REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	A	RELEASED PR325	13-MAY-96	MDW
	B	EC 1701	24-MAY-96	MDW

INPUTS J2 J1 — 1kHz SINE 4.0mV TP1 — 180mV TP2 — 10k 10k 10µF — R1 68Kn R2 68Kn R3 1Mn C1 47µF 16V R5 1.5Kn R63 10n — TO POT BRACKETS — 12AX7A V1A — C2 150p — R4 100Kn ½W — C18 .022µF 400V — R9 220Kn — C23 1.5nF 400V 22nF — R52 180Kn — R7 250Kn 15A DRIVE — R6 250Kn 15A VOLUME — ON-DRIVE K1A — +1.72V TP3

13.0mV TP4 — R41 10Kn — R44 180Kn — R10 1.5Kn — R43 100Kn — +1.72V TP6 — 252mV TP5 — R11 100Kn ½W — 12AX7A V1B — C4 .068µF 63V 1µF — S1A NORMAL BRIGHT — R102 1Mn

33.0mV TP7 — 850mV TP8 — R16 100Kn ½W — C2 .047µF 400V — 12AX7A V2A — C7 250pF 1kV — R13 TREBLE 250Kn 30A — R12 130Kn — C5 .1µF 400V — R8 100Kn — C3 250pF 1kV — R105 220Kn — R14 BASS 250Kn 15A — C6 .022µF 400V — MIDDLE R15 25KnB — R27 1Mn — R17 1.5Kn 1.8k — C8 1µF 100V — K1B ON-DRIVE — +1.72V TP9

13.3V TP11 — 580mV TP10 — K2B — R20 100Kn 820k — R42 1Mn — ON-DRIVE — 12AX7A V2B — R22 100Kn ½W — R25 100Kn — C10 .047µF 400V — C11 390pF 1kV — R21 1.5Kn — C9 22µF 25V 820R — MASTER R26 100KnB — R45 47Kn — K2A ON-DRIVE — 1.20V TP13 — 66mV TP14 — 66mV TP15

R19 220Kn — R23 100Kn — Q1 J111 — Q2 J111 — CR16 1N4448 — C44 .068µF 100V — MORE_DRV — +1.72V TP12 — CR1 1N5245B 15V — CR2 1N5245B 15V

TP16-18 WITH CABLE FROM J3 TO J4:
TP16: 39.0mVAC
TP17: 1.20VAC
TP18: 1.14VAC

R48 51Kn — TP16 — R50 2.7Kn — C19 .47µF 100V — TP17 — TP18 — C22 .001µF 100V — U1B TL072 — C20 .47µF 100V — R51 47Kn — C21 22µF 25V — R49 2.7Kn — R47 51Kn — 870mV TP19

R24 100Kn — R24 220Kn — 744mV TP23 — R38 470Kn — C28 47pF 1kV — CR4 R3000

J4 POWER AMP IN — R28 47Kn — R29 2.7Kn — U1A TL072 — C54 .1µF 50V — C55 .1µF 50V — +16V -16V — J3 PREAMP OUT — C12 .47µF 100V — R31 1.5Kn — R30 100Kn — 11.6V TP20 — REVERB PAN 050394 — INPUT RED — OUTPUT — 43.0mV TP21 — U2A TL072 — R32 1Mn — R33 4.7Kn — C13 470pF 50V — C14 22µF 25V — R34 47n — R37 2.7Kn — C16 .47µF 100V — R46 10Kn — R35 100Kn — U2B TL072 — C15 47pF 100V — R36 220Kn — C52 .0068µF 100V — R100 5Kn — C17 .47µF 63V — R39 25KnB REVERB — 3.43V TP22

FOOT SWITCH J5 — S3A MORE DRIVE — S2A CHANNEL SELECT — CR21 1N4448 — CR25 1N4448 — R100 47n — C49 22µF 25V — R99 47n — C50 22µF 25V

39_VAC — R97 1.2Kn 2W — C48 .47µF 63V — CR23 1N4448 — CR28 1N5240B 10V ½W — C46 .22µF 63V — R95 470Kn — +16V — R91 10Kn — R90 10Kn — R89 1Mn — TP31 — CR20 1N4448 — CR27 1N4448 — TP32 — TP33 — U3B 4560 — R84 130n — R101 27Kn — Q4 2N4401 — C45 22µF 63V — -16V — LD1 OFF-CLEAN YEL-DRIVE RED-MORE DRIVE — R104 270n — R85 270n — Q3 2N4403 — K1 K2 — CR18 1N4448 — CR19 1N5228B 3.9V ½W — R88 1.8Kn — R98 27Kn — C51 .47µF 63V — R87 100Kn — MORE_DRV

CR17 1N5231B 5.1V ½W — TP34 — R93 10Kn — R94 10Kn — R92 1Mn — R86 27Kn — U3A 4560 — C51 .47µF 63V — R87 100Kn — MORE_DRV — CR24 1N4448 — TP35 — CR26 1N5240B 10V ½W — C47 .22µF 63V — R96 470Kn — TP36

EXPORT POWER TRANSFORMER P/N 041759 — T3 — VIO — BLK/RED — BLK/GRN — BLK/YEL — WHT — WHT/BLK — BLK — RED CP11 — RED CP12 — GRN CP13 — GRN CP14 — BRN CP15 — BRN CP16

EXPORT TRANSFORMER WIRING DIAGRAM.

100V 50/60Hz	230V 50/60Hz	240V 50/60Hz
CP3	CP3	CP3
CP5	CP5	CP5
CP7	CP7	CP7
CP6	CP8	CP8
CP4	CP9	CP9
CP9	CP4	CP10
CP8	CP10	CP4

R57 82Kn ½W — 11.5V TP24 — +37.2V TP26 — 12AX7A V3A — C24 .022µF 400V — R53 1Mn — R54 1Mn — R56 6.8Kn 1W 10k — R55 470n — 1k — C25 .1µF 250V — C29 .1µF 63V — R69 47Kn — R68 4.7Kn — R67 25Kn30C PRESENCE — 11.5V TP25 — V3B 12AX7A — R58 100Kn ½W — -Y — C26 .1µF 630V — R64 1.5Kn — V5 6L6GC — R59 220Kn — R66 Fp1n 1W — CR3 1N5062 — C27 .1µF 630V — R65 1.5Kn — R60 220Kn — V4 6L6GC — CR5 R3000 — 66.5V TP27 — CP19 — BLU — 050438 T1 — R61 Fp470n 1W — CP18 — RED — 60mV TP30 — R62 Fp470n 1W — CP20 — BRN — 66.5V TP28 — 5.34V TP29 — EXT. SPKR 8n — GRN 8n — GRN/ 4n YEL — BLK 0 — J6 J7 — GRAY — MAIN SPKR 8n

OUTPUT TEST:
16.3Vrms INTO AN 8 OHM RESISTIVE LOAD, AT 5% THD, WITH A 263mV SINE SIGNAL APPIED AT J4. PRESENCE AND RCVERB CONTROLS FULL CCW.

FOOTSWITCH OPERATION:

TP31 (REF. PIN, CHANNEL SELECT):
+1.37V NORMAL MODE.
+1.07V DRIVE MODE ("YELLOW").
+1.07V MORE DRIVE MODE ("RED").
TP32 (INPUT PIN, CHANNEL SELECT):
WITH FOOTSWITCH--
+.527V WITH CHANNEL SELECT OFF.
+2.53V WITH CHANNEL SELECT ON.
WITH FRONT PANEL SWITCHES--
+.540V WITH CH. SEL. OUT.
+9.76V WITH CH. SEL. IN.
TP33 (OUTPUT PIN, CHANNEL SELECT):
+16V NORMAL MODE.
-13.5V DRIVE MODE ("YELLOW").
-13.9V MORE DRIVE MODE ("RED").
TP34 (REF. PIN, DRIVE/MORE DRIVE):
-13.0V NORMAL MODE.
-5.46V DRIVE MODE ("YELLOW").
-4.36V MORE DRIVE MODE ("RED").
TP35 (INPUT PIN, DRIVE/MORE DRIVE):
WITH FOOTSWITCH--
-3.33V WITH DRIVE SELECTED ("YELLOW").
-6.54V WITH MORE DRIVE SELECTED ("RED").
WITH FRONT PANEL SWITCHES--
-.594V WITH MORE DRIVE OUT.
-10.0V WITH MORE DRIVE IN.
TP36 (OUPUT PIN, DRIVE/MORE DRIVE):
-16V NORMAL MODE.
-16V DRIVE MODE ("YELLOW").
+16V MORE DRIVE MODE ("RED").

NOTE:
THE FOOTSWITCH OVERRIDES THE FRONT PANEL SWITCHES.

POWER — S4A — BLK — F1 3A — XF1 100V: 2A 230V: F1.6A 240V: F1.6A — BLK — CF: — TH1 C60-11 5A NTC — CP3 BLK — CP5 — CP6 — CP7 — CP8 — CP4 WHT — CP9 NC — CP10 NC — BLACK (BROWN) — GREEN (GRN/YEL) — WHITE (BLUE) — WT CP2 — S4B

T2 — 036958 — CP11 RED — CP12 RD — S5 STANDBY — 39k — 3.3VAC CP13 — GRN — 3.3VAC CP14 — BRN CP15 — BRN CP16 — 4X 1N5062 CR6 — CR8 — CR7 — CR9 — C53 8200pF 1kV — SP1 — L1 022707 — SP2 — C31 47µF 500V — C33 22µF 500V — C35 22µF 500V — C36 22µF 500V — +431V B+ — +430V Z — +392V Y — +345V X — R74 Fp4.7Kn 1W — R75 Fp10Kn 1W

V5 V4 V3 V2 V1 — R80 100n ½W — R81 100n ½W — LA1 T47 — CR15 1N5062 — -53V — R76 1.5Kn — R82 25KnB BIAS ADJ. — R77 100Kn — C43 100µF 100V — C38 22µF 63V — -50V AC- — +48VDC — R78 470n 5W — CR11 1N5062 — CR12 1N5062 — C39 100µF 100V — C42 100µF 100V — 1N5353B 5W — CR13 — CR14 — R79 470n 5W — C40 1000µF 35V — C41 1000µF 35V — +16V — -16V — -48VDC — 39_VAC

NOTES: (UNLESS SPECIFIED OTHERWISE)
1.) LAST INSTANCES: C55 CP20 CR28 F1 J7 K2 L1 LA1 LD1 Q4 R105 S5 T2 TH1 U3 V5
2.) SIX DIGIT NUMBERS ARE FENDER PART NUMBERS.
3.) ALL RESISTORS 1/4W 5% CARBON FILM.
4.) ALL VOLTAGES MEASURED WITH RESPECT TO GROUND USING A TRUE RMS DVM OF 1Mn AC INPUT IMPEDANCE AND OF 10Mn DC INPUT IMPEDANCE. VOLTAGES MAY VARY ±20%. TEST CONDITIONS:
LINE VOLTAGE 120VAC 60Hz.
ALL DC AND SUPPLY MEASUREMENTS MADE WITH NO INPUT SIGNAL.
REVERB CONTROL AT FULL CCW.
ALL OTHER CONTROLS AT 50% ROTATION.
NORMAL BRIGHT SWITCH OUT.
DRIVE ("YELLOW") MODE SELECTED.
BIAS SET TO 30mA PER OUTPUT TUBE. SEE NOTE 5.
5 BIAS ADJUSTMENT - NO SIGNAL APPLIED, RATED LINE VOLTAGE AT T2 POWER TRANSFORMER PRIMARY:
SET BIAS ADJUST POT R82 TO OBTAIN A READING OF +60mV AT TP30. VOLTAGE SHOWN AT BIAS POT WIPER IS FOR REFERENCE ONLY.
6 READINGS OBSERVED AT TP21 AND TP22 WILL VARY GREATLY DEPENDING ON INDIVIDUAL REVERB PAN RESPONSE. THE VOLTAGE GAIN AT U2B SHOULD BE 82.
7 COLORS IN PARENTHESES ARE FOR 230V AND 240V UNITS.
8.) "MORE DRIVE" ADDS 12.7dB OF GAIN TO THE "DRIVE MODE".
9.) INSTANCES NOT USED:
C32 C34 C37 CP17 CP21
CR10 R71-73 R83

TIP SLEEVE — 037617 8n

DATABASE FILE: Z325S.DBF
CHECKED BY: JLA
DATE: 08-MAY-96
APPROVED: MDW
DATE: 13-MAY-96
TOLERANCES: UNLESS OTHERWISE NOTED
X.X ±0.050"
X.XX ±0.010"
X.XXX ±0.005"
ANGLES ±0.500°

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NEXT HIGHER ASSEMBLY: 050400 PCB ASSY HOT ROD DELUXE

Fender MUSICAL INSTRUMENTS
2821 Research Drive
Corona, CA 91720 USA

TITLE: SCHEMATIC DIAGRAM
HOT ROD DELUXE

SIZE D — DRAWN: M.WILKENS — ENGR: M.WILKENS — DRAWING NUMBER 050397 — REV. B — SCALE: NONE — CREATED: 11-AUG-95 — PLOTTED: 12-JUN-96 — SHEET 1 OF 1

PART NO. 050398000 — SHEET 1 OF 1