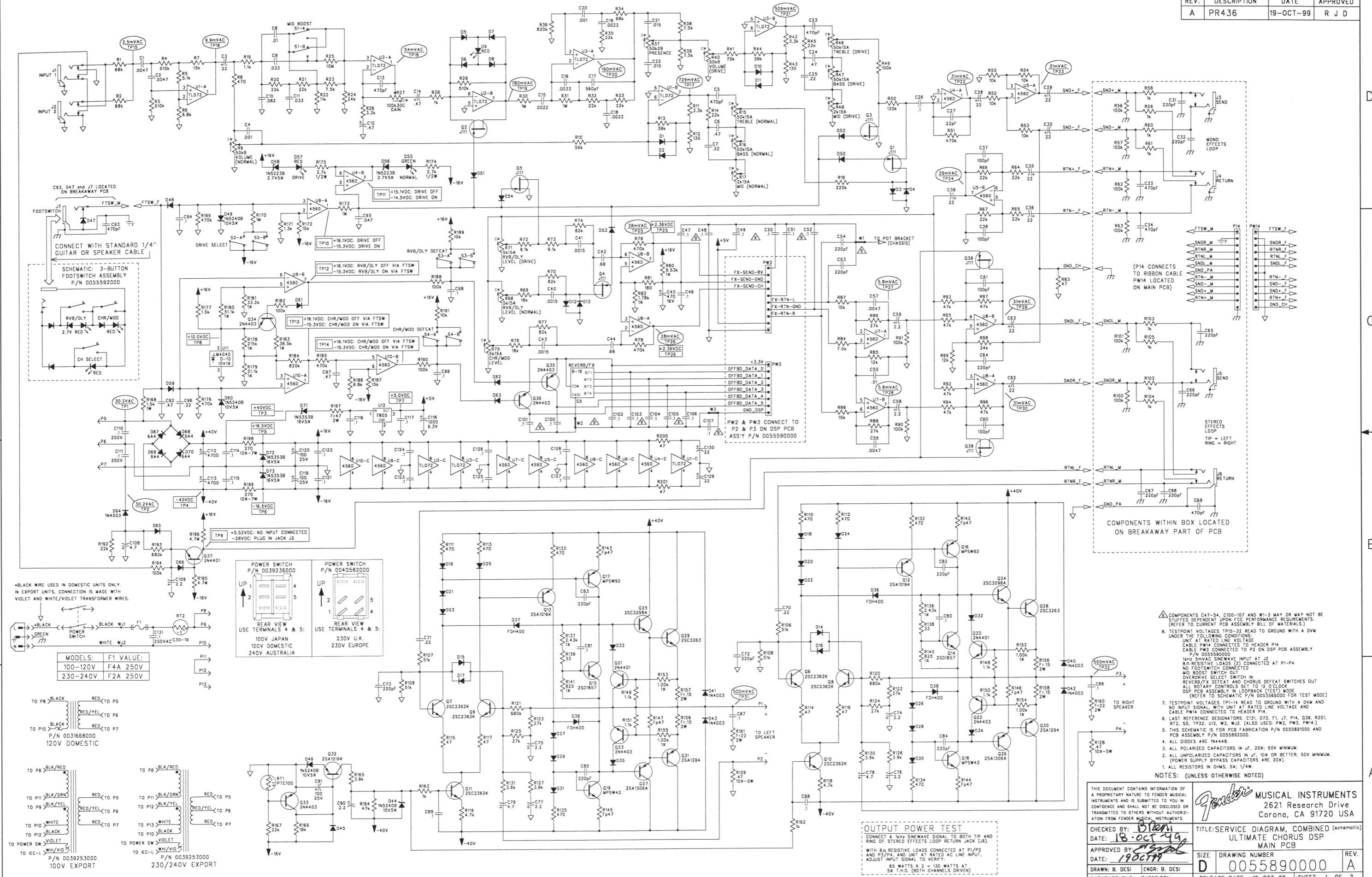
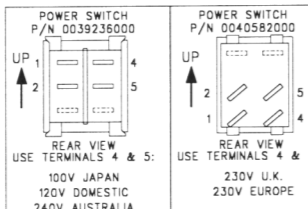
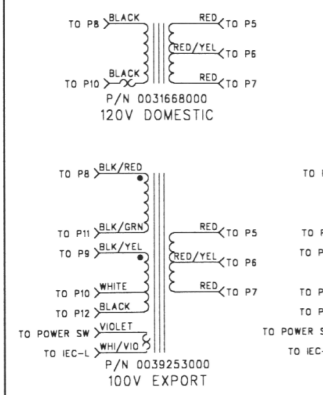


REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
A	PR436	19-OCT-99	R J D



\*BLACK WIRE USED IN DOMESTIC UNITS ONLY.  
IN EXPORT UNITS, CONNECTION IS MADE WITH  
VIOLET AND WHITE/VIOLET TRANSFORMER WIRES.

MODELS: F1 VALUE:  
100-120V F4A 250V  
230-240V F2A 250V



OUTPUT POWER TEST  
CONNECT A 1W SIN WAVE SIGNAL TO BOTH TIP AND RING OF STEREO EFFECTS LOOP RETURN JACK (J8).  
WITH 8Ω RESISTIVE LOADS CONNECTED AT P1/P2 AND P3/P4, AND UNIT AT RATED AC LINE INPUT, ADJUST INPUT SIGNAL TO VERIFY:  
85 WATTS X 2 = 130 WATTS AT 5% T.H.D. (BOTH CHANNELS DRIVEN)

- NOTES: (UNLESS OTHERWISE NOTED)
- ALL DIODES ARE 1N4448.
  - ALL POLARIZED CAPACITORS IN  $\mu$ F, 20% SOV MINIMUM.
  - ALL UNPOLARIZED CAPACITORS IN  $\mu$ F, 10% OR BETTER, 50V MINIMUM. (POWER SUPPLY BYPASS CAPACITORS ARE 20%).
  1. ALL RESISTORS IN OHMS, 5% 1/4W.
- COMPONENTS C47-54, C100-107 AND W1-3 MAY OR MAY NOT BE STUFFED DEPENDENT UPON FCC PERFORMANCE REQUIREMENTS. (REFER TO CURRENT PCB ASSEMBLY BILL OF MATERIALS.)
8. TESTPOINT VOLTAGES TP15-32 READ TO GROUND WITH A DVM UNDER THE FOLLOWING CONDITIONS:  
UNIT AT RATED LINE VOLTAGE  
CABLE PW14 CONNECTED TO HEADER P14  
CABLE PW2 CONNECTED TO P2 ON DSP PCB ASSEMBLY P/N 005590000  
1kHz 5mVAC SIN WAVE INPUT AT J2  
8Ω RESISTIVE LOADS (2) CONNECTED AT P1-P4  
NO FOOTSWITCH CONNECTED  
MID BOOST SWITCH OFF  
OVERDRIVE SELECT SWITCH IN REVERB/FX DEFAT AND CHORUS DEFAT SWITCHES OUT  
ALL ROTARY CONTROLS SET TO 12 O'CLOCK  
DSP PCB ASSEMBLY IN LOOPBACK (TEST) MODE  
(REFER TO SCHEMATIC P/N 005368000 FOR TEST MODE)
7. TESTPOINT VOLTAGES TP1-14 READ TO GROUND WITH A DVM AND NO INPUT SIGNAL, WITH UNIT AT RATED LINE VOLTAGE AND CABLE PW14 CONNECTED TO HEADER P14.
6. LAST REFERENCE DESIGNATORS: C131, D73, F1, J7, P14, Q38, R201, R12, S5, TP32, U2, W3, W42. (ALSO USED: PW2, PW3, PW14.)
5. THIS SCHEMATIC IS FOR PCB FABRICATION P/N 0055891000 AND PCB ASSEMBLY P/N 0055892000.
4. ALL DIODES ARE 1N4448.

3. ALL POLARIZED CAPACITORS IN  $\mu$ F, 20% SOV MINIMUM.

2. ALL UNPOLARIZED CAPACITORS IN  $\mu$ F, 10% OR BETTER, 50V MINIMUM. (POWER SUPPLY BYPASS CAPACITORS ARE 20%).

1. ALL RESISTORS IN OHMS, 5% 1/4W.

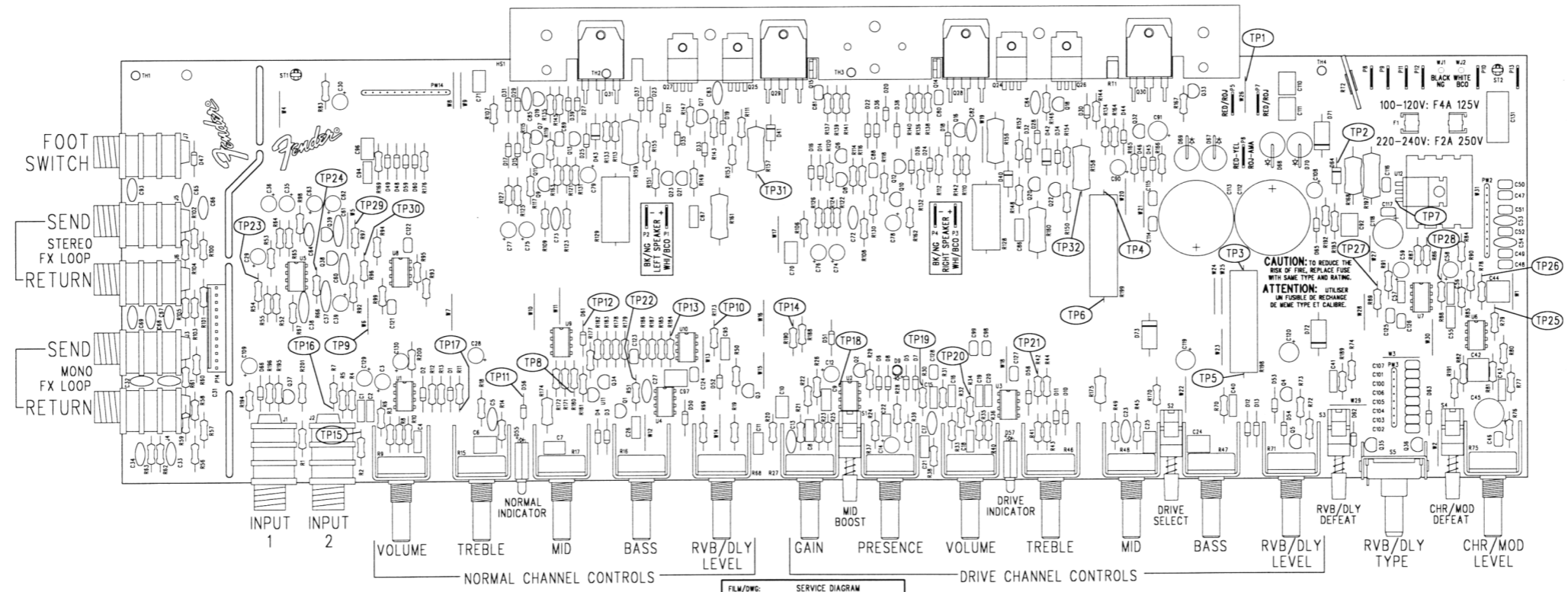
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**Fender** MUSICAL INSTRUMENTS  
2621 Research Drive  
Corona, CA 91720 USA

CHECKED BY: *Bleni*  
DATE: 18-OCT-99  
APPROVED BY: *Bleni*  
DATE: 19-OCT-99  
DRAWN: B. DESI ENGR: B. DESI  
DATABASE FILE: Z4365.SCH

TITLE: SERVICE DIAGRAM, COMBINED (schematic) ULTIMATE CHORUS DSP MAIN PCB  
SIZE: DRAWING NUMBER D 0055890000 REV. A  
RELEASE DATE: 19-OCT-99 SHEET: 1 OF 2

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
A	PR436	19-OCT-99	R J D



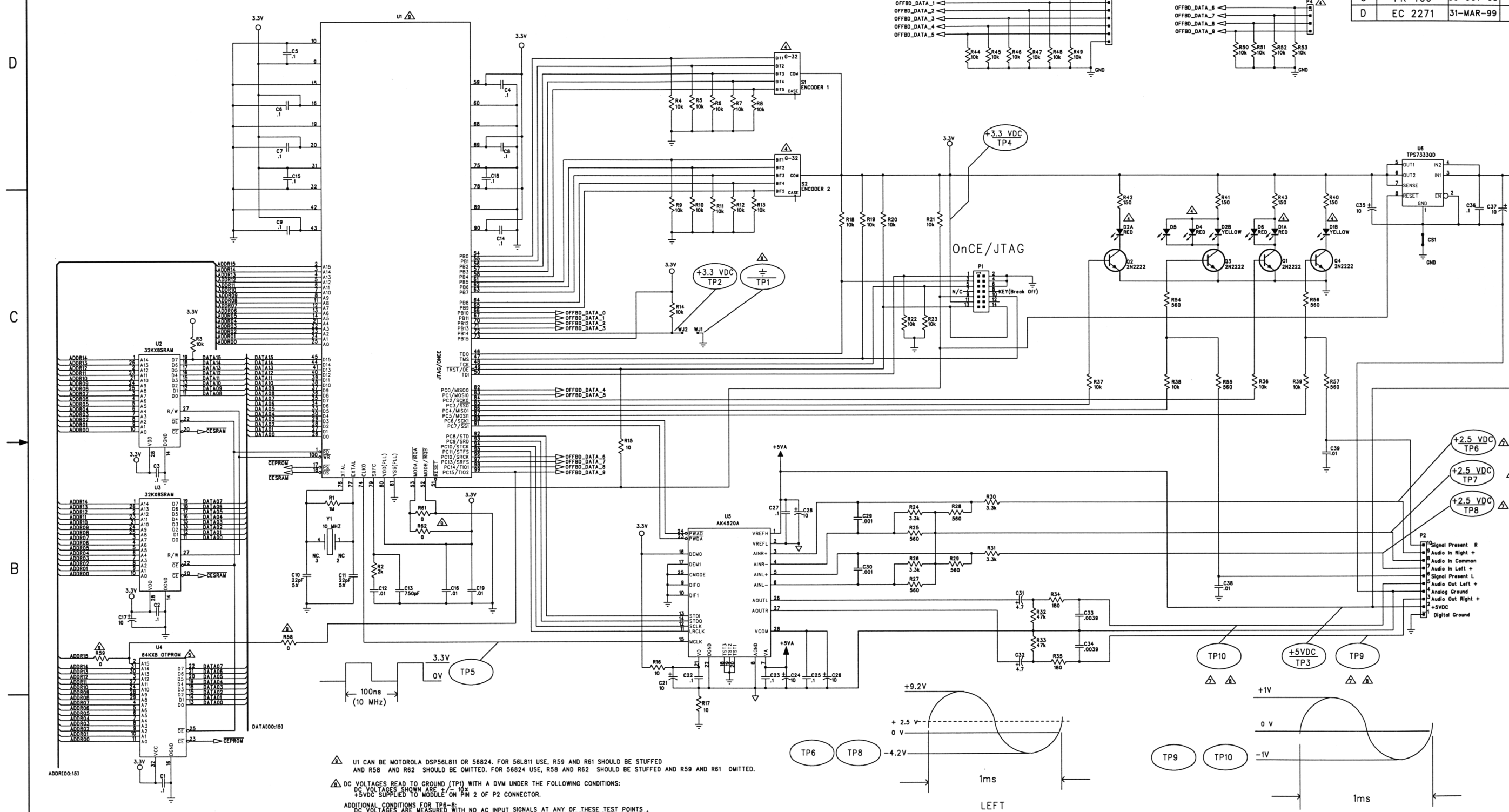
FILM/DWG: SERVICE DIAGRAM  
 DATABASE: Z436P.PCB DATE: 19-OCT-99

2. DSP ASSEMBLY P/N 0055590000 MUST BE CONNECTED TO PW2 FOR SIGNAL TO APPEAR AT TP27 AND TP28.  
 1. SEE SHEET 1 FOR PRIMARY WIRING, TEST CONDITIONS AND TESTPOINT VALUES.

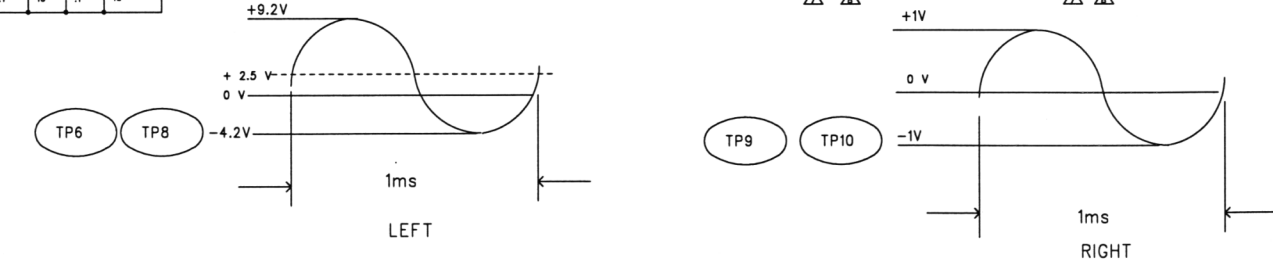
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CHECKED BY: <i>B. Desi</i> DATE: 19-OCT-99 APPROVED BY: <i>[Signature]</i> DATE: 19-OCT-99		TITLE: SERVICE DIAGRAM, COMBINED (PCB assy) ULTIMATE CHORUS DSP MAIN PCB	
DRAWN: B. DESI DATABASE FILE: Z436P.PCB	ENGR: B. DESI	SIZE: D DRAWING NUMBER: 0055890000	REV. A RELEASE DATE: 19-OCT-99 SHEET 2 OF 2

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
A	PR 378	16-JAN-98	R. P.
B	PR 398	15-JUL-98	E M M
C	PR 406	30-OCT-98	LWF
D	EC 2271	31-MAR-99	JEB



- U1 CAN BE MOTOROLA DSP56L811 OR 56B24. FOR 56L811 USE, R59 AND R61 SHOULD BE STUFFED AND R58 AND R62 SHOULD BE OMITTED. FOR 56B24 USE, R58 AND R62 SHOULD BE STUFFED AND R59 AND R61 OMITTED.
- DC VOLTAGES READ TO GROUND (TP1) WITH A DVM UNDER THE FOLLOWING CONDITIONS:  
DC VOLTAGES SHOWN ARE ±10%  
+5VDC SUPPLIED TO MODULE ON PIN 2 OF P2 CONNECTOR.
- ADDITIONAL CONDITIONS FOR TP6-B:  
DC VOLTAGES ARE MEASURED WITH NO AC INPUT SIGNALS AT ANY OF THESE TEST POINTS.  
AC VOLTAGES AT TP9 AND TP10 ARE ONLY VALID IF MODULE HAS BEEN FORCED INTO THE TEST MODE.  
SIGNAL WAVEFORM OF AMPLITUDE 13.4V PEAK-TO-PEAK AND A DC OFFSET OF +2.5V APPLIED TO TP8 AND TP8 AS SHOWN.
- TO INITIATE SELF-TEST, SHORT WJ2 (TP2) TO WJ1 (TP1 GROUND) AND TURN POWER FROM OFF TO ON. IN UNITS WITH D1 STUFFED, SELF-TEST PASS IS INDICATED WHEN THE YELLOW LED REMAINS ON CONTINUOUSLY. FAILURE IS INDICATED WHEN THE LED BLINKS OR THE YELLOW LED FAILS TO LIGHT. IN UNITS WITH NO LED STUFFED, SELF-TEST FAIL IS INDICATED WHEN THE YELLOW LED REMAINS ON CONTINUOUSLY. SELF-TEST FAIL IS INDICATED WHEN THE YELLOW LED FAILS TO LIGHT. IF A PASSING CONDITION EXISTS, THE MODULE WILL OPERATE IN THE LOOPBACK MODE UNTIL THE POWER IS CYCLED OFF-ON. WHEN TP2 IS SHORTED TO TP1 IN THE LOOPBACK MODE, THE MODULE'S OUTPUT (AT TP8 AND TP10) WILL BE A REPLICAS OF THE INPUT SIGNALS (TP6 AND TP8).
- ESD PRECAUTIONS:  
THIS MODULE IS ESD SENSITIVE AND SHOULD ONLY BE SERVICED / HANDLED UNDER CONDITIONS WHICH PREVENT ANY ELECTROSTATIC DISCHARGES INTO THIS MODULE. THE SERVICE WORK AREA SHOULD INCLUDE A PROPERLY INSTALLED ESD MAT SURFACE WHICH CONNECTS TO THE SERVICE PERSONNEL VIA AN ESD WRIST STRAP. THE ESD MAT SHOULD BE CONNECTED TO EARTH GROUND AND ALL HANDLING OF THE MODULE SHOULD BE DONE WEARING THE WRISTSTRAP.
- EPROM INSERTION AND REMOVAL:  
THE REMOVAL OR INSTALLATION OF U4 MUST BE DONE WITH THE PROPER PLCC REMOVAL TOOL. FAILURE TO USE THE PROPER TOOL FOR THE DEVICE CAN RESULT IN DAMAGE TO U4, PCB, OR SOCKET.



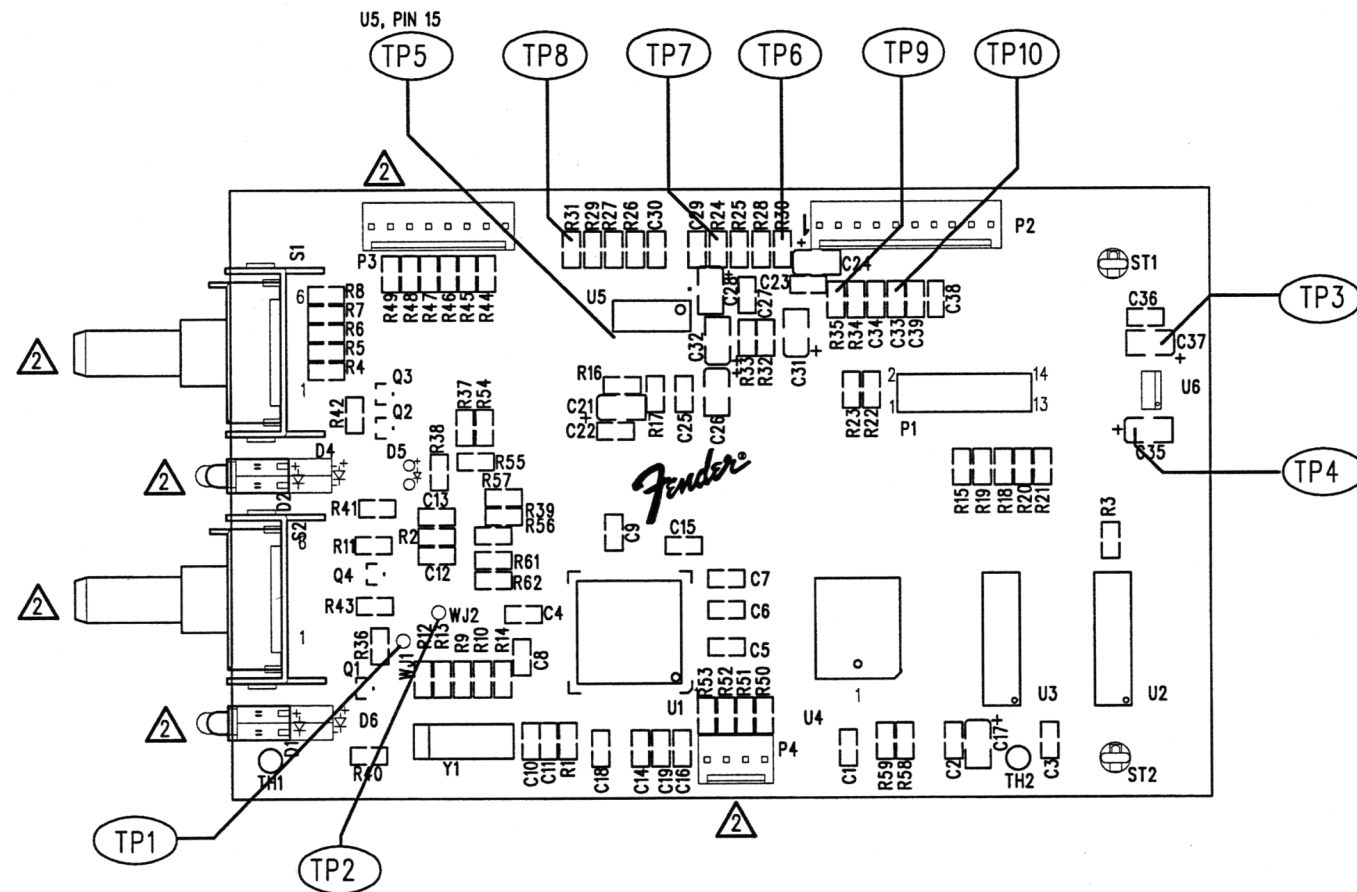
- COMPONENTS D1, D2, D4, D5, D6, P3, P4, S1 & S2 ARE STUFFED ACCORDING TO INDIVIDUAL PRODUCT REQUIREMENTS.
- ALL POLARIZED CAPACITORS IN µF, 20% 15V MINIMUM.
- ALL UNPOLARIZED CAPACITORS IN µF, 10% OR BETTER; 25V MINIMUM.
- ALL RESISTORS IN OHMS, 5% 1/10W.

NOTES: (UNLESS OTHERWISE NOTED)

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CHECKED BY: <i>B. Ven</i> DATE: 31-MAR-99 APPROVED BY: <i>[Signature]</i> DATE: 31-MAR-99 DRAWN: S. HOSNER/ENGR: POVMNIRE DATABASE FILE: Z369S.SCH			

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
A	PR 378	16-JAN-98	R.P.
B	PR 398	15-JUL-98	E M M
C	PR 406	30-OCT-98	L W F
D	EC 2271	31-MAR-99	J E B

FILM/DWG: SERVICE DIAGRAM  
 DATABASE: Z369P.PCB DATE: 31-MAR-99



3. TEST POINT LOCATIONS AND VALUES ARE VALID FOR ALL PRODUCT CONFIGURATIONS.

△ COMPONENTS D1, D2, D4, D5, D6, P3, P4, S1 & S2 ARE STUFFED ACCORDING TO INDIVIDUAL PRODUCT REQUIREMENTS. SEE SPECIFIC PRODUCT BILL OF MATERIALS TO DETERMINE WHICH COMPONENTS SHOULD BE PRESENT. REFERENCE MASTER ASSEMBLY DRAWING 0053567000

1. SEE SHEET 1 FOR TEST CONDITIONS AND TEST POINT VALUES.

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MUSICAL INSTRUMENTS  
 2621 Research Drive  
 Corona, CA 91720 USA

CHECKED BY: *B. Allen*

CK DATE: *31-MAR-99*

APPROVED BY: *[Signature]*

AP DATE: *30 MAR 99*

DRAWN: S. HOSNER ENGR: R. POVINMIRE

DATABASE FILE: Z369P.PCB

TITLE: SERVICE DIAGRAM, COMBINED (PCB assy)  
 DSP SFX SERIES

SIZE	DRAWING NUMBER	REV.
B	0053569000	D
RELEASE DATE: 16-JAN-98	SHEET 2 OF 2	