

# POWER STAGE 100

p/n 071-0100-000 (120V)

## SERVICE MANUAL

# POWER STAGE 100

*(This is the model name for warranty claims)*

FEBRUARY 1997

### IMPORTANT NOTICE:

The information contained herein is CONFIDENTIAL and PROPRIETARY to Fender Musical Instruments Corp. It is disclosed solely for use by qualified technicians for purposes of equipment maintenance and service. It is not to be disclosed to others without the expressed permission of Fender Musical Instruments Co. All specifications subject to change without notice.

For warranty repair service, only Fender specified part numbers are to be used. It is recommended they also be used for post-warranty maintenance and repair.

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

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

#### CAPACITOR CODES

CAP AE = Aluminum Electrolytic  
 CAP CA = Ceramic Axial  
 CAP CD = Ceramic Disk  
 CAP MPF = Metalized Polyester Film  
 CAP MY = Mylar  
 CAP PFF = Polyester Film/Foil

#### RESISTOR CODES

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

#### HARDWARE CODES

BLX = Black Oxide  
 CR = Chrome Plated  
 HWH = Hex Washer Head  
 M = Machine Screw  
 NI = Nickel Plated  
 OHP = Oval Head Phillips  
 PB = Particle Board  
 PHP = Pan Head Phillips  
 PHPS = Pan Head Phillips Sems  
 SMA = Sheet Metal "A" Point  
 SMB = Sheet Metal "B" Point  
 SS = Stainless Steel  
 TF = Thread Forming  
 ZI = Zinc Plated



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  - Miscellaneous
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## SPECIFICATIONS

## SPECIFICATIONS CONT.

|                             |  |                                  |
|-----------------------------|--|----------------------------------|
| <b>Product Release No.:</b> | PR 306 <i>(This is not a model number)</i> |                                  |
| <b>Part Number:</b>         | 120V Version:                              | 71-0100-000                      |
|                             | 240V Aust:                                 | 71-0100-030                      |
|                             | 230V UK:                                   | 71-0100-040                      |
|                             | 230V Euro:                                 | 71-0100-060                      |
| <b>Power Specification:</b> | 120V Version: 120 V AC, 60 Hz 360W         |                                  |
|                             | 230V Version: 230 V AC, 50 Hz 360W         |                                  |
|                             | 240V Version: 240 V AC, 50 Hz 360W         |                                  |
| <b>Preamp:</b>              |  |                                  |
| Ch. 1                       | System gain                                | Mic 1: 0 dB to +90 dB            |
|                             | Preamp gain                                | Mic 1: 0 dB to +60 dB            |
|                             | Input level (nom)                          | Mic 1: -28 dBV                   |
|                             | (min)                                      | Mic 1: -60 dBV                   |
|                             | (max)                                      | Mic 1: 0 dBV                     |
|                             | Input impedance                            | Mic 1: 2 kΩ                      |
|                             | Phantom voltage                            | Mic 1: +15 V                     |
| Ch. 2                       | System gain                                | Mic 2: 0 dB to +90 dB            |
|                             | Preamp gain                                | Mic 2: 0 dB to +60 dB            |
|                             | Input level (nom)                          | Mic 2: -28 dBV                   |
|                             | (min)                                      | Mic 2: -60 dBV                   |
|                             | (max)                                      | Mic 2: 0 dBV                     |
|                             | Input impedance                            | Mic 2: 2 kΩ                      |
|                             | Phantom voltage                            | Mic 2: +15 V                     |
| Ch. 3                       | System gain                                | Aux line: 0 dB to +60 dB         |
|                             | Preamp gain                                | Aux line: 0 dB to +28 dB         |
|                             | Input level (nom)                          | Aux line: -21 dBV                |
|                             | (min)                                      | Aux line: -28 dBV                |
|                             | (max)                                      | Aux line: +20 dBV                |
|                             | Input impedance                            | Aux line: 20 kΩ                  |
|                             |  | Stereo line: 0 dB to +70 dB/side |
|                             |  | Stereo line: 0 dB to +33 dB/side |
|                             |  | Stereo line: -26 dBV/side        |
|                             |  | Stereo line: -33 dBV/side        |
|                             |  | Stereo line: +5 dBV/side         |
|                             |  | Stereo line: 25 kΩ/side          |

|                           |                    |  |
|---------------------------|--------------------|--|
| <b>Low Cut Filter:</b>    | Corner frequency   | -3 dB @ 30 Hz to 270 Hz                      |
|                           | Slope              | -12 dB/decade                                |
| <b>Low Notch Filter:</b>  | Center frequency   | 200 Hz to 2 kHz                              |
|                           | Depth              | -20 dB                                       |
|                           | Q                  | 5  |
| <b>High Notch Filter:</b> | Center frequency   | 600 Hz to 6 kHz                              |
|                           | Depth              | -20 dB                                       |
|                           | Q                  | 5  |
| <b>Enhance:</b>           | Low boost          | +9 dB @ 100 Hz                               |
|                           | High boost         | +5 dB @ 4 kHz                                |
| <b>Headphones:</b>        | Maximum output     | 14 mW into 8 Ω, 1% THD + noise               |
|                           |                    | 165 mW into 300 Ω, 1% THD + noise            |
| <b>Power Amp:</b>         | Nominal power      | 100 W into 8 Ω, <0.05% THD + noise @ 1 kHz   |
|                           | Maximum power      | 108 W into 8 Ω, <0.1% THD + noise @ 1 kHz    |
|                           | Frequency response | +0 dB, -3 dB 20 Hz to 40 kHz @ nominal power |
|                           | THD + noise        | <0.05% @ 1 kHz, 100 W into 8 Ω               |
|                           | Output impedance   | 0.2 Ω @ 1 kHz, 0.02 Ω @ 100 Hz               |
|                           | Input sensitivity  | 1 V RMS, 0 dBV                               |
| <b>Dimensions:</b>        | Height:            | 18" (45.7 cm)                                |
|                           | Width:             | 23-1/2" (59.7 cm)                            |
|                           | Depth:             | 12" (30.5 cm)                                |
| <b>Weight:</b>            |                    | 45 lbs. (20.4 kg)                            |

*Product specifications are subject to change without notice*

## PARTS LIST

NOTE: SHADED ITEMS ARE FOR REFERENCE ONLY

### REMOTE CONTROL ASSEMBLY

| QTY | PART #    | DESCRIPTION                    | REFERENCE  | DESIGNATION |
|-----|-----------|--------------------------------|--|-------------|
| 1   | 051179    | REMOTE ASSY PWR STG 100        |  |             |
| 2   | 050764    | BALL STUD                      | ASSY HOLD-INS  |             |
| 2   | 028459    | CAPAE RDL 50V 2.2uF            | C6 C10   |             |
| 2   | 028467    | CAPAE RDL 50V 22uF             | C22 C26  |             |
| 4   | 020909    | CAPCD 1KV 47pF 10%             | C4 C11 C25 C33   |             |
| 14  | 034788    | CAPCD 50V .1uF 20%             | C2 C5 C7 C8 C13 C16 C17 C20 C23 C24<br>C27 C28 C34 C35 |             |
| 2   | 030933    | CAPPF 50V .0012uF 5%           | C9 C12   |             |
| 2   | 030936    | CAPPF 50V .0022uF 5%           | C18 C19  |             |
| 2   | 030943    | CAPPF 50V .0068uF 5%           | C14 C15  |             |
| 3   | 030960    | CAPPF 50V .1 5%                | C1 C3 C21  |             |
| 2   | 027272    | CAPMPF 63V .047uF              | C31 C32  |             |
| 2   | 027255    | CAPMPF 100V .001uF             | C29 C30  |             |
| 2   | 039094    | HANDLE SPL6000/2300            |  |             |
| 1   | 030987    | JACK, PHONE, STEREO            | J1 Headphones  |             |
| 1   | 049807    | MIC BRACKET                    |  |             |
| 1   | 049805003 | PCB ASSY PWR STG REMOTE        |  |             |
| 1   | 049804    | PCB FAB PWR STG REMOTE         | PCB  |             |
| 1   | 050346    | REMOTE CARRIER PWR STG         |  |             |
| 1   | 050347    | REMOTE PANEL PWR STG           |  |             |
| 1   | 050763    | HEADER, 9 CKTx.1" RA           | P1   |             |
| 4   | 041083    | CTRL, 50K, 15A                 | R1 R21 R34 R49 Mic1 Mic2/Inst Line                     |             |
| 3   | 047192    | CTRL, 100K, 15C DUA            | R6 R16 R20 Low cut Low notch High notch                |             |
| 1   | 047177    | CTRL, 100K, B                  | R41 Headphones   |             |
| 1   | 041833    | KNOB CTL CUSTOM DBL GRY/WHT    | MASTER LEVEL   |             |
| 3   | 041834    | KNOB CTL CUSTOM DBL GRY/GREEN  | MIC1 MIC2/INST LINE                                    |             |
| 3   | 041835    | KNOB CTL CUSTOM DBL GRY/BLUE   | LOW CUT LOW NOTCH HIGH NOTCH                           |             |
| 1   | 041837    | KNOB CTL CUSTOM DBL GRY/DK GRY | HEADPHONE LEVEL  |             |

## PARTS LIST

### REMOTE CONTROL ASSEMBLY CONTINUED

| QTY | PART # | DESCRIPTION           | REFERENCE   | DESIGNATION |
|-----|--------|-----------------------|---|-------------|
| 1   | 048451 | BUTTON PUSH OFF WHITE | @ S1 ENHANCE  |             |
| 2   | 024947 | RESCF 1/4W 47 ohm 5%  | R47 R50   |             |
| 1   | 024952 | RESCF 1/4W 100 ohm 5% | R45   |             |
| 2   | 024965 | RESCF 1/4W 1K 5%      | R35 R37   |             |
| 2   | 024971 | RESCF 1/4W 2.2K 5%    | R9 R26  |             |
| 4   | 024977 | RESCF 1/4W 4.7K 5%    | R2 R3 R10 R11   |             |
| 2   | 026510 | RESCF 1/4W 9.1K 5%    | R4 R5   |             |
| 25  | 024981 | RESCF 1/4W 10K 5%     | R7 R8 R12 R13 R14 R17 R18 R22 R23<br>R25 R27 R28 R29 R30 R31 R32 R33 R36<br>R39 R40 R43 R44 R46 R54 R55 |             |
| 1   | 024985 | RESCF 1/4W 15K 5%     | R42   |             |
| 4   | 024989 | RESCF 1/4W 33K 5%     | R51 R52 R57 R58   |             |
| 1   | 028153 | RESCF 1/4W 75K 5%     | R53   |             |
| 2   | 024997 | RESCF 1/4W 100K 5%    | R48 R56   |             |
| 2   | 025059 | RESCF 1/4W 220K 5%    | R15 R24   |             |
| 2   | 025069 | RESCF 1/4W 1M 5%      | R19 R38   |             |
| 1   | 041079 | SW 2P2T ALT/ACT       | S1 Enhance  |             |
| 2   | 016795 | IC OP-AMP DUAL TL072  | U2 U7   |             |
| 7   | 031611 | IC OP-AMP DUAL 4560   | U1 U8 U3 U4 U5 U6 U9  |             |
| 10  | 020888 | JUMPER .400"          | W3 W4 W7 W11 W12, W14 - 18  |             |
| 11  | 020888 | JUMPER .500"          | W1 W2 W5 W6 W8 - 10 W13 W19-21  |             |
| 3   | 020888 | JUMPER .800"          | W22 - 24  |             |

# PARTS LIST

# PARTS LIST

## PRINTED CIRCUIT BOARD ASSEMBLY

## PRINTED CIRCUIT BOARD ASSEMBLY CONTINUED

| QTY | PART #    | DESCRIPTION                 | REFERENCE   | DESIGNATION |
|-----|-----------|-----------------------------|---|-------------|
| 1   | 050570003 | PCB ASSY PWR STG PWR AMP    | DOMESTIC  |             |
| 1   | 051340003 | PCB ASSY PWR STG PWR AMP    | EXPORT  |             |
| 1   | 028485    | CAPAE RDL 16V 470uF         | C210  |             |
| 1   | 028474    | CAPAE RDL 25V 100uF         | C208  |             |
| 2   | 028494    | CAPAE RDL 35V 1000uF        | C203 C204   |             |
| 7   | 028459    | CAPAE RDL 50V 2.2uF         | C20 C24 C27 C37 - 40                              |             |
| 7   | 028467    | CAPAE RDL 50V 22uF          | C7 C15 C21 - 23 C25 C28                           |             |
| 10  | 028471    | CAPAE RDL 50V 47uF          | C3 C4 C10 C11 C16 C17 C33 C34 C205 C206           |             |
| 2   | 028031    | CAPAE RDL 63V 3300uF HT     | C201 C202   |             |
| 1   | 031040    | CAPAE RDL 100V 100uF        | C30   |             |
| 2   | 020909    | CAPCD 1KV 47pF 10%          | C31 C32   |             |
| 4   | 069724    | CAPCD 1KV 100pF             | C1 C2 C8 C9                                       |             |
| 7   | 025984    | CAPCD 1KV 180pF 5%          | C5 C6 C12 C13 C18 C19 C41                         |             |
| 1   | 020842    | CAPCD 1KV 500pF 10%         | C209  |             |
| 2   | 024832    | CAP MPF RDL 250V .022uF 10% | C211 C212   |             |
| 6   | 034788    | CAPCR 50V .1uF 20%          | C213 - 218  |             |
| 1   | 027269    | CAPMPF 63V .033 5%          | C36   |             |
| 2   | 027278    | CAPMPF 63V .1uF             | C14, C35  |             |
| 1   | 027275    | CAPMPF 100V .068uF          | C207  |             |
| 1   | 030939    | CAPPF 50V .0039 5%          | C26   |             |
| 12  | 025802    | FASTON TAB, .250            | CP1 - 12  |             |
| 22  | 006260    | DIODE, 75PRV SIGMA IN4448   | CR1 - 7 CR13 CR14 CR16 - 19 CR25 - 28 CR209 - 213 |             |
| 2   | 025821    | DIODE, 200PRV SIGMA FDH400  | CR8 CR9   |             |
| 2   | 028776    | DIODE, BIAS REF BYV26D      | CR10 CR11   |             |
| 6   | 064089    | DIODE, 200PRV, 1AMP 1N4003  | CR20 CR21 CR205 - 208                             |             |
| 4   | 020534    | DIODE, 200PRV, 3AMP 1N5402  | CR201 - 204                                       |             |
| 1   | 027329    | ZENER 3.9V, .5W, 5% 1N5228B | CR29  |             |

| QTY | PART # | DESCRIPTION                 | REFERENCE                    | DESIGNATION |
|-----|--------|-----------------------------|------------------------------|-------------|
| 2   | 027327 | ZENER 6.2V, .5W, 5% 1N5234B | CR12 CR15                    |             |
| 2   | 031635 | ZENER 10V, .5W 5% 1N5240B   | CR23 CR24                    |             |
| 1   | 031019 | ZENER 15V, .5W, 5% 1N5245B  | CR22                         |             |
| 1   | 013737 | FUSE, 4A, SLOW 4AT          | F1 (120 V version only)      |             |
| 1   | 013115 | FUSE, 2A, 5mm, SLOW 2AT     | F2 (Export versions only)    |             |
| 2   | 050573 | XLR, FEM                    | J1 J3 Mic in                 |             |
| 1   | 049892 | XLR, MALE                   | J2 Mic out                   |             |
| 1   | 030771 | JACK,PHONE,MONO SW          | J4 Inst                      |             |
| 2   | 016917 | JACK,PHONE,STEREO S         | J5 J7 Aux Insert             |             |
| 1   | 040181 | JACK,RCA,DUAL,VERT          | J6 Stereo line               |             |
| 1   | 030987 | JACK,PHONE,STEREO           | J8 Ext                       |             |
| 1   | 028039 | LED RED, 5x5mm              | LD1                          |             |
| 1   | 028098 | LED GREEN, 5x5mm            | LD2                          |             |
| 1   | 027418 | HEADER, 9CKTx.1" LO         | P1                           |             |
| 1   | 014689 | XISTOR JFET N-CHAN J111     | Q1                           |             |
| 4   | 025751 | XISTOR NPN 2SC2362K         | Q2 Q3 Q4 Q7                  |             |
| 2   | 025752 | XISTOR PNP 2SA1016K         | Q5 Q6                        |             |
| 1   | 014866 | XISTOR PNP MPSW92           | Q8                           |             |
| 1   | 014867 | XISTOR NPN MPSW10           | Q9                           |             |
| 2   | 016739 | XISTOR NPN 2N4401           | Q10 Q201                     |             |
| 1   | 041477 | XISTOR PNP PWR MJE21193     | Q14                          |             |
| 1   | 051091 | XISTOR NPN 2SC4793          | Q12                          |             |
| 1   | 041476 | XISTOR NPN PWR MJE21194     | Q15                          |             |
| 1   | 051092 | XISTOR PNP 2SA1837          | Q13                          |             |
| 2   | 016742 | XISTOR PNP 2N4403           | Q11 Q20                      |             |
| 3   | 024947 | RESCF 1/4W 47 ohm 5%        | R53 R55 R205                 |             |
| 5   | 024952 | RESCF 1/4W 100 ohm 5%       | R38 R39 R44 R45 R92          |             |
| 2   | 038814 | RESMF 1/4W 220 ohm 5%       | R61 R62 <b>FUSIBLE</b>       |             |
| 7   | 024965 | RESCF 1/4W 1K 5%            | R31 R48 R58 R67 R72 R73 R106 |             |
| 2   | 028842 | RESCF 1/4W 1.1K 5%          | R18 R30                      |             |
| 6   | 024969 | RESCF 1/4W 1.5K 5%          | R64 R65 R68 R69 R200 R201    |             |

## PARTS LIST

### PRINTED CIRCUIT BOARD ASSEMBLY CONTINUED

| QTY | PART # | DESCRIPTION                | REFERENCE                       | DESIGNATION |
|-----|--------|----------------------------|---------------------------------|-------------|
| 11  | 024971 | RESCF 1/4W 2.2K 5%         | R17 R20 - 24 R29 R35 - R37 R108 |             |
| 1   | 024973 | RESCF 1/4W 3.3K 5%         | R34                             |             |
| 1   | 024975 | RESCF 1/4W 3.9K 5%         | R99                             |             |
| 1   | 024977 | RESCF 1/4W 4.7K 5%         | R104                            |             |
| 1   | 025942 | RESCF 1/4W 7.5K 5%         | R56                             |             |
| 7   | 024981 | RESCF 1/4W 10K 5%          | R82 R91 R93 R105 R107 R202 R204 |             |
| 2   | 024985 | RESCF 1/4W 15K 5%          | R32 R33                         |             |
| 1   | 024986 | RESCF 1/4W 18K 5%          | R74                             |             |
| 1   | 024987 | RESCF 1/4W 22K 5%          | R46                             |             |
| 2   | 024988 | RESCF 1/4W 27K 5%          | R51 R57                         |             |
| 2   | 024989 | RESCF 1/4W 33K 5%          | R47 R97                         |             |
| 4   | 028990 | RESCF 1/4W 51K 5%          | R100 - 103                      |             |
| 1   | 024995 | RESCF 1/4W 68K 5%          | R98                             |             |
| 10  | 024997 | RESCF 1/4W 100K 5%         | R3 R4 R11 R12 R40 - 43 R95 R203 |             |
| 1   | 024998 | RESCF 1/4W 120K 5%         | R94                             |             |
| 2   | 025059 | RESCF 1/4W 220K 5%         | R19 R96                         |             |
| 2   | 025069 | RESCF 1/4W 1M 5%           | R49 R50                         |             |
| 8   | 031819 | RESMF 1/4W 1.82K 1%        | R1 R2 R5 R6 R9 R10 R13 R14      |             |
| 8   | 031818 | RESMF 1/4W 18.2K 1%        | R7 R8 R15 R16 R25 - 28          |             |
| 2   | 041272 | RESCF 1/2W 5.6K 5%         | R63 R66                         |             |
| 2   | 027628 | RESCF 2W 47ohm 5%          | R79 R80                         |             |
| 1   | 041258 | RESCF 2W 2.2K 5%           | R90                             |             |
| 2   | 051039 | RESFP 1/4W 22 ohm 5%       | R70 R71                         |             |
| 1   | 051041 | RESFP 1/4W 2.2K 5%         | R59                             |             |
| 2   | 032958 | RESWW 5W .33ohm 10         | R77 R78                         |             |
| 1   | 037845 | RESWW 5W 47ohm             | R81                             |             |
| 1   | 029904 | SW 2P2T ALT/ACTION         | S1 Phantom                      |             |
| 1   | 028841 | KNOB PUSH BUTTON MX/PX G/R | at S1                           |             |

## PARTS LIST

### PRINTED CIRCUIT BOARD ASSEMBLY CONTINUED

| QTY | PART # | DESCRIPTION                    | REFERENCE  | DESIGNATION |
|-----|--------|--------------------------------|--|-------------|
| 2   | 051040 | RESFP 1/4W 47 ohm 5%           | R75 R76  |             |
| 5   | 031611 | IC OP-AMP DUAL 4560            | U1 - 5   |             |
| 1   | 027404 | IC OP TRANS AMP CA3080         | U6   |             |
| 1   | 013562 | IC REGULATOR, +15V 7815        | U7   |             |
| 1   | 013564 | IC REGULATOR, -15V 7915        | U8   |             |
| 2   | 051095 | FUSE CLIP, PCB 1/4"            | XF1 XF3 (120 V version only)                           |             |
| 2   | 051094 | FUSE CLIP, PCB 5MM             | XF2 XF3 (Export versions only)                         |             |
| 2   | 025796 | HEATSINK TO-220                | at U7 U8   |             |
| 2   | 050849 | HEATSINK PCB LEVEL             | at Q12 Q13   |             |
| 2   | 031077 | SCREW 4-40 x 1/4" TF HX W/SLT  | at U7 U8   |             |
| 2   | 039420 | SCREW SEMS 4-40 x 3/8" PHP SS  | at Q12 Q13   |             |
| 2   | 027638 | SCREW 4-40 X 3/8" TF HX S/SLT  | at SPREADER  |             |
| 1   | 050563 | SPREADER BAR PWR STG 100       | at Q14 Q15   |             |
| 4   | 069385 | SCREW 6-32 X 5/8 PHP ZI        | at Q14 Q15   |             |
| 4   | 051042 | WASHER SPLIT #6 EXTRA DUTY     | at Q14 Q15   |             |
| 4   | 051158 | NUT #6 HEX SMALL PATTERN       | at Q14 Q15   |             |
| 2   | 074211 | MICA INSULATOR TO-3            | at Q14 Q15   |             |
| 2   | 097360 | HEX NUT EX LOCK 4-40           | at Q12 Q13   |             |
| 2   | 041527 | SPACER, RND .680 x .250 x .147 | at LD1 LD2   |             |
| 1   | 050569 | PCB FAB PWR STG 100 PWR AMP    | PCB  |             |
| 19  | 020888 | JUMPER .400"                   | W4-8 W15-18 W20 W28 W48 W49 W54                        |             |
| 30  | 020888 | JUMPER .500"                   | W55 W57-59 W67<br>W1-3 W9-14 W19 W21-24 W27 W29 W50-53 |             |
| 15  | 020888 | JUMPER .725"                   | W56 W60-66 W68 W69<br>W30-38 W42-47                    |             |

## PARTS LIST

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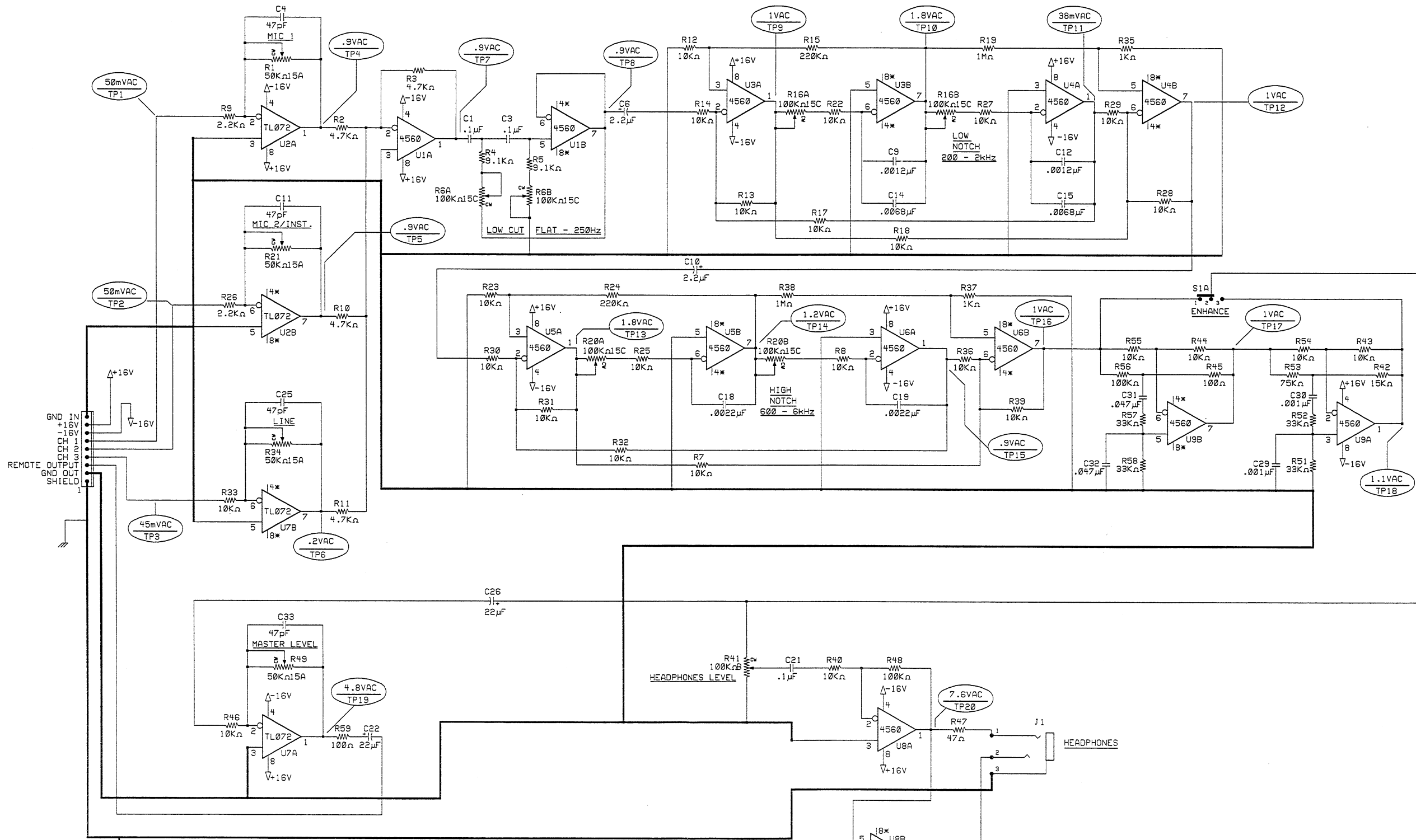
### CAB ASSEMBLY

### MISCELLANEOUS

| QTY   | PART # | DESCRIPTION                    | REFERENCE | DESIGNATION |
|-------|--------|--------------------------------|-----------|-------------|
| 1     | 050260 | CAB ASSY PWR STG 100           |           |             |
| 8     | 017393 | SCRW M 10-32x1-1/8 OHP BLX     |           |             |
| 12    | 017942 | SCRW WOOD 8x1 FHP BLK          |           |             |
| 12    | 019275 | INSERT GLIDE CUSHION 1.27 DIA  |           |             |
| 19    | 021972 | NUT T 10-32x3/4 STR 3 PRNG BLX |           |             |
| 2.02  | 027500 | BIRCH/MAPLE 3/4" THICKNESS     |           |             |
| 10.32 | 027502 | PARTICLEBOARD 3/4" THICKNESS   |           |             |
| 1     |        |                                |           |             |
| .499  | 027503 | PARTICLEBOARD 1/2" THICKNESS   |           |             |
| .084  | 027579 | PINE #3 COMMON 1X10X96 MAX     |           |             |
| 3     | 027682 | INSULATION 1-1/2"              |           |             |
| 12    | 027849 | GLIDE CAB 1.24x.335 BLX WAX    |           |             |
| 1.3   | 027882 | PLYWOOD LAUAN 1/4" THICKNESS   |           |             |
| 3     | 029505 | SCRW M 10-32x1-1/4 PHP BLX     |           |             |
| 4     | 031845 | HANDLE CAP 2 HOLE BLK PWDRD    |           |             |
| 2     | 032524 | INSERT HANDLE                  |           |             |
| 1     | 033349 | ADAPTER SPEAKER STAND          |           |             |
| 2     | 037790 | HANDLE 9.25" BLACK RIBBED      |           |             |
| 1.326 | 040046 | CARPET BLACK                   |           |             |
| 1.43  | 050009 | ASH 1-1/2x1/2                  |           |             |

| QTY | PART # | DESCRIPTION                   | REFERENCE             | DESIGNATION |
|-----|--------|-------------------------------|-----------------------|-------------|
| 1   | 048451 | BUTTON PUSH OFF WHITE         | ENHANCE               |             |
| 1   | 050559 | CABLE ASSY REMOTE             |                       |             |
| 16' | 050558 | CABLE, 8 COND. W/SHIELD       |                       |             |
| 2   | 050560 | 9 PIN IDC CONNECTOR           |                       |             |
| 1   | 050561 | SR HEYCO PIGTAIL              |                       |             |
| 1   | 047248 | CORD PWR W/IEC CONN           | DOMESTIC VERSION      |             |
| 1   | 049808 | PIEZO DRIVER, SCREW IN        |                       |             |
| 1   | 050555 | SPEAKER 12" COAX              |                       |             |
| 1   | 050556 | XFMR, PWR, PWR STG 100, 120 V | DOMESTIC VERSION ONLY |             |
| 1   | 051037 | XFMR, PWR, PWR STG 100, 230 V | EXPORT VERSION ONLY   |             |

| REVISIONS |      |             |           |          |
|-----------|------|-------------|-----------|----------|
| ZONE      | REV. | DESCRIPTION | DATE      | APPROVED |
|           | A    | PR306       | 07-OCT-96 |          |
|           | B    | EC 1832     | 13-JAN-97 | M.C.     |



GND IN  
+16V  
-16V  
CH 1  
CH 2  
CH 3  
REMOTE OUTPUT  
GND OUT  
SHIELD

NOTES: 1. UNLESS OTHERWISE NOTED ALL RESISTORS 1/4W 5%, ALL CERAMIC DISK CAPACITORS 1KV MIN ALL OTHER CAPACITORS 50V MIN.  
2. ALL VOLTAGES MEASURED WITH RESPECT TO GROUND USING A DVM OF AT LEAST 1MΩ AC INPUT IMPEDANCE. VOLTAGES MAY VARY ±20%.

TEST CONDITIONS:  
A. LINE VOLTAGE AT 120VAC 60Hz.  
B. ALL LEVEL CONTROLS SET TO FULL CLOCKWISE POSITION, ENHANCE OFF.  
C. LOW CUT AND NOTCH CONTROLS SET TO FULL COUNTER CLOCKWISE POSITION.  
D. INPUT SIGNAL IS A 1KHz SINE WAVE.  
E. TEST POINTS 7 - 21 MEASURED WITH ONLY MIC 1 CHANNEL INPUT DRIVEN.

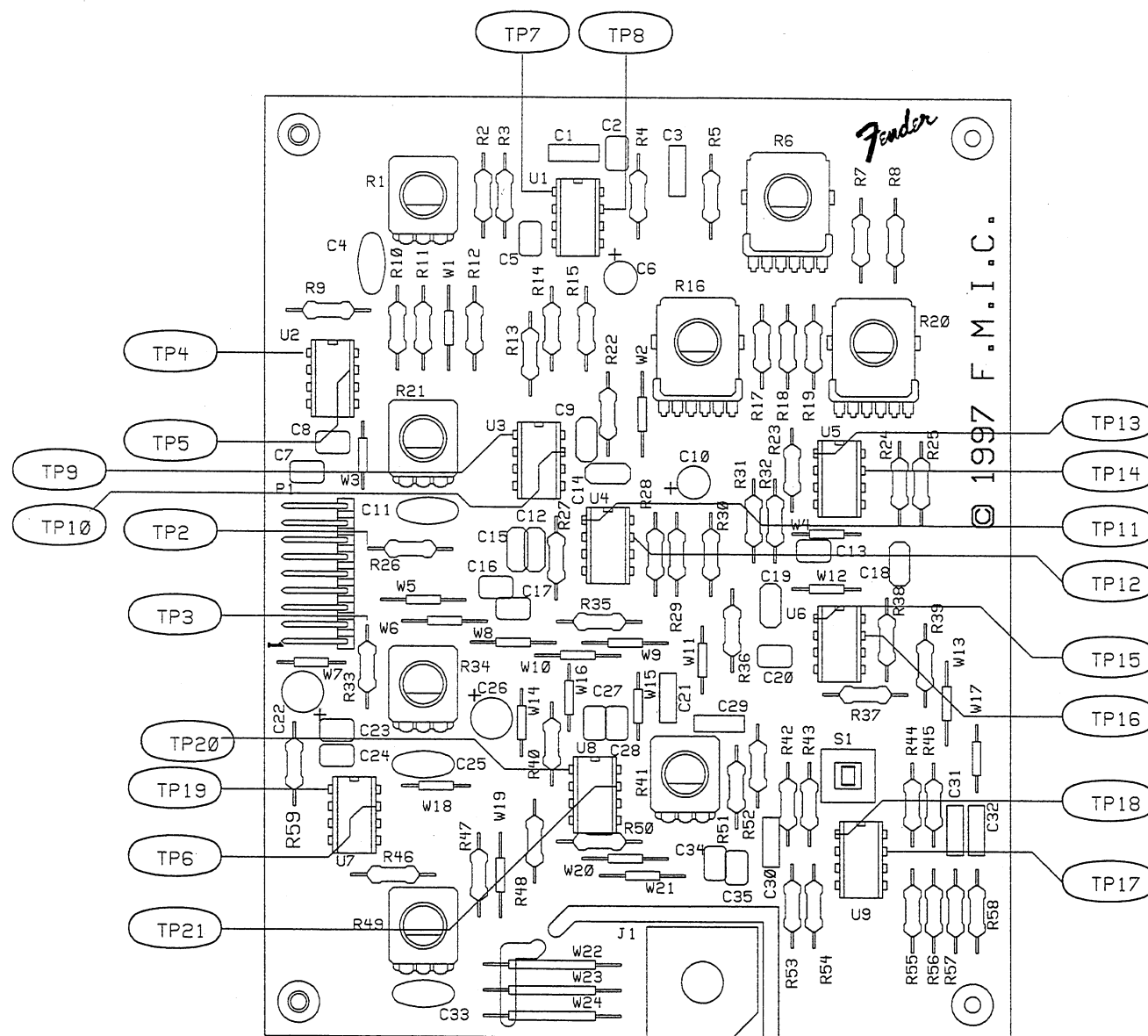
- C2 1.1μF
- C3 1.1μF
- C4 47pF
- C5 1.1μF
- C6 1.1μF
- C7 1.1μF
- C8 1.1μF
- C9 1.1μF
- C10 2.2μF
- C11 47pF
- C12 0.0012μF
- C13 1.1μF
- C14 0.0068μF
- C15 0.0068μF
- C16 1.1μF
- C17 1.1μF
- C18 0.0022μF
- C19 0.0022μF
- C20 1.1μF
- C21 0.1μF
- C22 22μF
- C23 1.1μF
- C24 1.1μF
- C25 47pF
- C26 1.1μF
- C27 1.1μF
- C28 1.1μF
- C29 0.001μF
- C30 0.001μF
- C31 0.047μF
- C32 0.047μF
- C33 47pF
- C34 50kΩ
- C35 1.1μF

|  |                            |  |
|--|----------------------------|--|
| DATABASE FILE:<br>Z306S2.DBF   | PROPRIETARY                | <b>FENDER MUSICAL INSTRUMENTS</b><br>2621 Research Drive<br>Corona, CA 91720 USA   |
| CHECKED BY:<br>DATE: 1-15-97   | APPROVED:<br>DATE: 1-15-97 |  |
| TOLERANCES: UNLESS OTHERWISE NOTED<br>X.X ±0.050"<br>X.XX ±0.010"<br>X.XXX ±0.005"<br>ANGLES ±0.500° |                            | TITLE: SCHEMATIC, REMOTE CONTROL<br><b>POWER STAGE 100</b><br>SIZE: DRAWN: M.COZZA<br>ENGR: M.COZZA<br>DRAWING NUMBER: 049801<br>REV. B<br>CREATED: 02-AUG-95<br>PLOTTED: 15-JAN-97 SHEET 1 OF 1 |

PART NO. 0049802000 1 OF 1

REVISIONS

| ZONE | REV. | DESCRIPTION | DATE      | APPROVED |
|------|------|-------------|-----------|----------|
|      | A    | PR306       | 07-OCT-96 |          |
|      | B    | CR62        | 12-NOV-96 |          |
|      | C    | EC 1832     | 13-JAN-97 | MC       |



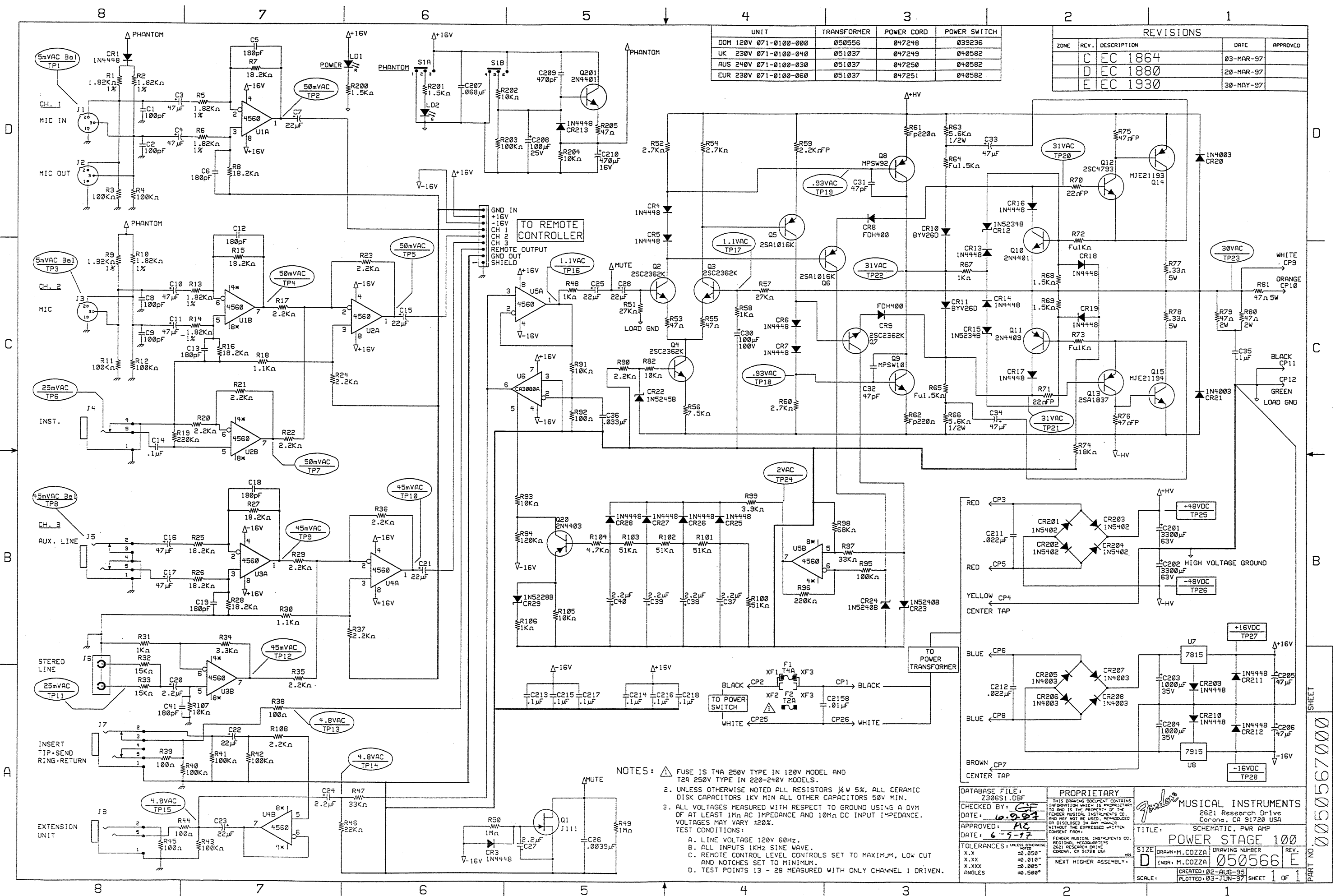
FILM/DWG: SERVICE DIAGRAM  
 DATABASE: Z306P2.DBF DATE: 14-JAN-97  
 LAYERS PLOTTED: 1 2 3 4 10  
 18

DATABASE FILE:  
Z306P2.DBF  
 CHECKED BY: *[Signature]*  
 DATE: 1-14-97  
 APPROVED: *MC*  
 DATE: 1-14-97  
 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.  
 REGIONAL HEADQUARTERS  
 2621 RESEARCH DRIVE  
 CORONA, CA 91720 USA HDS  
 NEXT HIGHER ASSEMBLY:

*Fender* MUSICAL INSTRUMENTS  
 2621 Research Drive  
 Corona, CA 91720 USA  
 TITLE: SERVICE DIAGRAM  
 POWER STAGE 100 REMOTE  
 SIZE B DRAWN: M.COZZA DRAWING NUMBER 049803 REV. C  
 ENGR: M.COZZA  
 CREATED: PLOTTED: 14-JAN-97 SHEET 1 OF 1





| UNIT                  | TRANSFORMER | POWER CORD | POWER SWITCH |
|-----------------------|-------------|------------|--------------|
| DOM 120V 071-0100-000 | 050556      | 047248     | 039236       |
| UK 230V 071-0100-040  | 051037      | 047249     | 040582       |
| AUS 240V 071-0100-030 | 051037      | 047250     | 040582       |
| EUR 230V 071-0100-060 | 051037      | 047251     | 040582       |

| REVISIONS |      |             |           |          |
|-----------|------|-------------|-----------|----------|
| ZONE      | REV. | DESCRIPTION | DATE      | APPROVED |
|           | C    | EC 1864     | 03-MAR-97 |          |
|           | D    | EC 1880     | 28-MAR-97 |          |
|           | E    | EC 1930     | 30-MAY-97 |          |

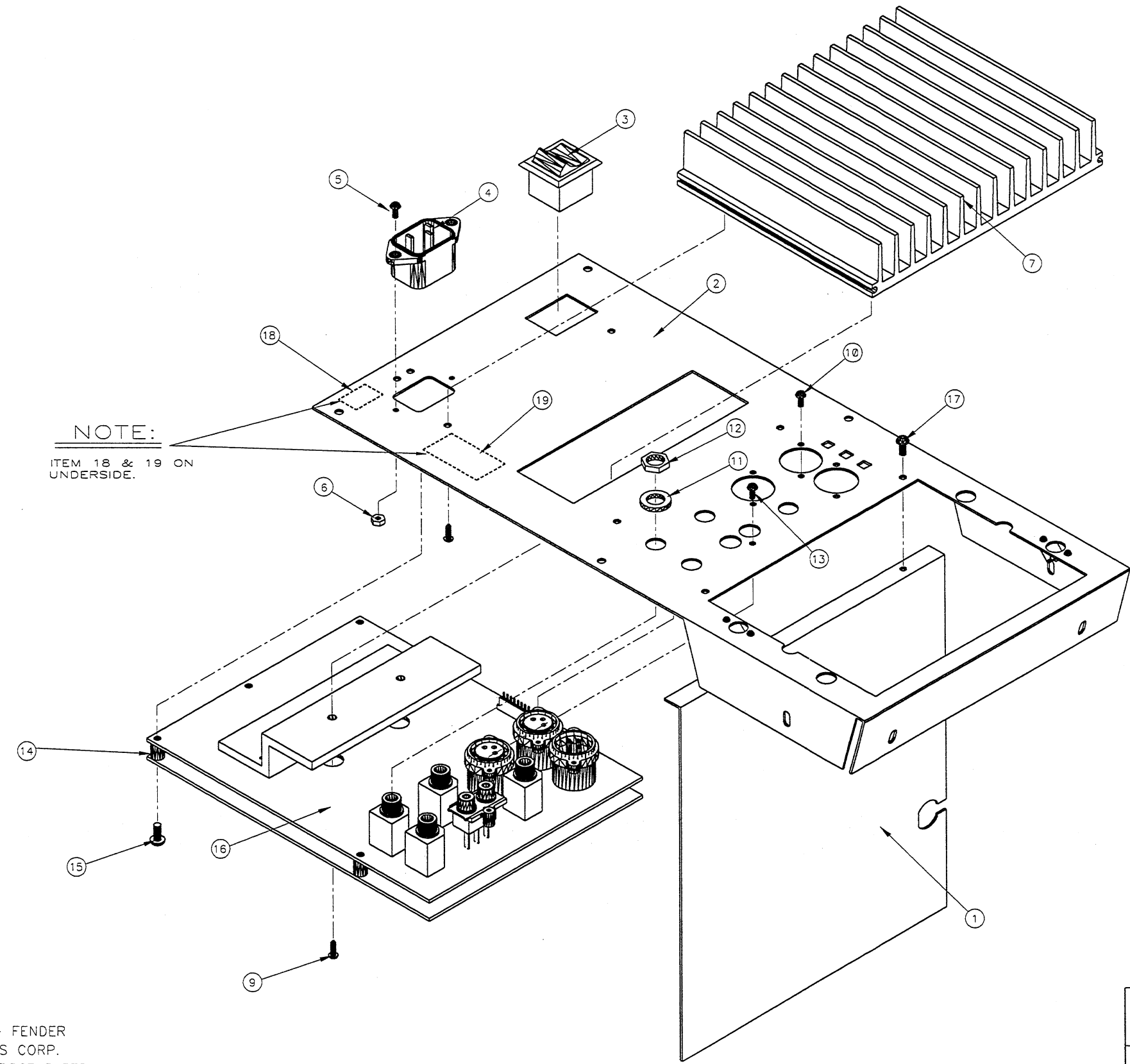
- NOTES:
- FUSE IS T4A 250V TYPE IN 120V MODEL AND T2A 250V TYPE IN 220-240V MODELS.
  - UNLESS OTHERWISE NOTED ALL RESISTORS 1/4W 5%, ALL CERAMIC DISK CAPACITORS 1KV MIN ALL OTHER CAPACITORS 50V MIN.
  - ALL VOLTAGES MEASURED WITH RESPECT TO GROUND USING A DVM OF AT LEAST 1MΩ AC IMPEDANCE AND 10MΩ DC INPUT IMPEDANCE. VOLTAGES MAY VARY ±20%.
- TEST CONDITIONS:
- LINE VOLTAGE 120V 60Hz.
  - ALL INPUTS 1KHz SINE WAVE.
  - REMOTE CONTROL LEVEL CONTROLS SET TO MAXIMUM, LOW CUT AND NOTCHES SET TO MINIMUM.
  - TEST POINTS 13 - 28 MEASURED WITH ONLY CHANNEL 1 DRIVEN.

|  |  |   |
|--|--|---|
| DATABASE FILE:<br>2306S1.DBF<br>CHECKED BY: <i>GE</i><br>DATE: <i>6-9-97</i><br>APPROVED: <i>AS</i><br>DATE: <i>6-9-97</i><br>TOLERANCES: UNLESS OTHERWISE SPECIFIED<br>X.XX ±0.050"<br>X.XXX ±0.010"<br>X.XXX ±0.005"<br>ANGLES ±0.500° | <b>PROPRIETARY</b><br>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:<br>FENDER MUSICAL INSTRUMENTS CO.<br>2621 RESEARCH DRIVE<br>CORONA, CA 91724 USA | <b>Fender</b> MUSICAL INSTRUMENTS<br>2621 Research Drive<br>Corona, CA 91724 USA<br>TITLE: SCHEMATIC, PWR AMP<br><b>POWER STAGE 100</b><br>SIZE: <i>D</i> DRAWN: M.COZZA DRAWING NUMBER: <b>050566</b> REV. <i>E</i><br>ENGR: M.COZZA<br>SCALE: <i>1</i> CREATED: 02-AUG-95 PLOTTED: 03-JUN-97 SHEET 1 OF 1 |
|--|--|---|

PART NO. 050567000 SHEET

THIS DOCUMENT CONTAINS INFORMATION OF A PROPRIETARY NATURE TO FENDER MUSICAL INSTRUMENTS AND IS SUBMITTED TO YOU IN CONFIDENCE AND SHALL NOT BE DISCLOSED OR TRANSMITTED TO OTHERS WITHOUT AUTHORIZATION FROM FENDER MUSICAL INSTRUMENTS CORP.

| REV | EC NUMBER | BY | DATE/AMOUNT |
|-----|-----------|----|-------------|
| A   | PR306     | TG | 09-18-96    |
| B   | EC 1832   | HB | 01-15-97    |
| C   | MEC 058   | HB | 04-16-97    |
| D   | EC CR134  | KD | 10-01-97    |



**NOTE:**  
ITEM 18 & 19 ON UNDERSIDE.

- 4. COPYRIGHT - 1997 - FENDER MUSICAL INSTRUMENTS CORP.
  - 3. - 3 - SAMPLES OF FIRST PARTS MUST BE APPROVED BY FENDER R&D BEFORE STARTING PRODUCTION.
  - 2. ALL DIMENSIONS ARE IN INCHES.
  - 1. DO NOT SCALE DRAWING.
- NOTES: UNLESS OTHERWISE NOTED

| ITEM | QTY | PART #     | DESCRIPTION                    |
|------|-----|------------|--------------------------------|
| 19   | 1   | 0037139000 | LABEL FUSE REPLACEMENT         |
| 18   | 1   | 0013020000 | LABEL GROUNDING SEMKO          |
| 17   | 2   | 0031184000 | SCREW, 6-32x1/4 PHP BLX ITLW   |
| 17   | 2   | 0031184000 | SCREW, 6-32x1/4 PHP BLX ITLW   |
| 16   | 1   | 0050570000 | PCB ASSY                       |
| 15   | 6   | 0015627000 | SCREW, 6-32x3/4 PHP BLX        |
| 14   | 6   | 0025936000 | STANDOFF NYL PCB SNAP 3/8" NAT |
| 13   | 1   | 0031868000 | SCREW, 4x1/4 PHP BLX PLASTITE  |
| 12   | 4   | 0038537000 | NUT, HEX 3/8-32 BLK NYL        |
| 11   | 4   | 0038538000 | WASHER, 3/8x5/8x3/32 BLK NYL   |
| 10   | 6   | 0051155000 | SCREW, #4 HI LO                |
| 9    | 6   | 0027636000 | SCREW, 8-32x5/8 BLX            |
| 8    |     |            |                                |
| 7    | 1   | 0053490000 | HEAT SINK                      |
| 6    | 2   | 0097360000 | NUT, HEX 4-40 EX LOCK          |
| 5    | 2   | 0014172000 | SCREW, 4-40x1/4 PHP BLX        |
| 4    | 1   | 0047213000 | IEC LINE CORD JACK             |
| 3    | 1   | SEE CHART  | SWITCH, ROCKER DPST PSEUDO-IEC |
| 2    | 1   | 0053491000 | INPUT PANEL PWR STG            |
| 1    | 1   | 0050345000 | DIVIDER PANEL                  |

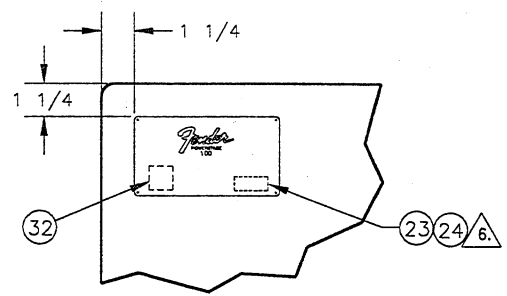
|          |                         |                      |               |  |
|----------|-------------------------|----------------------|---------------|--|
| MATERIAL | n/a                     | ENGINEER             | COZZA         |  |
| FINISH   | n/a                     | DRAWN                | T.GROENENBOOM |  |
|          |                         | DATE                 | 09-18-96      | FENDER MUSICAL INSTRUMENTS CORP.<br>CORONA, CALIFORNIA 91720 |
|          |                         | DFT                  | ENG.          | ENG.   |
|          |                         | DATE                 | DATE          | DATE   |
|          |                         | APPROVED             | M C           |  |
|          |                         | DATE                 | 10/2/97       |  |
|          |                         | TITLE                |               | CHASSIS ASSY<br>POWER STAGE 100                              |
| VERSION  | DOM. 120V<br>0051180000 | EXPORT<br>0051222000 | SHEET         | 1/1  |
| SWITCH   | 039236                  | 040582               | SCALE         | D 0051180000 D   |
|          |                         | DRAWING NUMBER       |               | 0051180000   |
|          |                         | REV.                 |               | D  |

| POWER SWITCH CHART |                         |                      |
|--------------------|-------------------------|----------------------|
| VERSION            | DOM. 120V<br>0051180000 | EXPORT<br>0051222000 |
| SWITCH             | 039236                  | 040582               |

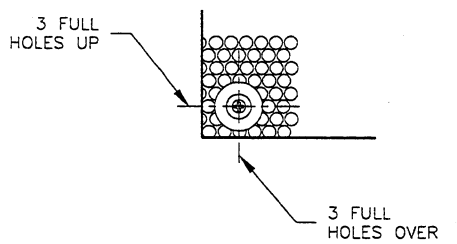
TOL. UNLESS NOTED  
 FRACT. .... + 1/32  
 .X ..... + 0.050  
 .XX ..... + 0.010  
 .XXX ..... + 0.005  
 ANGLES ..... + 0.5 DEGREES  
 HOLE DIA. .... +0.005 - 0.001  
 UNMARKED ANGLES ARE 90 DEGREES.

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| REV | EC NUMBER | BY | DATE/ARCHIVE        |
|-----|-----------|----|---------------------|
| A   | PR306     | TG | 09-23-96            |
| B   | EC 1832   | HB | 01-16-97            |
| C   | MEC 060   | KD | 05-08-97<br>ARCHIVE |



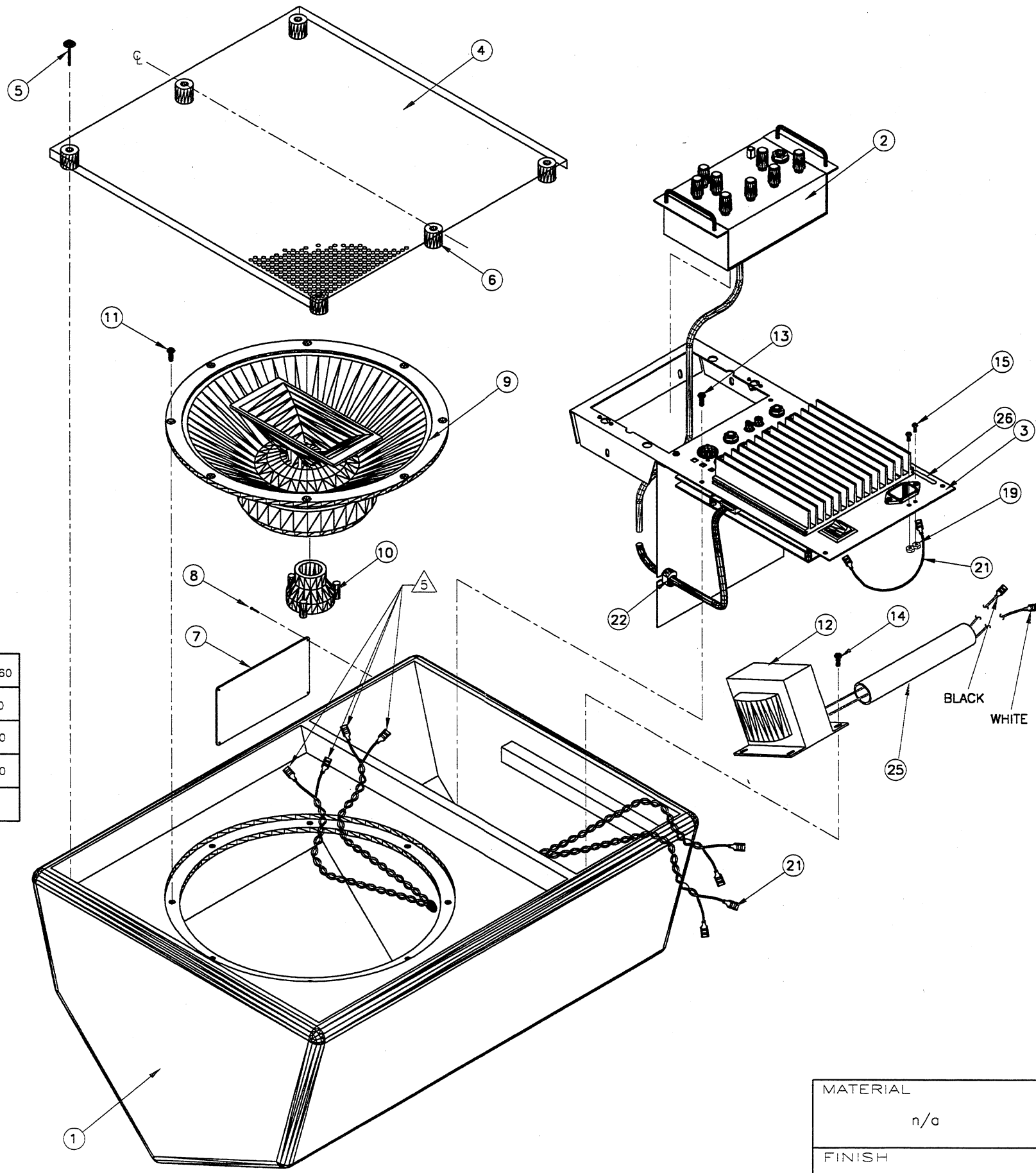
SAFETY PANEL PLACEMENT DETAIL



SCREW W/STANDOFF PLACEMENT DETAIL TYP ALL CORNERS

| VERSION       | DOM 120V<br>071-0100-000 | U.K. 230V<br>071-0100-040 | AUST 240V<br>071-0100-030 | EUR 230V<br>071-0100-060 |
|---------------|--------------------------|---------------------------|---------------------------|--------------------------|
| POWER CORD    | 0047248000               | 0047249000                | 0047250000                | 0047251000               |
| TRANSFORMER   | 0050556000               | 0051037000                | 0051037000                | 0051037000               |
| VOLTAGE LABEL | NONE                     | 0050505000                | 0050506000                | 0050505000               |
| TAG WARRANTY  | (1) 0031893000           | NONE                      | NONE                      | NONE                     |

- 6. PLACE QUALITY ASSURANCE \$ HI-POT STICKERS IN OPEN AREA OF SAFETY PANEL
  - 5. ORANGE WIRE TO "+" TERMINAL ON HORN (ALAMBRE NARANJA A LA TERMINAL POSITIVA (+) DE LA CORNETA)  
GREEN WIRE TO "-" TERMINAL ON HORN (ALAMBRE VERDE A LA TERMINAL NEGATIVA (-) DE LA CORNETA)  
BLACK WIRE TO "-" TERMINAL ON SPEAKER (ALAMBRE NEGRO A LA TERMINAL NEGATIVA (-) DE LA BOCINA)  
WHITE WIRE TO "+" TERMINAL ON SPEAKER (ALAMBRE BLANCO A LA TERMINAL POSITIVA (+) DE LA BOCINA)
  - 4. COPYRIGHT - 1996 -. FENDER MUSICAL INSTRUMENTS CORP.
  - 3. - 3 - SAMPLES OF FIRST PARTS MUST BE APPROVED BY FENDER R & D BEFORE STARTING PRODUCTION.
  - 2. ALL DIMENSIONS ARE IN INCHES.
  - 1. DO NOT SCALE DRAWING.
- NOTES: UNLESS NOTED OTHERWISE.



|    |     |              |   |
|----|-----|--------------|---|
| 32 | 1   | 0050712000   | LABEL CSA NRTL/C (to cover CE mark)       |
| 31 | 1   | 0050568000   | SERVICE DIAGRAM (not shown)               |
| 30 | 1   | 0050567000   | SCHEM PWR STAGE 100 (not shown)           |
| 29 | 1   | 9903311400   | BAG JIFFY #1 7-1/4x12 (not shown)         |
| 28 | 1   | 0049118000   | ORDER FORM MAKING THE CONNECT (not shown) |
| 27 | SEE | CHART        | TAG WARRANTY 5 YR FENDER (not shown)      |
| 26 | 1   | SEE CHART    | VOLTAGE LABEL                             |
| 25 | 1   | 0049940000   | TUBING PVC 1/2X6" 105DEG CSA              |
| 24 | 1   | EXPENSE ITEM | HI-POT STICKER                            |
| 23 | 1   | EXPENSE ITEM | QUALITY ASSURANCE STICKER                 |
| 22 | 1   | 0026038000   | BUSHING SR .625x.062x37/64 BLK            |
| 21 | 1   | 0051181000   | WIRE SET PWR STG 100/XPANDER              |
| 20 | 1   | 0029757000   | BAG POLY 35x22x52 .0015 (not shown)       |
| 19 | 2   | 0069393000   | NUT 6-32 HEX EXT LOCK                     |
| 18 | 2   | 0051384000   | END CAP.PWR STG 100/EXPANDER (not shown)  |
| 17 | 1   | 0051208000   | CARTON, PWR STG/EXPANDER (not shown)      |
| 16 | 1   | SEE CHART    | CORD PWR W/IEC CONN (not shown)           |
| 15 | 2   | 0031632000   | SCRW M 6-32x7/16 PHPS BLX ITLW            |
| 14 | 4   | 0047821000   | SCREW, 10-32x3/4 THP STL BLX              |
| 13 | 8   | 9904101110   | SCREW, 8x5/8 PB PHP BLX                   |
| 12 | 1   | SEE CHART    | XFMR PWR STAGE                            |
| 11 | 4   | 0026577000   | SCREW 10-32x1 BLX                         |
| 10 | 1   | 0049808000   | PIEZO DRIVER, SCREW IN                    |
| 9  | 1   | 0050555000   | SPEAKER, 12" COAX                         |
| 8  | 4   | 0036650000   | PIN, ESCUTCHEON #18x3/8 NI                |
| 7  | 1   | 0050744000   | SAFETY PANEL                              |
| 6  | 6   | 0050317000   | STANDOFF, RUBBER .75 DIA x .77            |
| 5  | 6   | 0036112000   | SCREW, 6x1-1/4 OHP BLX W/WS               |
| 4  | 1   | 0050565000   | PERF. METAL GRILLE                        |
| 3  | 1   | 0051180000   | CHASSIS ASSY                              |
| 2  | 1   | 0051179000   | REMOTE ASSY                               |
| 1  | 1   | 0050260000   | CAB ASSY PWR STG 100                      |

|  |     |                |                                |
|--|-----|----------------|--------------------------------|
| MATERIAL   | n/a | ENGINEER       | COZZA                          |
| FINISH   | n/a | DRAWN          | T.GROENENBOOM                  |
|  |     | DATE           | 09-23-96                       |
|  |     | CHECK          | <i>Git</i>                     |
|  |     | DATE           | 5-8-97                         |
|  |     | APPROVED       | <i>MC</i>                      |
|  |     | DATE           | 5-8-97                         |
| TOL UNLESS NOTED OTHERWISE<br>FRACT. . . . . - 1/32<br>.XXX . . . . . - .010<br>ANGLES . . . . . - 1/2 DEGREES<br>HOLE DIA. . . . . + .005, - .001<br>UNMARKED ANGLES ARE 90 DEGREES |     | SHEET          | 1/1                            |
|  |     | SCALE          | N/A                            |
|  |     | SIZE           | D                              |
|  |     | DRAWING NUMBER | 0710100000                     |
|  |     | REV.           | C                              |
|  |     | TITLE          | END ITEM<br>POWER STAGE<br>100 |
|  |     | MASTER         |                                |

