



REISSUE '65 DELUXE REVERB

SERVICE MANUAL



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Reissue '65 Deluxe Reverb

(This is the model name for warranty claims)

SERVICE MANUAL

TYPE: PR 239

DECEMBER 1993 REV A

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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

Reissue '65 Deluxe Reverb

PARTS LIST

PRINTED CIRCUIT BOARD ASSEMBLY

| QTY | PART # | DESCRIPTION | REFERENCE DESIGNATION |
|-----|---------|----------------------------------|------------------------|
| 1 | 041289 | PCB ASSY '65 DELUXE REVERB 120V | (STUFFED) |
| 3 | 037805 | CABLE RIBBON 6 CKT 2-1/4" | P21,22,23 |
| 1 | 038691 | CAP AE AX 4.7uF 50V 20% | C19 |
| 7 | 009512 | CAP AE AX 22uF 25V 20% | C1,6,11,15,16,23,24 |
| 3 | 024819 | CAP AE AX 22uF 500V 20% | C33,34,35 |
| 1 | 041589 | CAP AE AX 47uF 500V 20% | C32 |
| 1 | 036954 | CAP AE RDL 22uF 63V 20% | C29 |
| 1 | 031040 | CAP AE RDL 100uF 100V 20% | C36 |
| 1 | 041705 | CAP AE RDL 220uF 100V 20% | C31 |
| 1 | 020883 | CAP CD 10PF 1000V 10% | C13 |
| 1 | 020909 | CAP CD 47PF 1000V 10% | C10 |
| 2 | 020917 | CAP CD 250PF 1000V 10% | C2,7 |
| 1 | 020842 | CAP CD 500PF 1000V 10% | C14 |
| 2 | 024823 | CAP MPF RDL .01uF 400V 10% | C20,21 |
| 2 | 024833 | CAP MPF RDL .022uF 400V 10% | C12,22 |
| 3 | 024845 | CAP MPF RDL .047uF 400V 10% | C4,5,9 |
| 1 | 024853 | CPA MPF RDL .1uF 250V 10% | C26 |
| 3 | 024854 | CAP MPF RDL .1uF 400V 10% | C3,8,18 |
| 2 | 024855 | CAP MPF RDL .1uF 630V 10% | C27,28 |
| 1 | 037040 | CAP PFF .0033uF 400V 10% | C17 |
| 1 | 037666 | CAP PFF .001uF 400V 10% | C25 |
| 2 | 037596 | CONTROL SNAPIN 1 MEG 30A J TAPER | R10,22 |
| 2 | 037597 | CONTROL SNAPIN 250K 30A J TAPER | R7,19 |
| 2 | 037599 | CONTROL SNAPIN 250K 10A AUDIO | R8,20 |
| 1 | 037600 | CONTROL SNAPIN 100K B | R31 |
| 1 | 037601 | CONTROL SNAPIN 3 MEG 10C AUDIO | R42 |
| 1 | 037602 | CONTROL SNAPIN 50K 30C REV AUDIO | R48 |
| 1 | 064089 | DIODE 1N4003 200PRV 1 AMP | CR1 |
| 23 | 026000 | FSTN TAB MALE PCB MT .187X.032 | CP1-23 |
| 3 | 027413 | HDR .1CTR 6 CKT SQ PIN | PX1A,22A,23A |
| 4 | 037117 | JACK PCB MONO CLOSED CKT | J1-4 |
| 1 | 025933 | JACK PHONO DUAL PC MTG | J5 |
| 7 | 020888 | JUMPER WIRE 22GA .5X.175 | W1-7 |
| 1 | 037836 | OPTOISOLATOR ASSY 65 TWIN | OP1 |
| 1 | 041288 | PCB FAB 65 DELUXE REVERB | (RAW BOARD) |
| 2 | 031901 | PIN MALE PCB .093 | SP1,2 |
| 1 | 024947 | RES CF 1/4W 5% 47Ω | R53 |
| 1 | 024961 | RES CF 1/4W 5% 470Ω | R51 |
| 3 | 024964 | RES CF 1/4W 5% 820Ω | R24,30,64 |
| 4 | 024969 | RES CF 1/4W 5% 1.5K | R5,17,60,61 |
| 1 | 024972 | RES CF 1/4W 5% 2.7K | R44 |
| 2 | 024979 | RES CF 1/4W 5% 6.8K | R9,21 |
| 1 | 024981 | RES CF 1/4W 5% 10K | R36 |
| 4 | 024995 | RES CF 1/4W 5% 68K | R1,2,13,14 |
| 3 | 024997 | RES CF 1/4W 5% 100K | R6,18,41 |
| 6 | 025059 | RES CF 1/4W 5% 220K | R12,28,33,35,56,57 |
| 1 | 025063 | RES CF 1/4W 5% 390K | R37 |
| 1 | 025065 | RES CF 1/4W 5% 470K | R32 |
| 7 | 025069 | RES CF 1/4W 5% 1M | R3,15,26,39,40,49,52 |
| 1 | 025075 | RES CF 1/4W 5% 2.2M | R38 |
| 1 | 025084 | RES CF 1/4W 5% 10M | R45 |
| 2 | 026368 | RES CF 1/2W 5% 100Ω | R70,71 |
| 1 | 025113 | RES CF 1/2W 5% 10K | R59 |
| 1 | 025832 | RES CF 1/2W 5% 22K | R50 |
| 9 | 025116 | RES CF 1/2W 5% 100K | R4,11,16,23,29,34,46,4 |
| 1 | 025117 | RES CF 1/2W 5% 220K | R43 |
| 1 | 037619 | RES CF 1W 5% 82K | R54 |
| 1 | 041706 | RES CF 1W 5% 470K | R66 |
| 1 | 027347 | RES FILM 1W 5% 2.2K | R27 |
| 1 | 027353 | RES FILM 1W 5% 100K | R55 |
| 1 | 027749* | RES MF FUSE 1/4W 5% 22Ω | R69 |

Reissue '65 Deluxe Reverb

PRINTED CIRCUIT BOARD ASSEMBLY (CONT)

| QTY | PART # | DESCRIPTION | REFERENCE DESIGNATION |
|-----|---------|--------------------------------|-----------------------|
| 2 | 036468* | RES MOX FP 1W 5% 470Ω | R62,63 |
| 2 | 036470* | RES MOX FP 1W 5% 10K | R67,68 |
| 1 | 025803* | THERMISTOR 10 OHM 5 AMP C60-11 | TH1 |

CHASSIS ASSEMBLY

| QTY | PART # | DESCRIPTION | REFERENCE DESIGNATION |
|-----|------------|------------------------------------|------------------------------|
| 1 | 047043 | CHS ASSY '65 DLX REVERB 120V | (COMPLETE CHASSIS) |
| 4 | 018022 | BUSHING SNAP 5-16X17-32 BLK | (@TRANSFORMER WIRES) |
| 1 | 026038 | BUSHING SR .625X.062X37/64 B;L | (@POWER CABLE 100/120V) |
| 1 | 010401 | BUSHING SR .625X.125X37/64 WHT | (@POWER CABLE 220/230/240V) |
| 1 | 026541 | CABLE ASSY PWR W/.250 TAB 120V | (POWER CABLE 100/120V) |
| 1 | 033331 | CABLE ASSY PWR W/.250 TAB 220/240V | (220/230/240V EXPORT) |
| 1 | 038602 | CABLE ASSY PWR W/.250 TAB AUST | (240V AUSTRALIA ONLY) |
| 1 | 022707 | CHOKE FILTER | L1 |
| 1 | 041293 | CHS '65 DELUXE REVERB | (RAW CHASSIS) |
| 1 | 032219 | COLLAR-PILOT LIGHT | |
| 1 | 037300 | COVER CAPACITOR VIBROVERB | |
| 1 | 048827 | FUSE QA 1-1/4X1/4 250V 2 AMP | F1 (100/120V ONLY) |
| 1 | 020789 | FUSE QA 20mmX5mm 250V 1 AMP | F1 (220/230/240V ONLY) |
| 1 | 036702 | FUSEHOLDER 3AG FINGER GRIP | XF1 |
| 1 | 036703 | FUSEHOLDER 5mm FINGER GRIP | XF1 |
| 1 | 021741 | HOLDER DIAL LITE ASSEMBLY PILOT | (SOCKET ASSY W/OUT COLLAR) |
| 1 | 021550 | JACK PHONE TIP SHUNT 12A | (INTERNAL SPEAKER JACK) |
| 1 | 021956 | JACK PHONE OPEN CIRCUIT 11 | (EXTERNAL SPEAKER JACK) |
| 1 | 013043 | JACK PHONE STEREO 12B | J6 (FOOTSWITCH JACK) |
| 1 | 025718 | JEWEL #20 PILOT LITE | (RED INDICATION) |
| 9 | 024604 | KNOB BLACK W/ WHITE STAMP 14000 | |
| 4 | 016352 | NUT HEX 3/8-32X3/32 TK NI | (@ 1/4" JACKS) |
| 1 | 031625 | NUT HOLDER PILOT LIGHT 1/16-27 | |
| 4 | 022004 | NUT KEPS #8-32 ZINC | (POWER XFMOUNT) |
| 1 | 041391 | PANEL FRONT '65 DLX REVERB | |
| 1 | 041292 | PANEL REAR '65 DLX REVERB 120V | |
| 1 | 047060 | PANEL REAR '65 DXL REV EXPORT | |
| 1 | 021642 | PILOT LIGHT #T47 | (BULB) |
| 1 | 026438 | PLUG BUTTON .437" BLK | (@CAPACITOR COVER) |
| 1 | 017502 | POT 10KB 20% SCR ADJ | R58 (BIAS ADJUST) |
| 1 | 030758 | SCRW HI-LO 6X3/8 PHP ZI | (@ REVERB RCA JACKS) |
| 29 | 038900 | SCRW TF 6-32X1/4 PHP ZI | (@ TUBE SKT/XFMRS/CAP COV) |
| 14 | 028937 | SCRW TF 6-32X5/8 PHP ZI TAPTYT | (PCB MOUNTING) |
| 6 | 023598 | SHIELD TUBE | (@ PREAMP TUBES) |
| 3 | 023580 | SOCKET TUBE 8 PIN | (OUTPUT/RECTIFIER TUBES) |
| 6 | 023606 | SOCKET TUBE 9 PIN | (PREAMP TUBES) |
| 14 | 025936 | STAND OFF PCB PUSH ON NYL 3/8L | (PCB MOUNTING) |
| 1 | 036570 | (SWITCH TOGGLE DPST W/NUTS | S1 (POWER SWITCH) |
| 1 | 036571 | SWITCH TOGGLE SPDT W/NUTS | S2 (GROUND SWITCH 120V ONLY) |
| 1 | 037039 | SWITCH TOGGLE SPST W/NUTS | S3 (STANDBY SWITCH) |
| 3 | 020424 | TUBE RING UNIVERSAL (277H-2) | |
| 2 | 023531 | TUBE 12AT7 | V3,6 |
| 1 | 041400 | TUBE 5AR4 FULL WAVE RECTIFIER | V9 |
| 2 | 023564 | TUBE 6V6GTA STR391A | V7,8 |
| 4 | 013341 | TUBE VACUUM 7025/12AX7 | V1,2,4,5 |
| 4 | 9904300100 | WSHR LCK INTL 3/8X.681X.032ZI | (@ 1/4" JACKS/BIAS/ADJ) |
| 1 | 41316 | XFMR PWR DELUXE REVERB 120V | T3 (120V DOMESTIC) |
| 1 | 041317 | XFMR PWR EXPORT | T3 (100/230V EXPORT) |
| 1 | 041318 | XRMR OUTPUT '65 DELUXE REVERB | T2 |
| 1 | 037099 | XFMR REVERB VIBROVERB | T1 |

Reissue '65 Deluxe Reverb CABINET ASSEMBLY

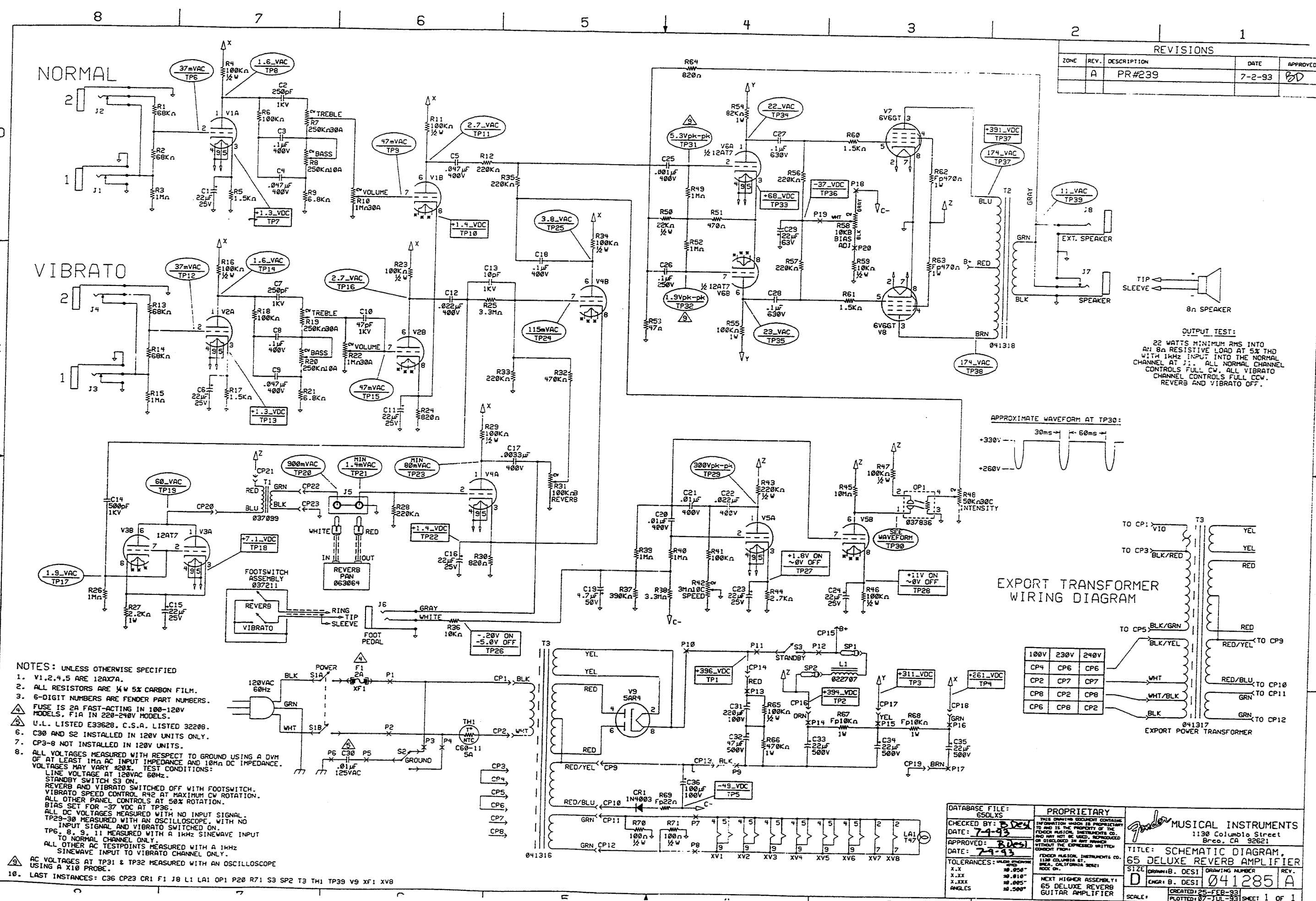
| QTY | PART # | DESCRIPTION | REFERENCE DESIGNATION |
|------------|---------------|---------------------------------|------------------------------|
| 1 | 047073 | CAB ASSY '65 DELUXE REVERB | (COMPLETE CABINET) |
| 1 | 041565 | BACK ASSY LOWER '65 DLX REV | |
| 1 | 041567 | BACK ASSY UPPER '65 DLX REV | |
| 1 | 031849 | BAG REVERB | (BAG ONLY) |
| 1 | 025722 | CABLE ASSY REVERB 1100MM | (FROM PAN TO CHASSIS) |
| 1 | 038566 | CABLE ASSY SPKR RT ANG 13-1/2 | (SPEAKER WIRES) |
| 2 | 022491 | CLAMP CABLE NYL SCRW MNT 5/16 | |
| 1 | 041560 | GRILLE ASSY '65 DLX REV | (COMPLETE GRILLE) |
| 2 | 025395 | HANDLE CAP CABINET NICKEL | |
| 1 | 037790 | HANDLE STRAP BLACK RIBBED | (WITHOUT INSERT) |
| 1 | 032524 | INSERT HANDLE | (SPRING STEEL) |
| 1 | 023192 | NAMEPLATE FENDER 65 TWIN (LOGO) | |
| 8 | 022004 | NUT KEPS #8-32 ZINC | (SPEAKER MOUNT) |
| 2 | 021972 | NUT T #10-32X3/4 STR 3 PRNG BLX | (HANDLE MOUNT) |
| 1 | 028547 | REVERB ASSY W/ BAG | (W/PAN, CABLE, BAG) |
| 1 | 064063 | REVERB UNIT 4 SPRING 4AB3C1B | (PAN ONLY) |
| 3 | 037985 | SCRW SMA #2X3/8 PHP BLX | (LOGO MOUNT) |
| 8 | 037952 | SCRW SMA #6X1 OHP NI | (BACKBOARD MOUNT) |
| 4 | 011678 | SCRW SMA #8X1-1/2 OHP BLX | (GRILLE MOUNT) |
| 4 | 022236 | SCRW M #10-32X1-1/8 OHP NI | (HANDLE MOUNT) |
| 7 | 029828 | SCRW PB #8X3/4 PHP ZI | (CHASSIS/REV BAG MOUNT) |
| 1 | 037617 | SPEAKER 12" 8 OHM 50 WATTS | |
| 2 | 024745 | STRAP CHASSIS 4" NICKEL | |
| 8 | 037215 | WSHR C'SNK #6 NI | (BACKBOARD MOUNT) |
| 2 | 022327 | WSHR FLAT #8X7/16 NI | (REVERB BAG MOUNT) |
| 4 | 029527 | WSHR FNSH #8-5/5 F;MGD B;X WX | (GRILLE MOUNT) |

FOOTSWITCH ASSEMBLY

| QTY | PART # | DESCRIPTION | REFERENCE DESIGNATION |
|------------|---------------|-------------------------------------|------------------------------|
| 1 | 037211 | FTSW ASSY VIBRO '65 TWIN | (COMPLETE FOOTSWITCH) |
| 1 | 021691 | BUSHING SR .500X.100X7/16 BLK | (STRAIN RELIEF) |
| 1 | 022665 | COVER CUP DUAL FTSW ASSY | (BOTTOM COVER) |
| 1 | 016063 | DECAL FOOTSWITCH VIBRATO + REV | |
| 1 | 013172 | PLUG PHONE 3 CONDUCTOR 238 RT ANGLE | |
| 2 | 024042 | SWITCH SPST PUSH BUTTON | |

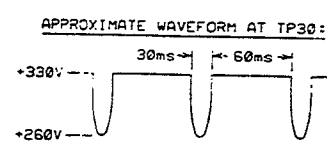
MISCELLANEOUS

| QTY | PART # | DESCRIPTION | REFERENCE DESIGNATION |
|------------|---------------|------------------------------|------------------------------|
| 1 | 047059 | MANUAL OWNERS '65 DLX REVERB | |
| 1 | 041286 | SCHEM REDUCED '65 DLX REVERB | |

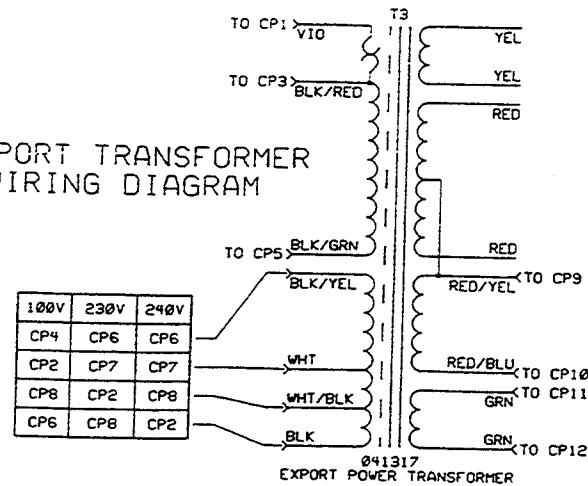


| REVISIONS | | | | |
|-----------|------|-------------|--------|----------|
| ZONE | REV. | DESCRIPTION | DATE | APPROVED |
| | A | PR#239 | 7-2-93 | B.D. |

OUTPUT TEST:
 22 WATTS MINIMUM RMS INTO
 AN 8Ω RESISTIVE LOAD AT 5% THD
 WITH 1kHz INPUT INTO THE NORMAL
 CHANNEL AT 11. ALL NORMAL CHANNEL
 CONTROLS FULL CW. ALL VIBRATO
 CHANNEL CONTROLS FULL CCW.
 REVERB AND VIBRATO OFF.



EXPORT TRANSFORMER WIRING DIAGRAM



- NOTES: UNLESS OTHERWISE SPECIFIED**
- V1,2,4,5 ARE 12AX7A.
 - ALL RESISTORS ARE 1/4 W 5% CARBON FILM.
 - 6-DIGIT NUMBERS ARE FENDER PART NUMBERS.
 - FUSE IS 2A FAST-ACTING IN 100-120V MODELS, F1A IN 220-240V MODELS.
 - U.L. LISTED E33628, C.S.A. LISTED 32208.
 - C30 AND S2 INSTALLED IN 120V UNITS ONLY.
 - CP3-8 NOT INSTALLED IN 120V UNITS.
 - ALL VOLTAGES MEASURED WITH RESPECT TO GROUND USING A DVM OF AT LEAST 1MΩ AC INPUT IMPEDANCE AND 10MΩ DC IMPEDANCE. VOLTAGES MAY VARY ±20%. TEST CONDITIONS: LINE VOLTAGE AT 120VAC 60Hz. STANDBY SWITCH S3 ON. REVERB AND VIBRATO SWITCHED OFF WITH FOOTSWITCH. VIBRATO SPEED CONTROL R42 AT MAXIMUM CW ROTATION. ALL OTHER PANEL CONTROLS AT 50% ROTATION. BIAS SET FOR -37 VDC AT TP36.
 - ALL DC VOLTAGES MEASURED WITH NO INPUT SIGNAL. TP29-30 MEASURED WITH AN OSCILLOSCOPE, WITH NO INPUT SIGNAL AND VIBRATO SWITCHED ON. TP6, 8, 9, 11 MEASURED WITH A 1kHz SINEWAVE INPUT TO NORMAL CHANNEL ONLY. ALL OTHER AC TESTPOINTS MEASURED WITH A 1kHz SINEWAVE INPUT TO VIBRATO CHANNEL ONLY.
 - AC VOLTAGES AT TP31 & TP32 MEASURED WITH AN OSCILLOSCOPE USING A X10 PROBE.
 - LAST INSTANCES: C36 CP23 CR1 F1 J8 L1 LA1 OP1 P20 R71 S3 SP2 T3 TH1 TP39 V9 XF1 XV8

DATABASE FILE: 65DLXS

CHECKED BY: B.D. DATE: 7-4-93

APPROVED: B.D. DATE: 7-9-93

TOLERANCES: UNLESS OTHERWISE SPECIFIED
 X.X .05"
 X.XX .010"
 X.XXX .005"
 ANGLES .500"

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FENDER MUSICAL INSTRUMENTS
 1130 Columbia Street
 Brea, CA 92621

TITLE: SCHEMATIC DIAGRAM, 65 DELUXE REVERB AMPLIFIER

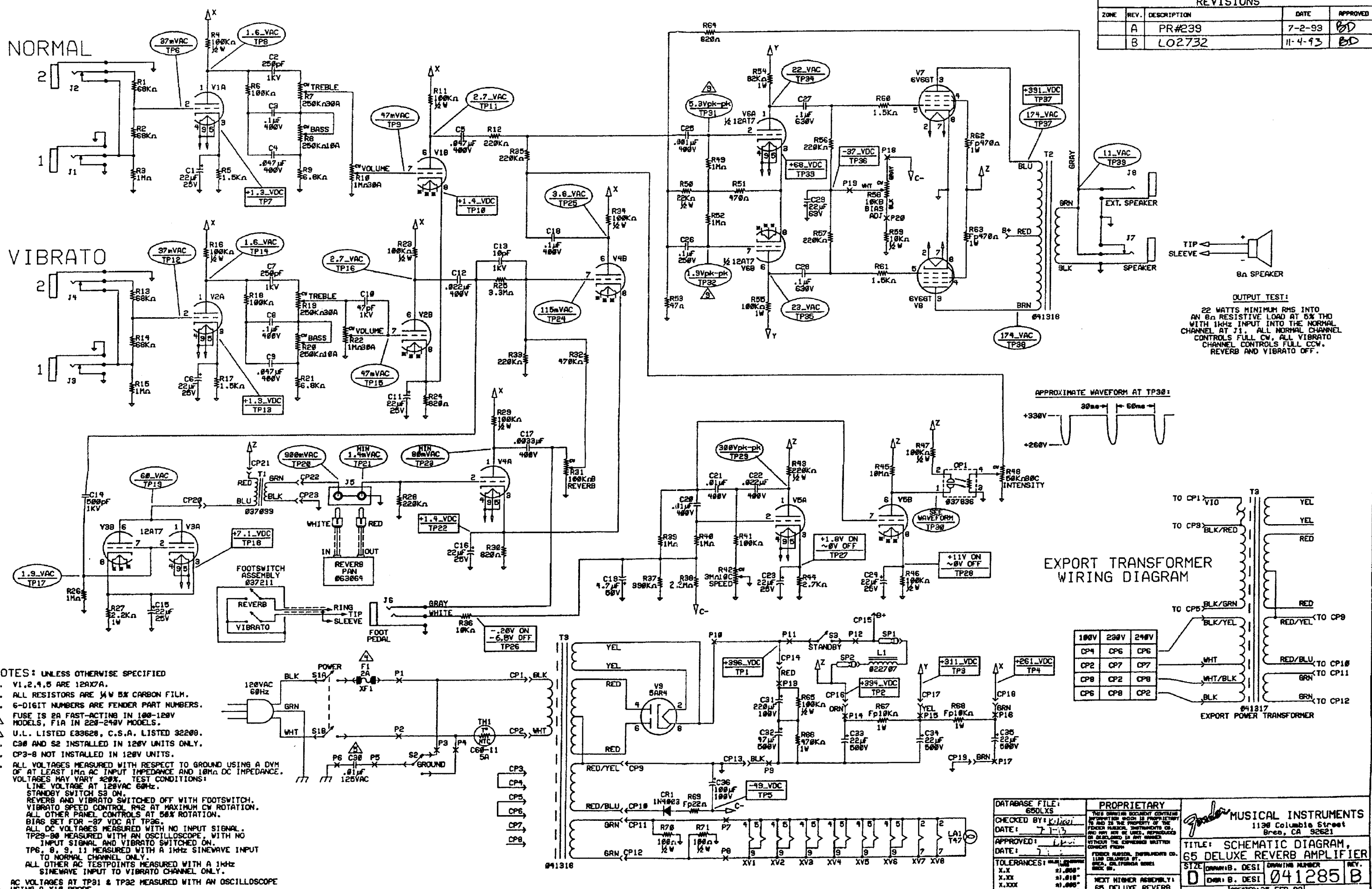
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ENC: B. DESI

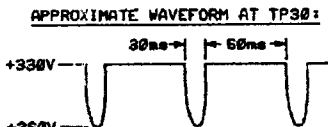
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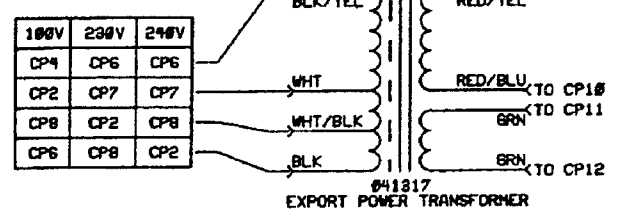
| REVISIONS | | | | |
|-----------|------|-------------|---------|----------|
| ZONE | REV. | DESCRIPTION | DATE | APPROVED |
| | A | PR#239 | 7-2-93 | BD |
| | B | LO2732 | 11-4-93 | BD |



OUTPUT TEST!
 22 WATTS MINIMUM RMS INTO AN 8Ω RESISTIVE LOAD AT 5% THD WITH 1kHz INPUT INTO THE NORMAL CHANNEL AT J1. ALL NORMAL CHANNEL CONTROLS FULL CW, ALL VIBRATO CHANNEL CONTROLS FULL CCW. REVERB AND VIBRATO OFF.



EXPORT TRANSFORMER WIRING DIAGRAM

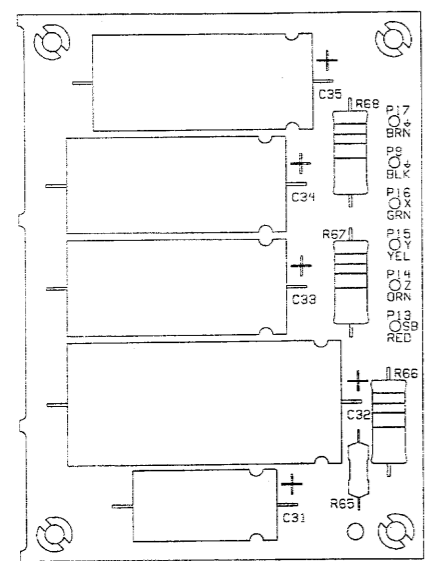
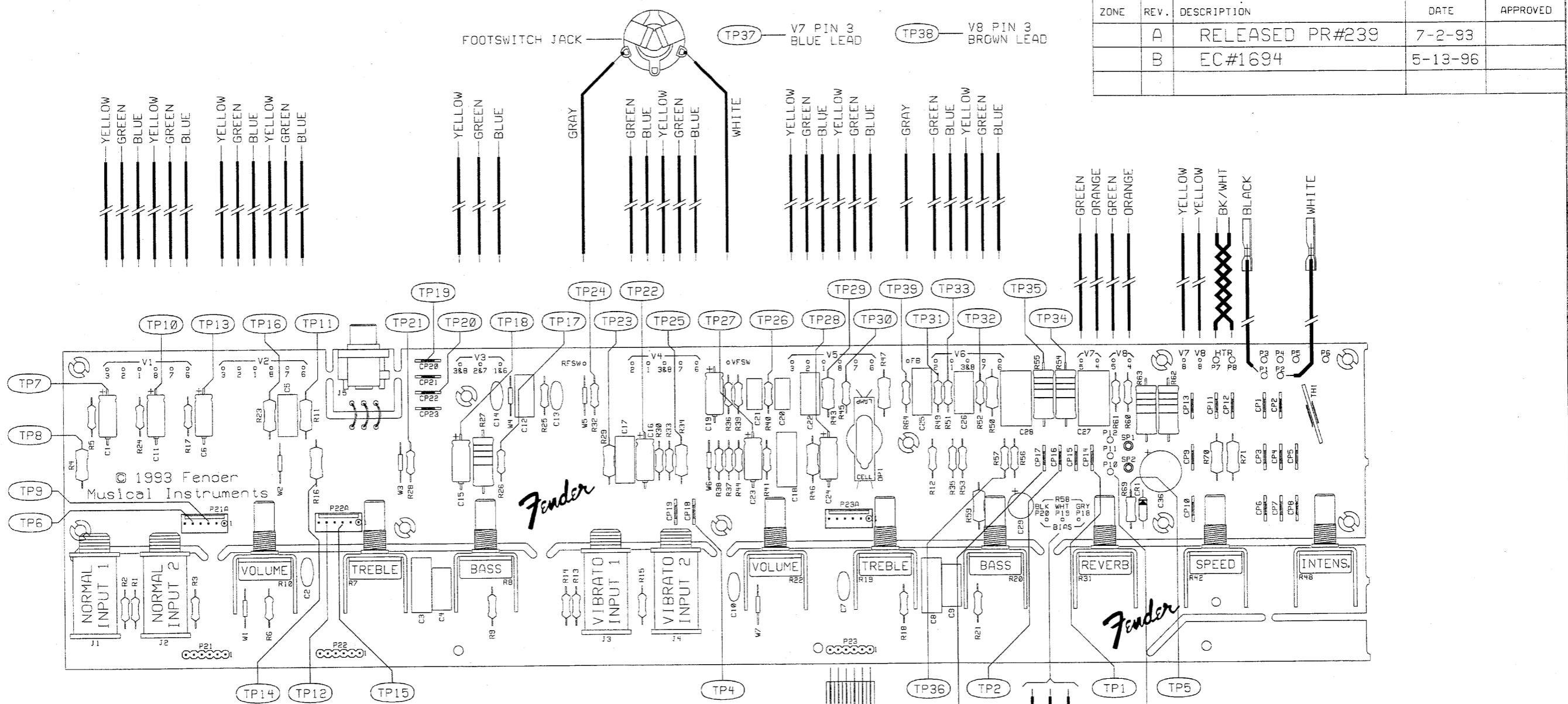


- NOTES: UNLESS OTHERWISE SPECIFIED**
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 - ALL RESISTORS ARE 1/4 W 5% CARBON FILM.
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 - C30 AND S2 INSTALLED IN 120V UNITS ONLY.
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| | |
|--|---|
| DATABASE FILE: 65DLXS CHECKED BY: K. L. L... DATE: 7-1-93 APPROVED: [Signature] DATE: 7-1-93 | PROPRIETARY THIS DESIGN IS THE PROPERTY OF FENDER MUSICAL INSTRUMENTS CO. AND MAY NOT BE USED, REPRODUCED OR DISCLOSED IN ANY MANNER WITHOUT THE EXPRESS WRITTEN CONSENT FROM FENDER MUSICAL INSTRUMENTS CO. 1150 COLUMBIA ST. BRCA, CALIFORNIA 92621 TITLE: SCHEMATIC DIAGRAM, 65 DELUXE REVERB AMPLIFIER SIZE: DRAWING DESI: DRAWING NUMBER: 041285 B NEXT HIGHER ASSEMBLY: 65 DELUXE REVERB GUITAR AMPLIFIER SCALE: PLOTTED: 07-JUL-93 SHEET 1 OF 1 |
|--|---|

REVISIONS

| ZONE | REV. | DESCRIPTION | DATE | APPROVED |
|------|------|-----------------|---------|----------|
| | A | RELEASED PR#239 | 7-2-93 | |
| | B | EC#1694 | 5-13-96 | |



PCB SHOWN AS FABRICATED,
EXCEPT WITH CAPACITOR BREAK-
AWAY BOARD SEPARATED

FLEX CABLE INSTALLED
AT P21, P22 AND P23
(3 PLACES)

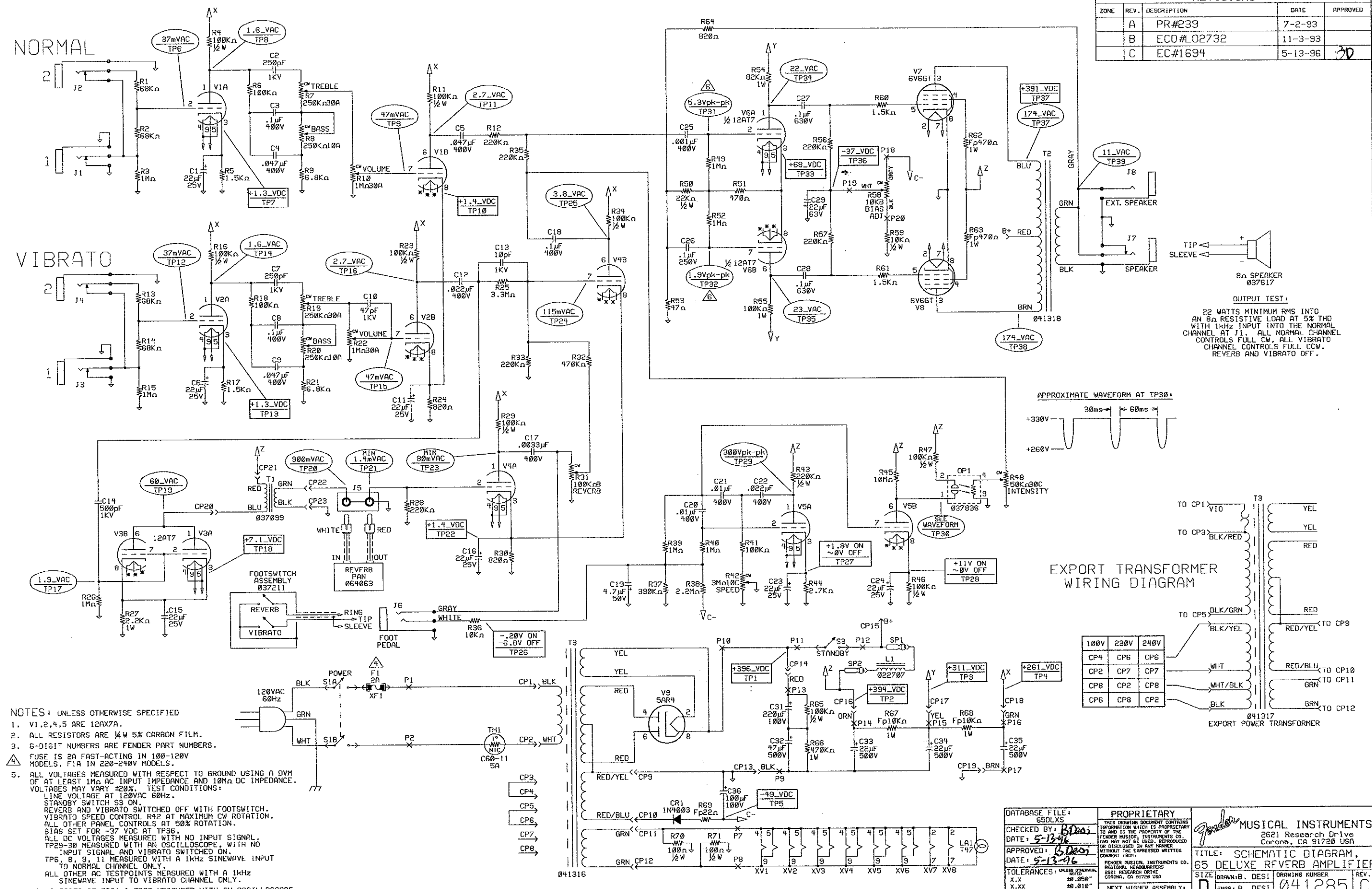
INSTALLED AT P10 — GRAY
INSTALLED AT P11 — GRAY
INSTALLED AT P12 — GRAY

| |
|------------------------------------|
| FILM/DWG: SERVICE DIAGRAM |
| DATABASE: 65DLXSER DATE: 07-JUN-96 |
| LAYERS PLOTTED: 1 2 3 4 10 |
| 15 19 |

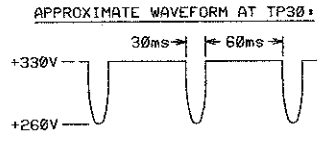
| | | |
|--|--|---|
| DATABASE FILE: 65DLXSER CHECKED BY: DATE: APPROVED: DATE: TOLERANCES: UNLESS OTHERWISE NOTED X.X ±0.050" X.XX ±0.010" X.XXX ±0.005" ANGLES ±0.500° | PROPRIETARY THIS DRAWING DOCUMENT CONTAINS INFORMATION WHICH IS PROPRIETARY TO AND IS THE PROPERTY OF THE FENDER MUSICAL INSTRUMENTS CO. AND MAY NOT BE USED, REPRODUCED OR DISCLOSED IN ANY MANNER WITHOUT THE EXPRESSED WRITTEN CONSENT FROM: FENDER MUSICAL INSTRUMENTS CO. REGIONAL HEADQUARTERS 2621 RESEARCH DRIVE CORONA, CA 91720 USA NEXT HIGHER ASSEMBLY: 65 DELUXE REVERB GUITAR AMPLIFIER | Fender MUSICAL INSTRUMENTS 2621 Research Drive Corona, CA 91720 USA TITLE: SERVICE DIAGRAM 65 DELUXE REVERB AMPLIFIER SIZE: DRAWN: B. DESI DRAWING NUMBER REV. B ENGR: B. DESI 041287 B SCALE: CREATED: 02-JUN-93 SHEET 1 OF 1 PLOTTED: 07-JUN-96 |
|--|--|---|

REVISIONS

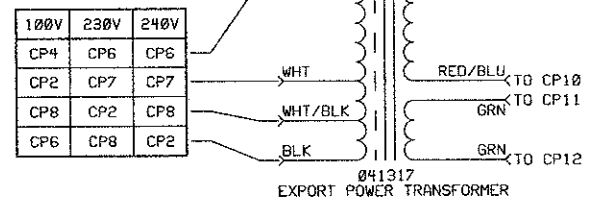
| ZONE | REV. | DESCRIPTION | DATE | APPROVED |
|------|------|-------------|---------|----------|
| | A | PR#239 | 7-2-93 | |
| | B | ECO#L02732 | 11-3-93 | |
| | C | EC#1694 | 5-13-96 | JD |



OUTPUT TEST:
 22 WATTS MINIMUM RMS INTO AN 8Ω RESISTIVE LOAD AT 5% THD WITH 1kHz INPUT INTO THE NORMAL CHANNEL AT J1. ALL NORMAL CHANNEL CONTROLS FULL CW. ALL VIBRATO CHANNEL CONTROLS FULL CCW. REVERB AND VIBRATO OFF.



EXPORT TRANSFORMER WIRING DIAGRAM

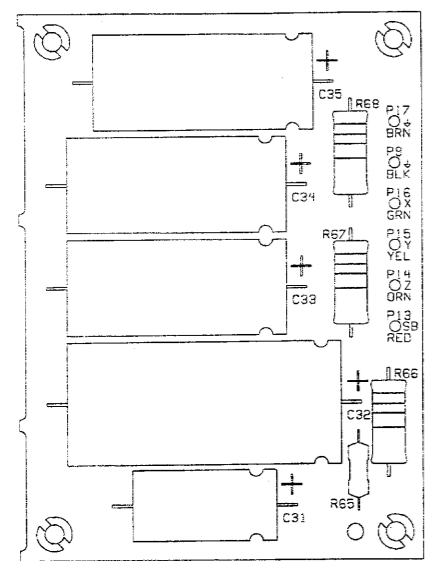
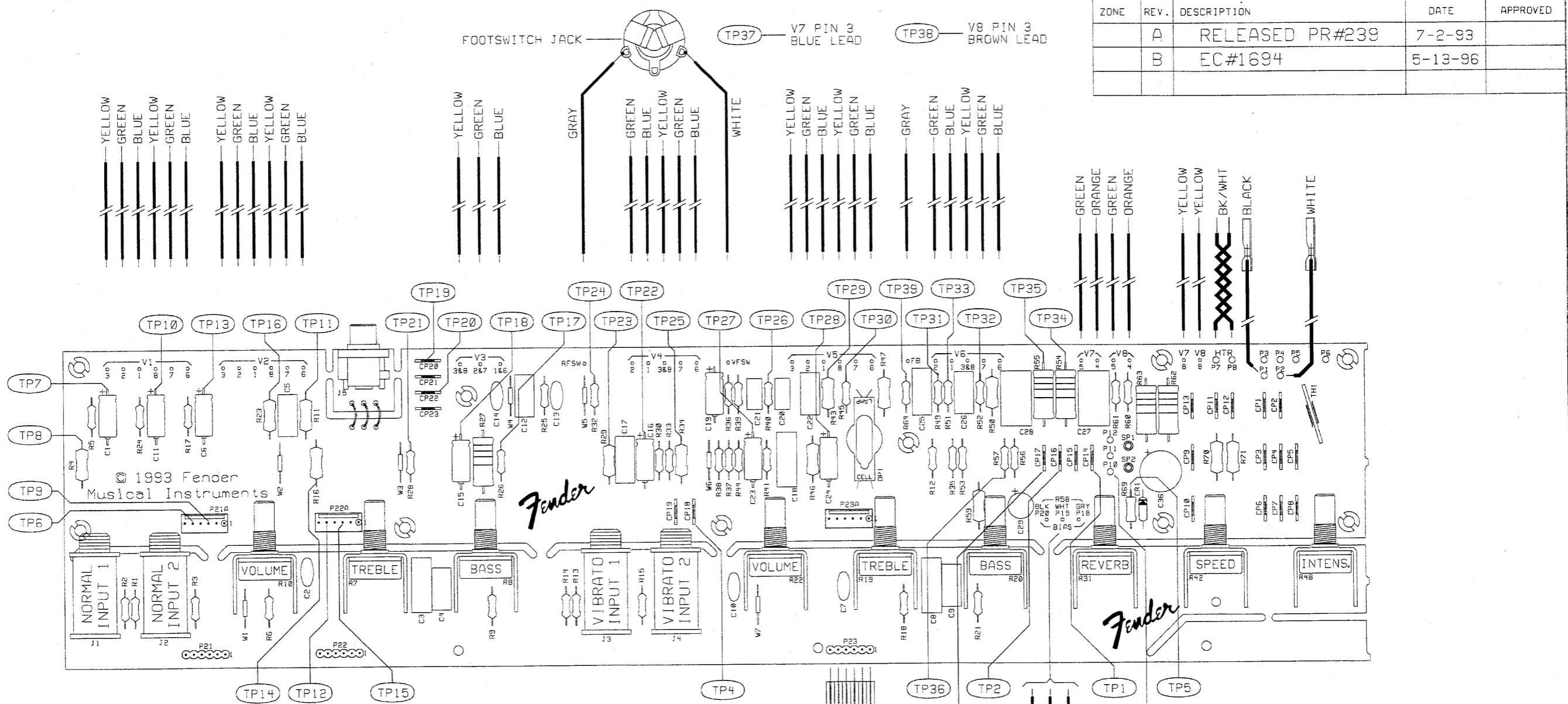


- NOTES: UNLESS OTHERWISE SPECIFIED
- V1,2,4,5 ARE 12AX7A.
 - ALL RESISTORS ARE 1/4W 5% CARBON FILM.
 - 6-DIGIT NUMBERS ARE FENDER PART NUMBERS.
 - FUSE IS 2A FAST-ACTING IN 100-120V MODELS, F1A IN 220-240V MODELS.
 - ALL VOLTAGES MEASURED WITH RESPECT TO GROUND USING A DVM OF AT LEAST 1MΩ AC INPUT IMPEDANCE AND 10MΩ DC IMPEDANCE. VOLTAGES MAY VARY ±20%. TEST CONDITIONS:
 LINE VOLTAGE AT 120VAC 60Hz.
 STANDBY SWITCH S3 ON.
 REVERB AND VIBRATO SWITCHED OFF WITH FOOTSWITCH.
 VIBRATO SPEED CONTROL R42 AT MAXIMUM CW ROTATION.
 ALL OTHER PANEL CONTROLS AT 50% ROTATION.
 S1AS SET FOR -37 VDC AT TP36.
 ALL DC VOLTAGES MEASURED WITH NO INPUT SIGNAL.
 TP29-30 MEASURED WITH AN OSCILLOSCOPE, WITH NO INPUT SIGNAL AND VIBRATO SWITCHED ON.
 TP6, 8, 9, 11 MEASURED WITH A 1kHz SINEWAVE INPUT TO NORMAL CHANNEL ONLY.
 ALL OTHER AC TESTPOINTS MEASURED WITH A 1kHz SINEWAVE INPUT TO VIBRATO CHANNEL ONLY.
- AC VOLTAGES AT TP31 & TP32 MEASURED WITH AN OSCILLOSCOPE USING A X10 PROBE.
7. LAST INSTANCES: C36 CP23 CR1 F1 J8 L1 LA1 OP1 P20 R71 S3 SP2 T3 TH1 TP39 V9 XF1 XV8

| | | |
|---|---|---|
| DATABASE FILE: 65DLXS CHECKED BY: B. Desi DATE: 5-13-96 APPROVED: B. Desi DATE: 5-13-96 TOLERANCES: UNLESS OTHERWISE SPECIFIED: X.X ±.050" X.XX ±.018" X.XXX ±.005" ANGLES ±.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. 2621 RESEARCH DRIVE CORONA, CA 91728 USA NEXT HIGHER ASSEMBLY: 65 DELUXE REVERB GUITAR AMPLIFIER SCALE: CREATED: 25-FEB-93 PLOTTED: 13-MAY-96 | FENDER MUSICAL INSTRUMENTS 2621 Research Drive Corona, CA 91720 USA TITLE: SCHEMATIC DIAGRAM, 65 DELUXE REVERB AMPLIFIER SIZE: DRAWN: B. DESI DESI: B. DESI DRAWING NUMBER: 041285 REV. C SHEET 1 OF 1 |
|---|---|---|

SHEET 0041286000 1 OF 1

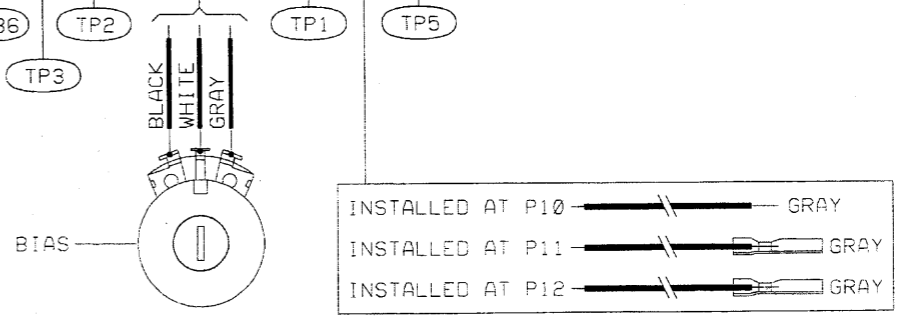
| REVISIONS | | | | |
|-----------|------|-----------------|---------|----------|
| ZONE | REV. | DESCRIPTION | DATE | APPROVED |
| | A | RELEASED PR#239 | 7-2-93 | |
| | B | EC#1694 | 5-13-96 | |



- BROWN
- BLACK
- GREEN
- YELLOW
- ORANGE
- RED

PCB SHOWN AS FABRICATED,
EXCEPT WITH CAPACITOR BREAK-
AWAY BOARD SEPARATED

FLEX CABLE INSTALLED
AT P21, P22 AND P23
(3 PLACES)

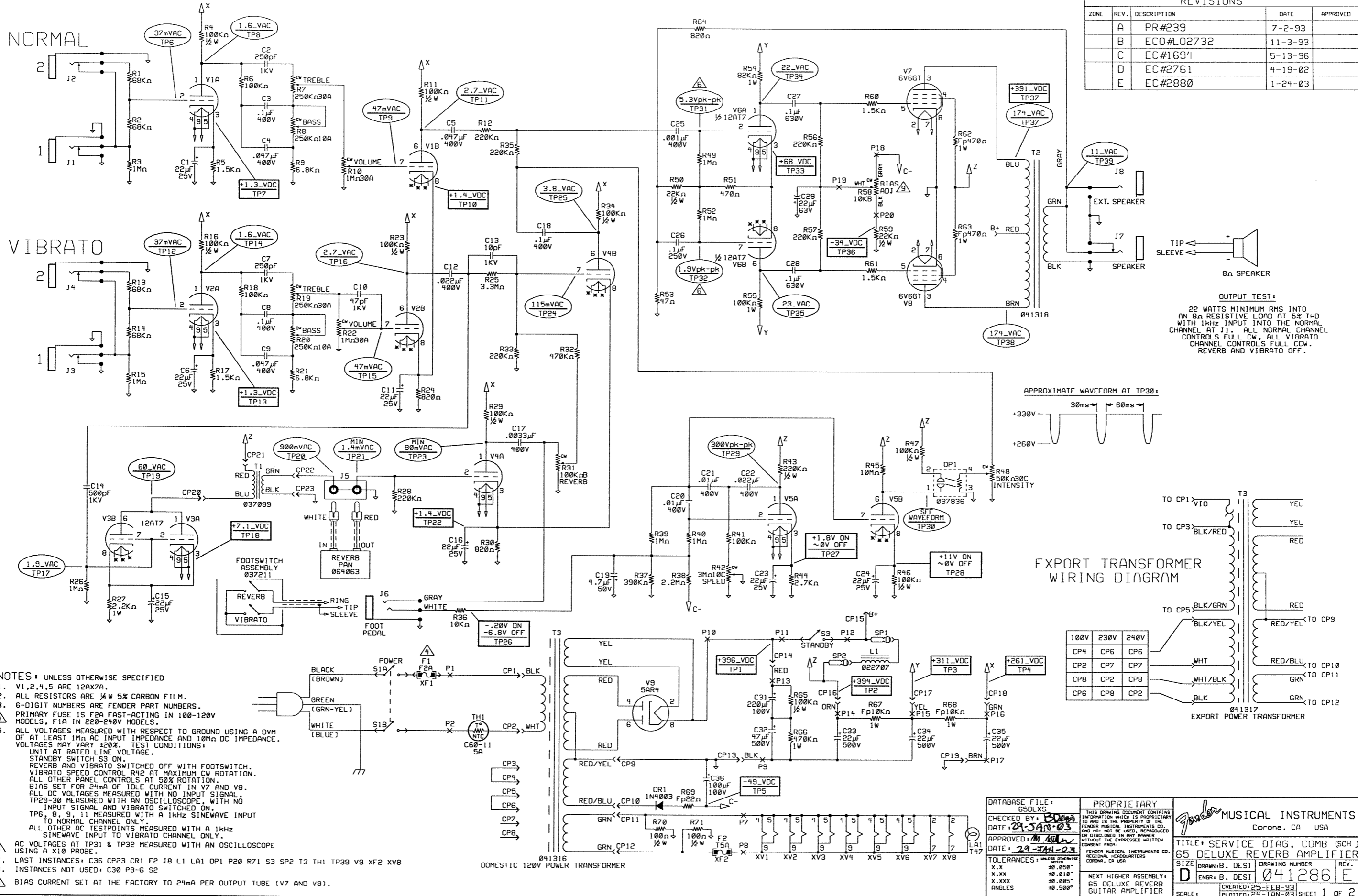


| | |
|---------------------------|-----------------|
| FILM/DWG: SERVICE DIAGRAM | |
| DATABASE: 65DLXSER | DATE: 07-JUN-96 |
| LAYERS PLOTTED: 1 2 3 4 | 10 |
| 15 | 19 |

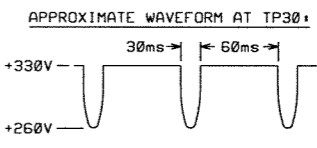
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|---------------------------------------|--|
| DATABASE FILE: 65DLXSER | PROPRIETARY |
| CHECKED BY: | THIS DRAWING DOCUMENT CONTAINS INFORMATION WHICH IS PROPRIETARY TO AND IS THE PROPERTY OF THE FENDER MUSICAL INSTRUMENTS CO. AND MAY NOT BE USED, REPRODUCED OR DISCLOSED IN ANY MANNER WITHOUT THE EXPRESSED WRITTEN CONSENT FROM: |
| DATE: | FENDER MUSICAL INSTRUMENTS CO. REGIONAL HEADQUARTERS 2621 RESEARCH DRIVE CORONA, CA 91720 USA |
| APPROVED: | NEXT HIGHER ASSEMBLY: 65 DELUXE REVERB GUITAR AMPLIFIER |
| DATE: | |
| TOLERANCES: UNLESS OTHERWISE NOTED | |
| X.X | ±0.050" |
| X.XX | ±0.010" |
| X.XXX | ±0.005" |
| ANGLES | ±0.500° |

| | |
|---|--|
| Fender MUSICAL INSTRUMENTS 2621 Research Drive Corona, CA 91720 USA | |
| TITLE: SERVICE DIAGRAM 65 DELUXE REVERB AMPLIFIER | |
| SIZE: DRAWN: B. DESI | DRAWING NUMBER: 041287 |
| REV. B | ENGR: B. DESI |
| SCALE: | CREATED: 02-JUN-93 PLOTTED: 07-JUN-96 |
| SHEET 1 OF 1 | |

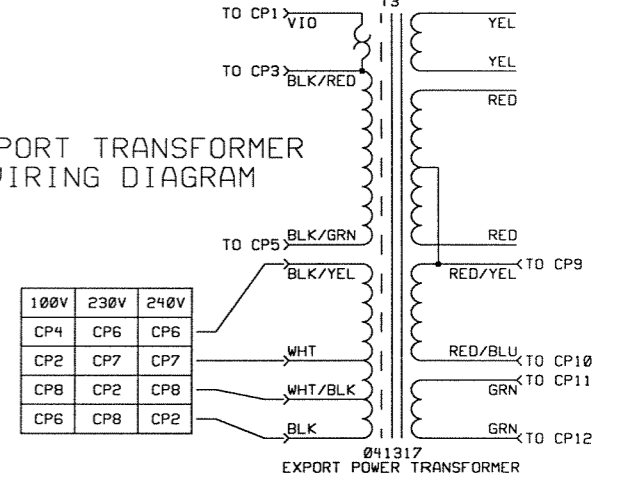
| REVISIONS | | | | |
|-----------|------|-------------|---------|----------|
| ZONE | REV. | DESCRIPTION | DATE | APPROVED |
| | A | PR#239 | 7-2-93 | |
| | B | ECO#L02732 | 11-3-93 | |
| | C | EC#1694 | 5-13-96 | |
| | D | EC#2761 | 4-19-02 | |
| | E | EC#2880 | 1-24-03 | |



OUTPUT TEST:
 22 WATTS MINIMUM RMS INTO AN 8Ω RESISTIVE LOAD AT 5% THD WITH 1kHz INPUT INTO THE NORMAL CHANNEL AT J1. ALL NORMAL CHANNEL CONTROLS FULL CW. ALL VIBRATO CHANNEL CONTROLS FULL CCW. REVERB AND VIBRATO OFF.



EXPORT TRANSFORMER WIRING DIAGRAM



- NOTES:** UNLESS OTHERWISE SPECIFIED
- V1,2,4,5 ARE 12AX7A.
 - ALL RESISTORS ARE 1/4W 5% CARBON FILM.
 - 6-DIGIT NUMBERS ARE FENDER PART NUMBERS.
 - PRIMARY FUSE IS F2A FAST-ACTING IN 100-120V MODELS, F1A IN 220-240V MODELS.
 - ALL VOLTAGES MEASURED WITH RESPECT TO GROUND USING A DVM OF AT LEAST 1MΩ AC INPUT IMPEDANCE AND 10MΩ DC IMPEDANCE. VOLTAGES MAY VARY ±20%, TEST CONDITIONS: UNIT AT RATED LINE VOLTAGE, STANDBY SWITCH S3 ON, REVERB AND VIBRATO SWITCHED OFF WITH FOOTSWITCH, VIBRATO SPEED CONTROL R42 AT MAXIMUM CW ROTATION, ALL OTHER PANEL CONTROLS AT 50% ROTATION. ALL DC VOLTAGES MEASURED WITH NO INPUT SIGNAL, TP29-30 MEASURED WITH AN OSCILLOSCOPE, WITH NO INPUT SIGNAL AND VIBRATO SWITCHED ON, TP6, 8, 9, 11 MEASURED WITH A 1kHz SINEWAVE INPUT TO NORMAL CHANNEL ONLY, ALL OTHER AC TESTPOINTS MEASURED WITH A 1kHz SINEWAVE INPUT TO VIBRATO CHANNEL ONLY.
 - AC VOLTAGES AT TP31 & TP32 MEASURED WITH AN OSCILLOSCOPE USING A X10 PROBE.
 - LAST INSTANCES: C36 CP23 CR1 F2 J8 L1 LA1 OP1 P20 R71 S3 SP2 T3 TH1 TP39 V9 XF2 XV8
 - INSTANCES NOT USED: C30 P3-6 S2
 - BIAS CURRENT SET AT THE FACTORY TO 24mA PER OUTPUT TUBE (V7 AND V8).

DATABASE FILE: 65DLXS

CHECKED BY: *[Signature]*
 DATE: 29-JAN-03

APPROVED: *[Signature]*
 DATE: 29-JAN-03

TOLERANCES: UNLESS OTHERWISE NOTED
 X.XX ±0.050"
 X.X ±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 EXPRESS WRITTEN CONSENT FROM FENDER MUSICAL INSTRUMENTS CO. REGIONAL HEADQUARTERS CORONA, CA USA

NEXT HIGHER ASSEMBLY:
 65 DELUXE REVERB GUITAR AMPLIFIER

FENDER MUSICAL INSTRUMENTS
 Corona, CA USA

TITLE: SERVICE DIAG, COMB (SCH)
 65 DELUXE REVERB AMPLIFIER

SIZE: DRAWN: B. DESI DRAWING NUMBER: 041286E
 ENGR: B. DESI

CREATED: 25-FEB-93
 PLOTTED: 24-JAN-03 SHEET 1 OF 2

8

7

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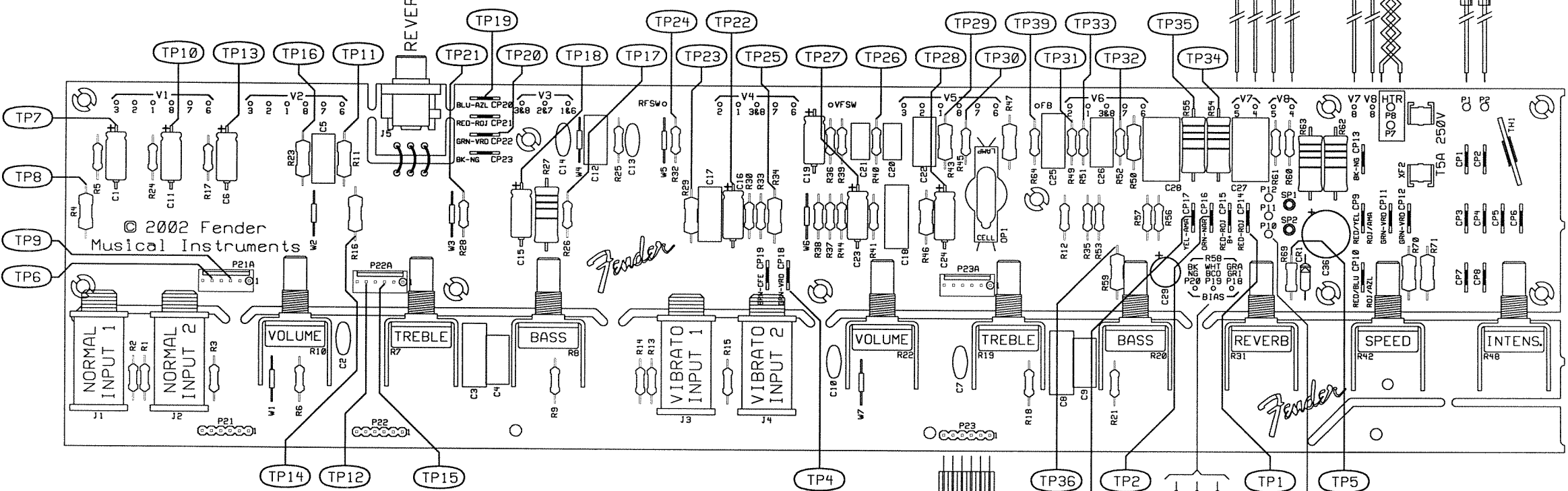
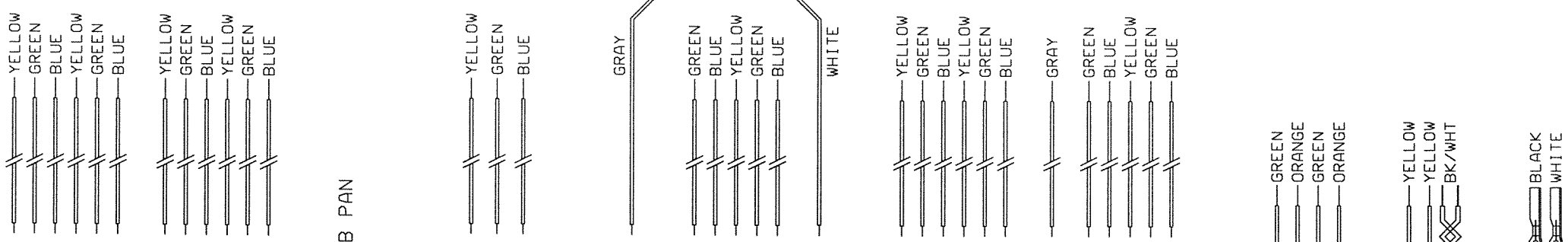
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REVISIONS

| ZONE | REV. | DESCRIPTION | DATE | APPROVED |
|------|------|-------------|---------|----------|
| | D | EC#2761 | 4-19-02 | |
| | E | EC#2880 | 1-24-03 | |

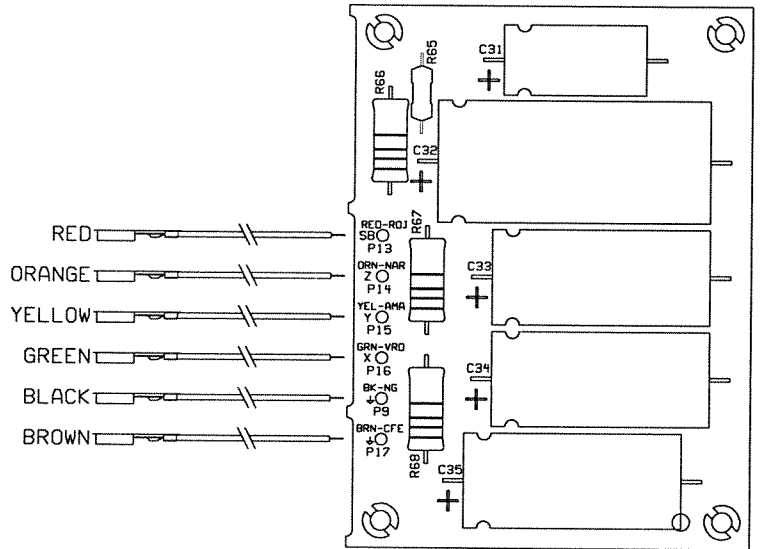
FOOTSWITCH JACK TP37 V7 PIN 3 BLUE LEAD TP38 V8 PIN 3 BROWN LEAD



PCB SHOWN AS FABRICATED, EXCEPT WITH CAPACITOR BREAK-AWAY BOARD SEPARATED

FLEX CABLE INSTALLED AT P21, P22 AND P23 (3 PLACES)

INSTALLED AT P10 — GRAY
 INSTALLED AT P11 — GRAY
 INSTALLED AT P12 — GRAY



| | |
|---------------------------|-----------------|
| FILM/DWG: SERVICE DIAGRAM | |
| DATABASE: 65DLXSER | DATE: 24-JAN-03 |
| LAYERS PLOTTED: 1 2 3 4 | 10 |
| 15 | 19 |

| | | |
|---|---|--|
| DATABASE FILE: 65DLXSER CHECKED BY: <i>B. Desj</i> DATE: 29-JAN-03 APPROVED: <i>M. Miller</i> DATE: 29-JAN-03 TOLERANCES: UNLESS OTHERWISE NOTED 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. REGIONAL HEADQUARTERS CORONA, CA USA NEXT HIGHER ASSEMBLY: 65 DELUXE REVERB GUITAR AMPLIFIER | Fender MUSICAL INSTRUMENTS Corona, CA USA TITLE: SERVICE DIAG, COMB (PCB) 65 DELUXE REVERB AMPLIFIER SIZE: B DRAWN: B. DESJ ENGR: B. DESJ DRAWING NUMBER: 041286 REV: E CREATED: 02-JUN-93 PLOTTED: 24-JAN-03 SHEET 2 OF 2 |
|---|---|--|

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