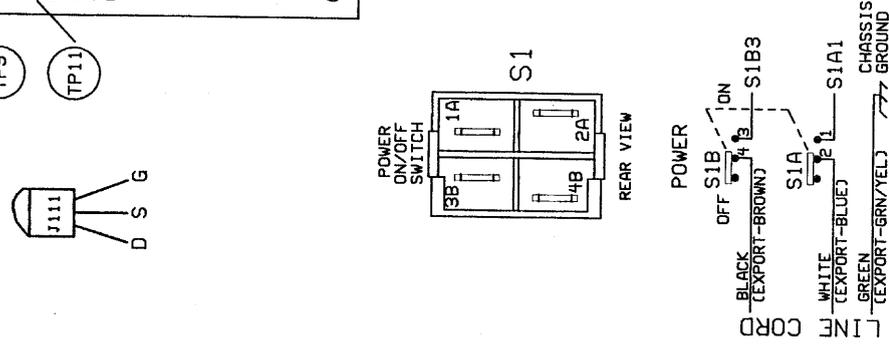
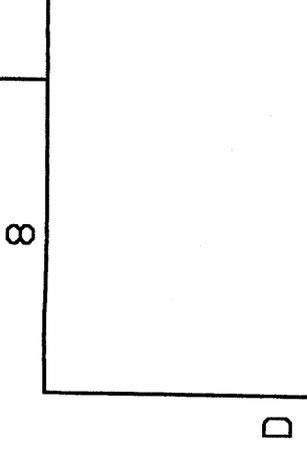
FILM/DWG: SERVICE DIAGRAM
 DATABASE: Z262P2.DBF DATE: 29-FEB-94
 LAYERS PLOTTED: 1 2 3 4 10 18

P/N Ø27668
 DOMESTIC
 TRANSFORMER



100V	230V
CP10	CP10
CP8	CP8
CP11	CP6
S1A1	CP12
CP7	S1A1
S1B3	S1B3
CP9	CP9

EXPORT POWER TRANSFORMER
 P/N Ø39357
 EXPORT MODELS



PRIMARY FUSE	
100V UNIT	F4A/125V 1A
120V UNIT	F4A/125V 1A
230V UNIT	F2A/250V 5mm

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 1190 COLUMBIA ST.
 BREA, CALIFORNIA 92621
 NEXT HIGHER ASSEMBLY:
 KXR 100

MUSICAL INSTRUMENTS
 1190 Columbia Street
 Brea, Ca. 92621

TITLE: SERVICE DIAGRAM, KXR 100
 SIZE: B
 DRAWN: E.J.H.
 ENGR: CDS/MHW
 DRAWING NUMBER: Ø48473
 REV. B

SCALE: NONE PLOTTED: 29-FEB-94
 CREATED: 11-APR-94
 SHEET 1 OF 1