REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	A	RELEASED PR#82	7-14-88	
	B	EC#319	7-22-88	
	C	EC#360	10-5-88	

U13B
CR30
C85
R149

INPUT NO. 1
INPUT NO. 2
J1
J2
+8V
-8V
INH
R1 100Kn
R2 68Kn
R3 68Kn
R4 510Kn
R5 510Kn
R6 15Kn
R7 5.1Kn
R8 6.8Kn
C1 .0047µF
C2 .0047µF
C3 22µF 25V
C84 22µF 25V
C85 22µF 25V
R148 47n
R149 47n
U1A TL072
2 MVAC TP9
7.96 MVAC TP10
R9 470n
R10 50Kn B "VOLUME"
C4 .001µF
R11 56Kn
R12 1.1Kn
C7 .033µF
C8 .01µF
R13 22Kn
R14 22Kn
C5 .082µF
C6 .033µF
R15 11Kn
R16 7.5Kn
R17 24Kn
"MID BOOST" S1A
R18 10Mn
U3A TL072
+16V C9 470pF -16V
R19 3.3Kn
C10 .47µF
R20 100Kn 30C "GAIN"
R21 1Kn
42.5 MVAC TP11
C11 .47µF
U6 MN3007
R22 1Mn
U3B TL072
CR1 CR2
VTL5C4 OP1
CR3 CR4
R23 1Mn 5C "LIMITER"
687 MVAC TP12
C12 .0022µF
R24 1Mn
C17 .001µF
R28 68Kn
R30 820Kn
R29 22Kn
C16 .0022µF
U4B TL072
C13 .0033µF
C14 560pF
R25 1Mn
R26 22Kn
R27 22Kn
C15 .0022µF
157 MVAC TP13
C18 .015µF
"PRESENCE"
R31 50Kn 2B
C19 .015µF
R32 7.5Kn
R33 7.5Kn
R34 50Kn B "VOLUME"
R35 75Kn
U12C U12B 4053
SELA
422 MVAC TP14
U1B TL072
C20 470pF
R36 3.3Kn
R37 39Kn
R38 130n
R39 22Kn
C21 .47µF
C22 .22µF
CR5 CR6
R40 50Kn 15A "TREBLE"
R41 50Kn 15A "BASS"
R42 2Kn 15A "MID"
C23 .033µF
R43 220Kn
94.5 MVAC TP15
U2A TL072
C24 R44 22pF
C25 22µF 25V
R45 100Kn
R46 1Kn
R47 470Kn
J4 "SEND" MONO EFFECTS LOOP "RETURN" J5
R70 100Kn
C26 1µF 50V
R71 390Kn
R78 390Kn
R75 100Kn
R77 100Kn
R69 470Kn
R76 100Kn
U12A 4053
SELB
33.0 MVAC TP22
U8B TL072
C43 22µF 25V
R74 1Kn
R73 100Kn
C42 100pF
R72 100Kn
33.0 MVAC TP23
U8A TL072
C45 22µF 25V
R81 1Kn
R80 100Kn
C44 R79 100pF 100Kn
J6 "SEND" TIP- LEFT RING- RIGHT
STEREO EFFECTS LOOP
J7 "RETURN" TIP- LEFT RING- RIGHT

"FOOT SWITCH"
J3
OVERDRIVE "SELECT" S2A
"OVERDRIVE" LD2
CHORUS "SELECT" S3A
CR22 CR23
R113 1Kn 1W
R114 10Kn
C71 .47µF
VAC2
+15.75 VDC TP16
+16V R119 100Kn R118 10Kn R117 1Mn
CR25
U11B 4558
R120 10Kn
R121 10Kn
SELA
CR24
R116 1Mn
C72 .033µF
-15.25 VDC TP17
-16V R125 100Kn R124 10Kn R123 1Mn
CR27
U11A 4558
R126 10Kn
R127 10Kn
SELB
CR26
R115 1Kn
R122 1Mn
C73 .033µF
CR28
R136 10Kn
R135 33Kn
R138 2.7Kn
"CHORUS" LD3
R129 10Kn
R130 10Kn
C75 47µF 50V
U13A TL072
TP26
R131 100Kn B "RATE"
R133 3.3Kn
R132 18Kn
R137 470Kn
U13B TL072
TP27
C76 .1µF
R139 100Kn B "DEPTH"
R140 100Kn
C77 1µF 50V
Q1 2N4401
R142 330Kn
R141 10Kn
CR29
C78 .0015µF
C79 22pF
CR30
R143 5.1Kn
TP28 TP29
C80 1µF 50V
U7 MN3101
R144 47n
R145 47n
+8 VDC TP20
R48 22Kn
R49 82Kn
U4A TL072
382 MVAC TP18
R50 4.7Kn
BT1 BT2 TO REVERB SUBASSEMBLY
R51 47n
C27 22µF 25V
BT3 BT4 FROM REVERB SUBASSEMBLY
R52 10Kn
C28 .0022µF
U2B TL072
500 MVAC TP19
C31 .015µF
"REVERB" R55 50Kn B
R53 470Kn
R54 3.3Kn
C30 .22µF
C29 50PF
C35 4.7µF 50V
CHORUS BIAS ADJUST
R59 100Kn TRIMPOT
42.5 MVAC TP20
U5B TL072
R56 100Kn
R57 22Kn
C33 .001µF
R58 50pF 100Kn
C34
R60 100Kn
R61 100Kn
R62 5.1Kn
R63 5.1Kn
C36 .047µF
R64 330Kn
R65 18Kn
R66 18Kn
R67 18Kn
C37 .0015µF
C38 .0039µF
C39 220pF
C74 220µF 25V
U5A TL072
R128 47n
42.0 MVAC TP21
R68 2.7Kn
C41 .22µF
C40 .047µF
+8 VDC TP21
C32 .22µF
R136 10Kn
R135 33Kn
R138 2.7Kn
"CHORUS" LD3
R129 10Kn
R130 10Kn
C75 47µF 50V
U13A TL072
TP26
R131 100Kn B "RATE"
R133 3.3Kn
R132 18Kn
R137 470Kn
U13B TL072
TP27
C76 .1µF
R139 100Kn B "DEPTH"
R140 100Kn
C77 1µF 50V
Q1 2N4401
R142 330Kn
R141 10Kn
CR29
C78 .0015µF
C79 22pF
CR30
R143 5.1Kn
TP28 TP29
C80 1µF 50V
U7 MN3101
R144 47n
R145 47n
+8 VDC TP20
R82 100Kn
C46 .047µF
R83 51Kn
CR7 CR8
U9 µPC1188H
370 MVAC TP24
C81 100pF
R146 100Kn
CR9 1N4003
CR10 1N4003
C65 .1µF
C50 .1µF
R84 680Kn
R91 5.6n ½ W
R87 3.9Kn
R86 27Kn
R85 27Kn
C48 2.2µF 50V
C49 4.7µF 50V
C47 2.2µF 50V
C51 .047µF
R92 100Kn
R93 51Kn
CR11 CR12
U10 µPC1188H
370 MVAC TP25
C82 100pF
R147 100Kn
CR13 1N4003
CR14 1N4003
C67 .1µF
C69 .1µF
C55 .1µF
R101 5.6n ½ W
C83 47µF 50V
R97 3.9Kn
R96 27Kn
R95 680Kn
C53 2.2µF 50V
C54 4.7µF 50V
C52 2.2µF 50V
R99 3.9Kn
R98 47n 5W
R100 62Kn
R104 120n 2W
R105 120n 2W
R103 120n 2W
R102 120n 2W
C57 2.2µF 50V
C58 1µF 50V
C56 2.2µF 50V
R90 62Kn
R89 3.9Kn
R88 47n 5W
CP3 CP4 TO RIGHT SPEAKER
J8 "HEAD PHONES"
CP1 CP2 TO LEFT SPEAKER

EXPORT ONLY
CP8 #
CP9 #
CP10 #
CP11
CP12
CP13 #
CP14 #
STAKE-ON FOR STORAGE ONLY
F1 2A
F1 1AT OR 220V/240V MODELS ONLY
XF1
TH1 NTC

+15.5V- TP26 +1.5V- 115ms
+13V- TP27 +3.5V- 115ms
+15.5V- TP28 +0.5V- 6.4µs
+15.5V- TP29 +0.5V- 6.4µs

ONLY FOR EXPORT 220/240V MODELS
CP5
CP6
CP7
F2 5A XF2
F3 5A XF3
VAC1
VAC2
20.4 VAC TP1
20.4 VAC TP2
R112 1Kn ½ W
CR21
LD1 "POWER ON"
CR15 1N5402
CR16 1N5402
CR17 1N5402
CR18 1N5402
+27 VDC TP3
-27 VDC TP4
+16 VDC TP5
-16 VDC TP6
+8 VDC TP7
-8 VDC TP8
R106 100n 5W
R107 150n 5W
C59 4700µF 35V
C60 4700µF 35V
CR19 16V 1N5353
CR20 16V 1N5353
C61 47µF 50V
C62 47µF 50V
R108 4.7Kn
R109 4.7Kn
R110 4.7Kn
R111 4.7Kn

5. AC VOLTAGE READINGS TAKEN WITH DVM TO GROUND, AND TP26-TP29 WAVEFORMS OBSERVED WITH SCOPE UNDER THE FOLLOWING CONDITIONS:
   1kHz INPUT
   8n RESISTIVE LOADS (2) CONNECTED AT CP1-CP4
   NO FOOTSWITCH
   MID BOOST "OFF"
   OVERDRIVE SELECT "ON"
   CHORUS SELECT "ON"
   REVERB "0"
   CHORUS RATE "10"
   CHORUS DEPTH "0"
   ALL OTHER CONTROLS SET TO 12 O'CLOCK
4. DC VOLTAGES READ TO GROUND WITH A DVM AND NO INPUT SIGNAL
3. ALL DIODES 1N4448
2. ALL CAPACITORS 63V MIN.
1. ALL RESISTORS ¼ W, ±5%

NOTES: UNLESS OTHERWISE SPECIFIED

OUTPUT POWER TEST:

1kHz POWER AMP INPUT INSERTED AT STEREO EFFECTS LOOP RETURN (J7) ON TIP AND RING

¼" DUMMY PLUG INSERTED AT INPUT NO. 1 (J1)

8n RESISTIVE LOADS AT CP1/CP2 AND CP3/CP4

120 VAC LINE INPUT

RESULT-
25.5 WATTS RMS X 2 = 51 WATTS RMS AT 5% T.H.D.

REF. DES.	ITEM	QTY
DATABASE FILE: FFF04S		
CHECKED BY:		
DATE:		
APPROVED:		
DATE:		

TOLERANCES: UNLESS OTHERWISE NOTED
X.X ±0.050"
X.XX ±0.010"
X.XXX ±0.005"
ANGLES ±0.500"

PART NO.: PROPRIETARY

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

NEXT HIGHER ASSEMBLY: PRINCETON CHORUS

DESCRIPTION

Fender MUSICAL INSTRUMENTS
1130 Columbia Street
Brea, Ca. 92621

TITLE: SCHEMATIC DIAGRAM OF AMPLIFIER - PRINCETON CHORUS

SIZE	DRAWN:	DRAWING NUMBER	REV.
D	B. DESI	029242	C
	ENGR: B. DESI		
SCALE:	DATE: 5-25-88	SHEET 1 OF 1	