

CYBER DELUXE

p/n 022-9001-000 (120V)

SERVICE MANUAL



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CYBER DELUXE

(This is the model name for warranty claims)

SERVICE MANUAL

JANUARY 2002

IMPORTANT NOTICE:

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

Parts marked with two asterisks (**) 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

CYBER DELUXE

SPECIFICATIONS

Product Release No.:	PR 444 <i>(This is not a model number)</i>			
Part Number:	120V,60Hz USA:	22-9001	110V,60Hz TW:	22-9011
	240V,50Hz AUS:	22-9031	230V,50Hz UK:	22-9041
	220V,50Hz ARG:	22-9051	230V,50Hz EUR:	22-9061
	100V,50Hz JPN:	22-9071	220V,60Hz ROK:	22-9091
Power Requirements:	180W			
Power output:	65 Watts RMS @ 5% THD			
Rated load impedance:	8Ω			
Sensitivity:	Adjustable using the trim control			
Preamp input impedance:	>1MegΩ (min)			
Effects Loop:				
Send impedance:	240Ω, impedance balanced			
Return impedance:	12kΩ (min), impedance balanced			
Nominal level:	-10 dBV/+4dBu switchable			
Speaker Complement:	One 8Ω Celestion G12T-100 12" speaker (P/N 0054420000)			
Fuses	Primary:	4A (100V/120V units, 1.6A (230V/240V units)		
	Secondary:	1A (digital supply)		
Footswitch:	4-button preset quick-access, (p/n 0057219000) 5-pin DIN cord,supplied			
Expression pedal:	1/4" (tip-sleeve) analog, compatible with any passive volume pedal,10kΩ to 250kΩ (use a pedal having a 20kΩ potentiometer with a 25A taper, for optimum performance)			
MIDI jacks:	IN, OUT			
Headphones jack:	1/4" Stereo			
Dimensions:	Height: 18-1/2"	(47 cm)		
	Width: 22-27/32"	(58 cm)		
	Depth: 11-3/16"	(28.4 cm)		
Weight:	43 lbs.	(19.6 kg)		

Product specifications are subject to change without notice

CYBER DELUXE

SERVICE NOTES

Fender Cyber-Deluxe Step by Step Troubleshooting Guide for Hardware Problems

NO AUDIO

Setup: Follow the instructions as stated under notes 8, on the Cyber-Deluxe Main Schematics (0056389000 Sheet1).

1. Turn on the power to the Cyber-Deluxe and press the Manual button.
2. Do the tone control LED's come on?
 - 2.1 If the LED's do not come on, but there is Audio, check the ribbon cables and LED's.
 - 2.2 If the LED's do not come on and there is no Audio, check the power supplies.
3. Does the 7-segment display come on?
 - 3.1 If the 7-segment display does not come on, but there is Audio, check the display.
 - 3.2 If the 7-segment display does not come on and there is no Audio, check the power supplies.
 - 3.2.1 If the power supplies are OK then check the ribbon cables.
 - 3.2.2 If the ribbon cables are OK, swap the Front Panel board .
4. If both the tone control LED's and the 7-segment display come on, but there is no audio, then check the speaker connections. Remove any rear panel audio connections (Headphones, FX etc).
5. If the Speaker is OK and there is no Audio, then check the power supplies.
6. If the power supplies are OK, check for Audio on Effects Send.
 - 6.1 If there is no Audio on Effects Send:
 - 6.1.1 Check for Audio on U1 Pin1 on the Main PCB.
 - 6.1.2 If there is Audio on U1, then swap the Rear Panel PCB.
 - 6.1.3 If there is no Audio on U1, then swap the Main PCB.
 - 6.2 If there is Audio in Effects Send:
 - 6.2.1 Check for Audio on P1 Pin10 on the Rear Panel PCB.
 - 6.2.2 If there is no Audio on P1 Pin10, then swap the Rear Panel PCB.
 - 6.2.3 If there is Audio on P1 Pin10, then check for Audio on TP2 & TP9 on the Main PCB.
 - 6.2.4 If there is no Audio on TP2 & TP9, then swap the Main PCB.
 - 6.2.5 If there is Audio on TP2 & TP9, then check for Audio on TP3 on the Main PCB.
 - 6.2.6 If there is no Audio on TP3, then swap the Main PCB.
 - 6.2.7 If there is Audio on TP3, then swap the Power Amp PCB.

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Fender Cyber-Deluxe Step by Step Troubleshooting Guide for Hardware Problems (cont)

MIDI IS NOT WORKING

Setup: Follow the Midi Test instructions described on the Rear Panel Board Section Schematics (0056392000 Sheet 2).

1. Check for Midi activity on the Midi test points TP18 & TP20.
2. Check for Midi activity on P2 Pin7&9.
 - 2.1 If there is Midi activity on P2 Pin7&9, then swap Rear Panel board.
 - 2.2 If there is no Midi activity on P2 Pin7&9, then check if ribbon cable on P2 is OK.
3. If the ribbon cable on P2 is OK, swap the Main PCB, otherwise swap the ribbon cable on P2.

HEADPHONES ARE NOT WORKING

Setup: Follow the instructions as stated under notes 8, on the Cyber-Deluxe Main Schematics (0056389000 Sheet1).

1. Check for Audio Output through the Speaker with Headphones unplugged.
2. If there is no Audio Output through the Speaker proceed to the previous troubleshooting section NO AUDIO.
3. If there is Audio Output through the Speaker, check if ribbon cable P1 is OK.
 - 3.1. If the ribbon cable is OK, then swap the Rear Panel PCB.
 - 3.2. If the ribbon cable is defective, then swap the cable.

FOOTSWITCH IS NOT WORKING

Setup: See Footswitch Notes on the Rear Panel Board Section Schematics (0056392000 Sheet 2).

1. Check the Voltage on U501 Pins 2,3,4,5.
2. If the Voltages are not correct check the power supply.
 - 2.1. If the power supply is OK, swap Rear Panel PCB.
3. If the Voltages are correct check for Digital Activity on U501 Pins7&15.
 - 3.1. If there is no Digital Activity on Pins7&15 check the Ribbon Cable P2 and swap if necessary.
 - 3.1.1. If the Ribbon Cable on P2 is OK, swap the Main PCB.
4. If there is Digital Activity on Pins7&15, check for Digital Activity on U501 Pin13.
 - 4.1. If there is no Digital Activity on Pin13, swap Rear Panel PCB. Otherwise, check the Ribbon Cable P2 and swap if necessary.
 - 4.1.1. If the Ribbon Cable on P2 is OK, swap the Main PCB.

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Power-up Problems and Power-up Self-test Errors

At power-up, display is blank. Probable Host Processor (U28) boot/operation problem.

1. Check Host EPROM Socket and chip (U34) for wear, damage, or poor pin contact.
2. First check regulator devices and voltages. Inspect U17, U27, U19, U25 and associated parts. U17 pin 6 should be 0v (RESET). U17 pin 5 should be approx 5V (RESET(not)).

At power-up, a "Er" is displayed momentarily, "E3" is displayed. Probable DSP (U20) boot/operation problem. The Host does not acknowledge response from the DSP processor communications port.

1. Press EXIT. The normal host prelude should be displayed. Change to another preset. If "Er" is displayed, then "b2", then followed six sets of two characters (and repeats), the Host is O.K. and the DSP processor is not operating, or communication is faulty.
2. Check DSP EPROM Socket and chip (U23) for wear, damage, or poor pin contact.
3. Check data and address lines between U20 & U23 for shorts due to foreign, conductive material.

Immediately after power up, a self-test error code is displayed. Probable localized memory device problem, or a Host-DSP communications problem. Note each error code, and press EXIT until errors are not longer displayed.

- | | |
|--------------------|--|
| 1. "Er", then "E1" | Host EEPROM Error. Check U26 device and lines. |
| 2. "Er", then "E2" | Host SRAM Error. Check U32 device and lines. |
| 3. "Er", then "E3" | Host-DSP Comm Error. Check DSP Processor (U20) and U23 device and lines. |
| 4. "Er", then "E4" | DSP Self-Test Error. Check DSP Processor (U20) device and lines. |
| 5. "Er", then "E6" | DSP SRAM Error. Check U22 device and lines. |

OTHER ERROR CODES

Customers may report an error code when invalid System Exclusive MIDI LOADS are attempted. The amp will display "Er" momentarily, then "E8". This indicates that the SysEx MIDI information is not in the expected format, or that the number of preset "packets" dumped is incorrect. The error code is a non-destructive event. The user can press EXIT and continue using the amplifier.

OTHER TEST UTILITIES

For troubleshooting problems in the analog channels and the CODECs, it maybe useful to place the Amplifier into **Field Test Mode**. This mode configures the analog channels for test conditions referred to on the service diagram. It also contains built-in tests for the clean and distortion channels.

To invoke the Field Test mode, perform the following procedure:

Turn the test fixture power OFF. Press the MANUAL and COMP buttons simultaneously and hold while turning the test fixture power ON. In this test mode, the Data Wheel is used to select one of ten test setups, displayed as "t0" through "t9".

Field Test Mode Operation

In the Field Test Mode, the amplifier is configured with audio "pass through" conditions, which means the tone controls, effects, and timbre filters are removed form the path. Gain, Volume, and Master settings are set up automatically for each test setup, "t0" through "t9". The built-in tests automatically perform a "frequency sweep" test of

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Power-up Problems and Power-up Self-test Errors (cont)

the clean and distortion channels, and report a fail or pass condition. This can help the technician narrow down a problem to a specific audio channel. Refer to the Service Diagram for more detail on the audio circuitry.

To run the clean channel frequency sweep test, first make certain the INPUT jack is filled with a 1/4" phone plug (this unmutes the analog channels). Set the test to "t0" using the data wheel. Press UTILITY to start the test. The entire test will execute, displaying the measured signal values in hexadecimal. When the test is complete, the test result will be reported as Pass ("PA") or Fail ("FA").

To run the distortion channel type 2 frequency sweep, set the test to "t1" using the data wheel and press UTILITY.

To run the distortion channel type 3 frequency sweep, set the test to "t2" using the data wheel and press UTILITY.

Press SAVE to refresh a field test setup.

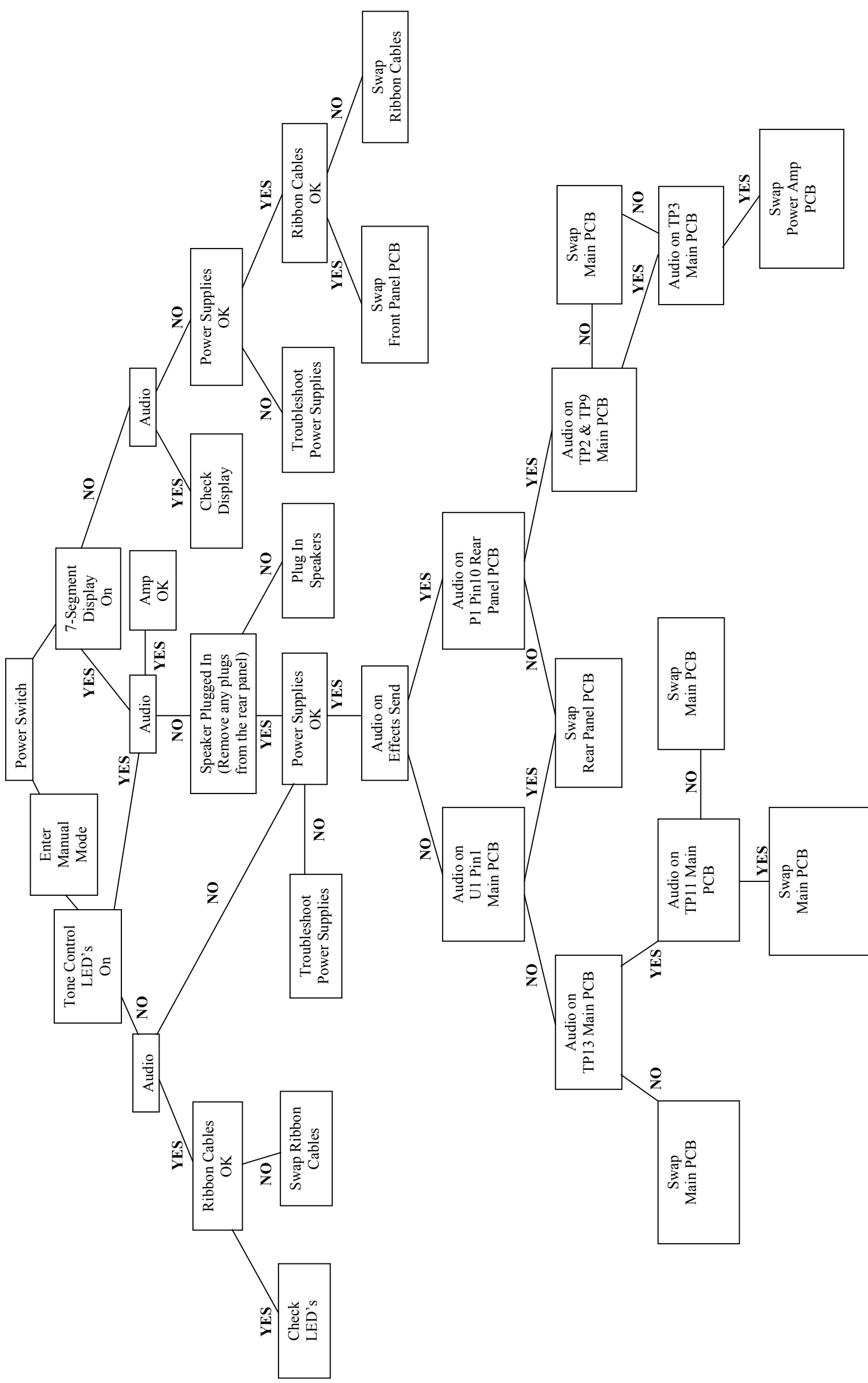
Also, the display test may be executed when in the Field Test mode. Press the TUNER button top light the entire display.

The Expander Switch (Q6) test is executed from the Field Test Mode. This test is required to acceptance test the FET switch Q6 and supporting circuitry. **Install a non-shortened 1/4" phone plug into the expander jack** (this opens a switch that enables the expander). Press the MANUAL button. "tE" is displayed to indicate the expander test setup. With this test setup, a 1kHz signal is output to the speakers. When the expander switch on the rear panel (MONO out, STEREO in) is in the MONO position, the tone should be audibly louder than when in the STEREO position. This tests the transistor switch, Q6, on the Main board PCA.

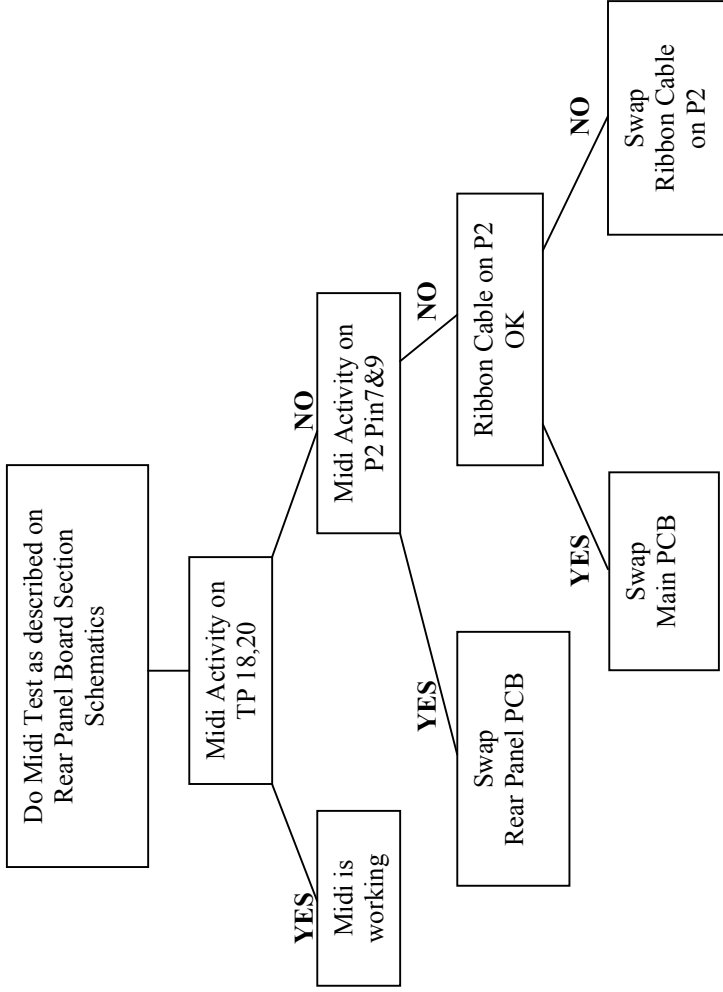
Fender Cyber-Deluxe PCB Exchange Policy

Items whose parts numbers are marked with a single asterisk (*) in the itemized parts lists are not field replaceable. If a failure due to one of these components is detected, please contact a Fender Customer Service Representative for authorization to exchange the failed PCB Assembly. Replacement PCB Assemblies will not be shipped without prior authorization from a Fender Customer Service Representative.

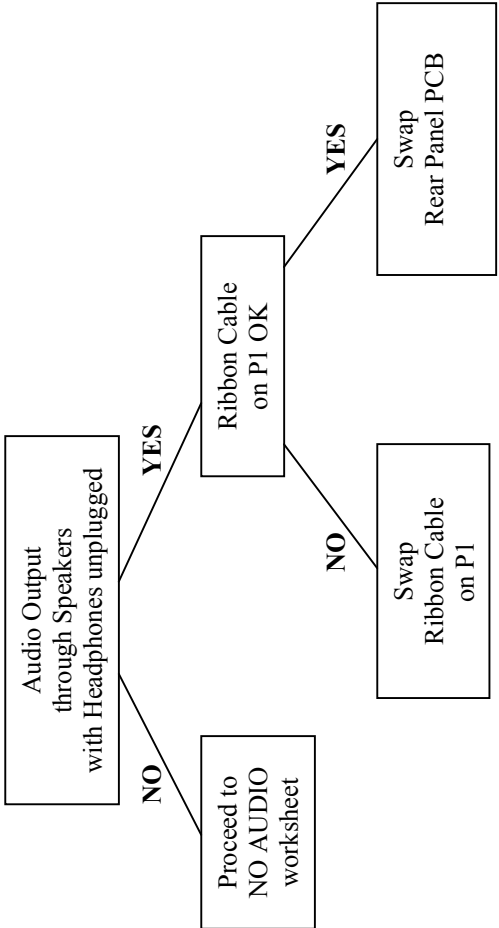
NO AUDIO



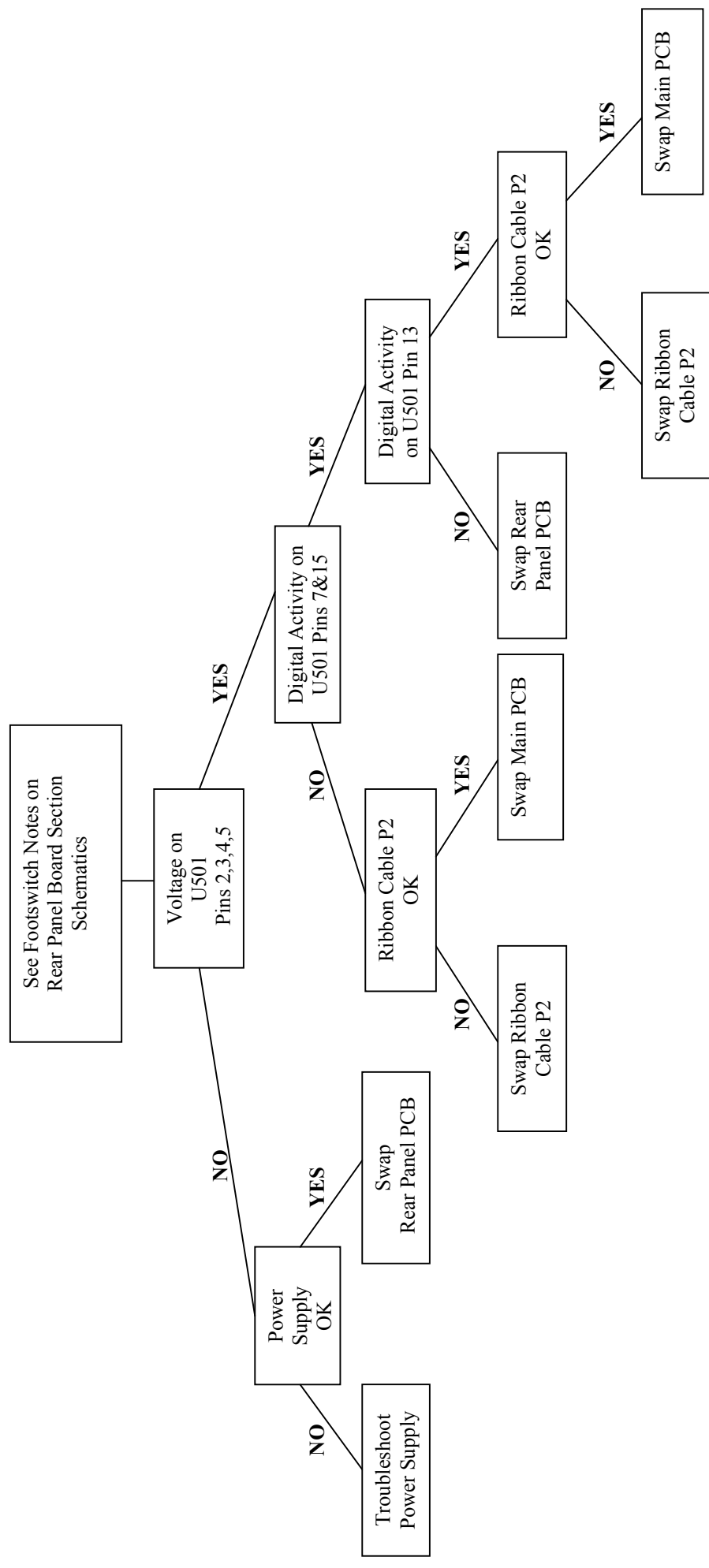
MIDI IS NOT WORKING



HEADPHONES ARE NOT WORKING



FOOTSWITCH IS NOT WORKING



Cyber-Deluxe™

Fender Custom Shop

Premium Amp and Effects Combinations
(Stored in Permanent Memory)



Preset Number	Description	Amp Type	Reverb Type	Modulation FX Type	Delay FX Type
00	Stadium Rock	British 3	Arena 2	Chorus 3 (Off)	Tape 3
01	Hang 10	Tweed 1	Spring 4	Chorus 2 (Off)	Tape 1
02	R.I.P.	Modern 3	Ambient 2	Chorus 1	Tape 1 (Off)
03	Morning Light	Blackface 1	Room 2	Vibrato 3	Digital 3 (Off)
04	Euro Trem	British 3	Arena 2 (Off)	Tre molo 2	Digital 1 (Off)
05	Red House	Tweed 3	Arena 2 (Off)	Chorus 2 (Off)	Tape 3
06	Clean Arena	Blackface 2	Arena 2	Phase r1 (Off)	Digital 1 (Off)
07	Mystic II	Blackface 1	Plate 1	Phase r1	Digital 3
08	Loco Voco	Modern 1	Ambient 2	Touch Wah	Tape 6
09	Rockabilly	Tweed 1	Room 3	F l ange 1	Tape 1
10	Rhapsody	British 1	Hall 1 (Off)	F l ange 1	Digital 4 (Off)
11	Think Floyd	British 3	Hall 3	Chorus 2 (Off)	Ducking 4
12	Texas Shuffle	Blackface 3	Spring 1	Vibrato 3	Tape 1
13	Jazz Box	Dyna-Touch 1	Plate 2	Chorus 3 (Off)	Digital 1
14	Drop D'd	Modern 2	Room 2	Chorus 1	Digital 1
15	Barracuda	Dyna-Touch 4	Room 1	Phase r1	Ducking 4

Your Amp Collection

(Stored in Permanent Memory)

*Use expander for stereo.

Preset Number	Description	Amp Type	Reverb Type	Modulation FX Type	Delay FX Type
16	1949 Champ	Tweed 3	Plate 1 (Off)	F l ange 2 (Off)	Tape 3 (Off)
17	1959 Bassman	Tweed 2	Spring 3 (Off)	Vibrato 2 (Off)	Tape 3 (Off)
18	1955 Tweed Deluxe	Tweed 3	Plate 1 (Off)	F l ange 2 (Off)	Tape 3 (Off)
19	1965 Deluxe Reverb -	Blackface 1	Spring 1	Chorus 1 (Off)	Digital 1 (Off)
20	1965 Deluxe Reverb +	Blackface 2	Spring 1	Chorus 1 (Off)	Digital 1 (Off)
21	1964 Vibroverb	Blackface 3	Spring 1	Tre molo 2 (Off)	Tape 1 (Off)
22	1986 Princeton Chorus*	Dyna-Touch 1	Spring 1 (Off)	Chorus 1	Digital 3 (Off)
23	1999 Prince ton 65	Dyna-Touch 2	Spring 2	Phase r1 (Off)	Ducking 2 (Off)
24	1999 Stage 100 Drive	Dyna-Touch 3	Spring 2	Chorus 3 (Off)	Digital 4 (Off)
25	1999 Stage 100 More	Dyna-Touch 4	Hall 2	Chorus 3 (Off)	Digital 4 (Off)
26	Jangly British Combo	British 1	Plate 2	Tre molo 2 (Off)	Tape 1 (Off)
27	Vintage Stack	British 2	Plate 1 (Off)	Chorus 2 (Off)	Tape 1 (Off)
28	Modern Stack	British 3	Arena 1 (Off)	F l ange 3 (Off)	Digital 4 (Off)
29	Modified Combo	Modern 1	Arena 1 (Off)	Chorus 3 (Off)	Digital 4 (Off)
30	Dual Richter	Modern 2	Arena 1 (Off)	Chorus 3 (Off)	Digital 4 (Off)
31	One Valve	Modern 3	Spring 1	Chorus 1	Digital 3 (Off)

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Parameters

Button	Level Knob	1st Parameter	Edit 2nd Parameter
Edit Reverb Hall, Arena, Plate, Spring, Ambient, Room	Reverb Out Level	ER Reverb Time (1.0 - 9.9)	—
Edit Mod. F/X Phase, Flange, Chorus, Tremolo, Vibrato	Mod. F/X Out Level	RF Rate (1.0 - 9.9)	—
Touch Wah	Mod. F/X Out Level	SE Sensitivity (1.0 - 9.9)	—
Pedal Wah	Mod. F/X Out Level	FR Wah Frequency (1.0 - 9.9)	—
Edit Delay Digital, Tape, Ducking	Delay Out Level	DE Delay Time (0.3 - 14) (30ms - 1400ms)	Fb Feedback (1.0 - 9.9)
Compressor	—	CP Comp Selection (OF, 1, 2, 3, 4)	—
Noise Gate	—	NG NG Selection (OF, 1, 2, 3)	dp NG Depth (1.0 - 9.9)

Utility Menu	FL Footswitch Assign mt	PD X Pedal Assign mt	CC Combi Cont Assign mt	RC MIDI Receive Channel	TC MIDI Transmit Channel	ID SjEx ID	EC CC Echo	PL Holdy Protect	RP Recall Preset	DU Dup Utilities	DP Dup Preset	DP Dup All Presets
Parameter	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th	12th

CYBER DELUXE PARTS LIST

NOTE: SHADED ITEMS ARE FOR REFERENCE ONLY

MAIN PRINTED CIRCUIT BOARD ASSEMBLY

QTY	PART #	DESCRIPTION	REFERENCE DESIGNATION
1	*	CAP 0805 CER 750pF 25V 5%	C3
1	*	CAP 0805 CER .0022uF 25V 5%	C61
1	*	CAP 0805 CER .0033uF 25V 5%	C30
1	*	CAP 0805 CER .015uF 25V 5%	C35
8	*	CAP 0805 CER .01uF 25V 5%	C91 C94 C96 C106 C110-111 C114-115
84	*	CAP 0805 CER .1uF 25V 5%	C22 C59-60 C62 C64-66 C68 C70 C72-76 C81-84 C86-87 C89-90 C92 C98-104 C108 C112-113 C116-121 C124 C128-131 C133-134 C141-142 C150-151 C153 C158-159 C162-164 C169-170 C172-173 C175-177 C181 C183 C192- 193 C195-203 C209-216
3	*	CAP 0805 CER .33uF 16V 5%	C95 C135 C137
1	*	CAP 0805 CER .47uF 16V 5%	C97
6	*	CAP 0805 CER 100pF 25V 5%	C33 C43 C46 C69 C136 C143
13	*	CAP 0805 CER 330pF 25V 5%	C7-8 C20-21 C27 C38-39 C88 C109 C146 C149 C161 C224
25	*	CAP 0805 CER 33pF 25V 5%	C5 C12 C24 C34 C107 C144-145 C147 C152 C182 C184- 185 C187-188 C191 C194 C204-205 C207-208 C217-221
3	*	CAP 0805 CER 820pF 25V 5%	C2 C31 C48
5	*	CAP 0805 CER .001uF 25V 5%	C225-228 C56
2	*	CAP 0805 CER .0082uF 25V 5%	C229-230
24	*	CAP 1206 CER .1uF 50V 5%	C4 C6 C9-10 C14 C17-18 C29 C32 C36 C42 C49 C51 C54- 55 C79 C122-123 C125 C127 C132 C139-140 C148
6	*	CAP 3528 TAN 10uF 16V 20%	C26 C77-78 C85 C105 C168
2	*	CAP 3528 TAN 4.7uF 16V 20%	C63 C67
1	*	CAP AE RDL .47uF 50V 20%	C11
2	28463003	CAP AE RDL 10uF 50V 20%	C126 C138
5	*	CAP AE RDL 10uF 50V 20%	C93 C156 C166-167 C190
1	*	CAP AE RDL 2.2uF 50V 20%	C80
1	33607000	CAP AE RDL 2200uF 35V 20%	C178 - **
2	41048000	CAP AE RDL 2200uF 50V 20%	C179-180 - **
15	*	CAP AE RDL 22uF 50V 20%	C1 C13 C15-16 C41 C44-45 C47 C50 C52 C58 C71 C154 C160 C171
3	*	CAP AE RDL 4.7uF 50V 20%	C25 C37 C57
2	28471003	CAP AE RDL 47uF 50V 20%	C155 C157
1	*	CAP AE RDL 47uF 50V 20%	C165
1	*	CAP MPF .0082uF 100V 10%	C19
1	*	CAP MPF .015uF 100V 10%	C40
1	*	CAP MPF .068uF 100V 10%	C23
1	*	CAP MPF .15uF 63V 10%	C28
1	53860000	CAP MPF .1uF 250VAC 20%	C206 - **
3	27278003	CAP MPF .1uF 63V 10%	C174 C186 C189
1	56557000	CONTROL SNAPIN 25k 30A TAPER	R61(trim)
9	27941000	CONTROL SNAPIN 50k B TAPER	R98 R120 R131 R143 R150 R160 R180 R191 R200 (gain,volume,treble,mid,bass,master-volume, reverb,mod f/x,delay)
4	20534000	DIODE 1N5402 RECTIFIER 200V C&F	D30-33
4	29045000	DIODE 6A 400V 6A4 LEAD FORMED	D39-42
22	*	DIODE SMT 1N4448 SIGNAL	D1-5 D7-9 D11-14 D16-18 D20 D34-37 D43-44
2	28119060	DIODE ZEN 1N5353B 16V 5W 5%	D26-27
2	*	FERRITE BEAD, LEADED	L1-2
8	25802000	FSTN TAB MALE .250x.032 PCB MT	P2-3 P8-9 P11-14
1	26000001	FSTN TAB MALE .187x.032 PCB MT	P10
4	51094003	FUSE CLIP PCB 5mm (EXPT)	F1-2 (2 EACH)
5	27419000	HDR .1 CTR 10 CKT SQ PIN	P1A P3A P4A P5A P601A
1	27421000	HDR .1 CTR 12 CKT SQ PIN	P2A
2	*	IC COMPARATOR QUAD LM339D	U16 U24
2	41812000	IC REGULATOR +5V MC7805CT	U25 U27 - **
1	*	IC SMT 12BIT COUNTER 74HCT4040	U15

CYBER DELUXE

MAIN PRINTED CIRCUIT BOARD ASSEMBLY (cont)

QTY	PART #	DESCRIPTION	REFERENCE DESIGNATION
1	*	IC SMT 3-TO-8 DECODER 74HC138	U14
1	*	IC SMT 8-BIT A/D TLC542	U31
1	*	IC SMT 8-BIT MICRO CONTROLLER 80C251G2D	U28
5	*	IC SMT 8BIT SHFT REG 74HC595	U29 U33 U36-38
2	*	IC SMT CODEC AK4528	U10-11
1	*	IC SMT DSP 24-BIT 56362PV120	U20
1	*	IC SMT DUAL D FLIP-FLOP 74HC74	U13
1	*	IC SMT EEPROM 4K X 8 24C32N-105C	U26
1	57151XXX	IC SMT HOST ROM CYBER-DELUXE	U34 - ** (XXX = SOFTWARE REVISION)
1	57152XXX	IC SMT DSP ROM CYBER-DELUXE	U23 - ** (XXX = SOFTWARE REVISION)
1	*	IC SMT OCT TRAN LATCH 74FCT573	U30
5	*	IC SMT OP-AMP DUAL 4560	U2 U5 U7-8 U12
1	*	IC SMT OP-AMP DUAL 5532AD8	U6
4	*	IC SMT OP-AMP DUAL TL072CD	U1 U3-4 U9
1	*	IC SMT OSC 11.2896MHz	U18
1	*	IC SMT QUAD 2-IN NOR 74HC02	U35
1	*	IC SMT QUAD 2-IN XOR 74AHC86	U39
1	*	IC SMT RESET TL7705BC	U17
3	*	IC SMT SRAM 128Kx8	U21-22 U40
1	*	IC SMT SRAM 32Kx8	U32
1	*	IC SMT VREG +3.3V 1-A FAST	U19
2	*	IC SOCKET 32PLCC SMT	FOR U23 & U34
1	53450000	JACK STEREO R/A	J1
9	30755000	LED GREEN T-1 3mm DIFFUSED	D19 D21-25 D28-29 D38
2	*	LED RED LONG LEAD LUMEX	D6 D10
1	57038000	LED BILEVEL RT. ANGLE	D15
1	*	RES 0805 MF 1/10W 5% 1.5k	R60
10	*	RES 0805 MF 1/10W 5% 100k	R3 R21 R23 R31 R34 R40 R144 R148 R154 R161
5	*	RES 0805 MF 1/10W 5% 100ohm	R163 R165 R168 R181 R186
3	*	RES 0805 MF 1/10W 5% 10M	R25 R48 R58
38	*	RES 0805 MF 1/10W 5% 10k	R2 R9 R24 R44 R50-51 R73 R90-91 R94 R101 R109 R124- 126 R129 R133-134 R145 R147 R151-152 R156-158 R170 R175-176 R178 R183 R199 R201-203 R210 R212 R229 R233
5	*	RES 0805 MF 1/10W 5% 10ohm	R92-93 R138 R153 R184
2	*	RES 0805 MF 1/10W 5% 13k	R41 R52
3	*	RES 0805 MF 1/10W 5% 150ohm	R95 R100 R121
1	*	RES 0805 MF 1/10W 5% 180k	R76
2	*	RES 0805 MF 1/10W 5% 180ohm	R85 R87
1	*	RES 0805 MF 1/10W 5% 1M	R6
9	*	RES 0805 MF 1/10W 5% 1k	R54 R56 R62 R70 R74 R78 R84 R86 R111
2	*	RES 0805 MF 1/10W 5% 2.2k	R49 R81
2	*	RES 0805 MF 1/10W 5% 20k	R30 R104
3	*	RES 0805 MF 1/10W 5% 220k	R5 R128 R135
9	*	RES 0805 MF 1/10W 5% 220ohm	R97 R119 R130 R142 R149 R159 R179 R190 R198
8	*	RES 0805 MF 1/10W 5% 22k	R1 R7 R13 R19 R28 R46 R65 R89
4	*	RES 0805 MF 1/10W 5% 22ohm	R57 R107 R115 R166
7	*	RES 0805 MF 1/10W 5% 2k	R37 R66 R71-72 R77 R106 R108
1	*	RES 0805 MF 1/10W 5% 3.3k	R17
18	*	RES 0805 MF 1/10W 5% 330ohm	R59 R171-174 R188-189 R192-193 R196 R214-215 R227-228 R230-231 R79 R82
1	*	RES 0805 MF 1/10W 5% 33k	R12
8	*	RES 0805 MF 1/10W 5% 390ohm	R216-223
2	*	RES 0805 MF 1/10W 5% 470k	R16 R96
1	*	RES 0805 MF 1/10W 5% 47k	R33
18	*	RES 0805 MF 1/10W 5% 47ohm	R20 R22 R27 R102-103 R105 R110 R117-118 R155 R162 R167 R208-209 R224-226 R232
21	*	RES 0805 MF 1/10W 5% 5.1k	R4 R8 R10-11 R14-15 R35-36 R38-39 R42-43 R47 R53 R63-64 R68-69 R75 R80 R83

CYBER DELUXE

MAIN PRINTED CIRCUIT BOARD ASSEMBLY (cont)

QTY	PART #	DESCRIPTION	REFERENCE DESIGNATION
1	*	RES 0805 MF 1/10W 5% 5.6k	R112
2	*	RES 0805 MF 1/10W 5% 56k	R18 R99
2	*	RES 0805 MF 1/10W 5% 6.8k	R45 R113
2	*	RES 0805 MF 1/10W 5% 680ohm	R55 R67
2	*	RES 0805 MF 1/10W 5% 8.2k	R29 R32
1	*	RES 0805 MF 1/10W 5% 82k	R26
11	*	RES 0805 MF 1/10W 5% 560ohm	R114 R116 R127 R132 R139 R164 R205-207 R211 R213
1	*	RES CF 1/2W 5% 1.5k LL	R122
1	30737001	RES CF 1/2W 5% 5.6ohm LL	R182
1	*	RES CF 1/4W 5% 10ohm LL	R88
7	27627001	RES FILM 1W 5% 10ohm LL	R123 R146 R177 R194-195 R197 R204 - **
4	28037000	RES WW BT 5W 10% 330ohm	R169 R185 R234-235 - **
6	*	XSTR SMT N-CH JFET J111	Q2-7
2	*	XSTR SMT NPN 2N2222	Q1 Q15
7	*	XSTR SMT PNP 2N4403	Q8-14
1	*	XTAL SMT 12MHz VM6SSM2-18Pf	Y2
1	13112000	FUSE TD 20MMX5MM 250V 1A	F2 - **
REF	56389000	SRV DIA CMB MAIN PCB CYDLX	
2	39420000	SCREW 4-40x3/8 PHP SS SEMS	@ U25 AND U27
9	36178000	SPACER LED .5X.1 BROWN	@ D19 D21-25 D28-29 D38
2	25796000	HEATSINK TO-220	@ U25 AND U27 - **
2	56907000	CAP EMI SUPPRESSION 0.0022Uf	C222-223 (230/240V UNITS) - **
REF	*	OMITTED COMPONENTS	C53 R136-137 C222-223

FP/RP/PA PRINTED CIRCUIT BOARD ASSEMBLY

QTY	PART #	DESCRIPTION	REFERENCE DESIGNATION
5	0054303000	CABLE RIBBON 10 CKT 7.5"	P1 P3-5 P601
1	0057173000	CABLE RIBBON 12 CKT 12"	P2
1	*	CAP AE AX 10Uf 35V 20%	C46
2	*	CAP AE RDL 100Uf 50V 20%	C64 C68
4	*	CAP AE RDL 10Uf 50V 20%	C14 C59 C80 C82
1	*	CAP AE RDL 1Uf 50V 20%	C60
1	*	CAP AE RDL 2.2Uf 50V 20%	C66
11	*	CAP AE RDL 22Uf 50V 20%	C50 C56 C58 C65 C67 C74 C77 C81 C83 C95-96
2	*	CAP CA 1000Pf 50V LL	C48 C61
1	*	CAP CA 2200Pf 100V	C72
1	*	CAP CA 220Pf 100V LL	C18
4	*	CAP CA 22Pf 100V LL	C7-10
2	*	CAP CA 3300Pf 100V	C49 C62
9	*	CAP CA 330Pf 100V LL	C13 C19 C39 C87 C89 C97 C100-102
15	*	CAP CA 33Pf 100V LL	C6 C11 C15-17 C20 C23 C26 C28 C30-32
1	*	CAP CA 470Pf 50V LL	C27
2	*	CAP CA 68Pf 100V LL	C93-94
2	*	CAP MPF 0.22uF 63V 10%	C86 C103
11	*	CAP CD 100Pf 500V 5%	C40-41 C43 C55 C57 C75-76 C84-85 C90-91
2	*	CAP CD 68Pf 500V 5%	C54 C73
25	*	CAP CR .1Uf 50V 20% .2" LS	C1-5 C12 C21-22 C24-25 C29 C33 C35 C37-38 C42 C44-45 C47 C71 C78-79 C88 C98-99

CYBER DELUXE

FP/RP/PA PRINTED CIRCUIT BOARD ASSEMBLY (CONT)

QTY	PART #	DESCRIPTION	REFERENCE DESIGNATION
1	*	CAP MPF .1Uf 63V 10%	C70
4	*	CAP MPF .33Uf 63V 10%	C52-53 C63 C69
3	0051931000	CONNECTOR DIN 5 PIN FEMALE	J402 J404 J501
1	0027940000	CONTROL SNAPIN 50k 15A TAPER	R78 (expand level)
8	*	DIODE 1N4448 SIGNAL	D7 D25-26 D29-30 D33 D35-36
5	0055983000	ENCODER 16-POS 4-BIT GRY CODE	S1-3 S10 S15 - **
2	0025802001	FASTON TAB, .250"	P6-7
4	*	IC 8-BIT SHIFT REG 74HC166	U2-4 U501
7	*	IC OP-AMP DUAL PC4560	U5 U401 U404-408
1	*	IC OPTO-ISOLATOR 6N138	U402
1	*	IC POWER AMP TDA7294V 100W	U1
1	*	IC QUAD 2-INPUT NAND GATE 74HC00	U403
1	0051658000	JACK MONO R/A	J401 (expression pedal)
5	0053450000	JACK STEREO R/A	J405-409 (send, return, expander, line-out right, line-out left/mono)
1	0055595000	JACK STEREO R/A w/SL SHUNT	J403 (headphones)
2	0056465000	LED 7 SEG CMN ANODE RED 13x18	D5 D8
17	0030755000	LED GREEN T-1 3mm DIFFUSED	D1 D3-4 D6 D9-11 D13-17 D21 D27-28 D31-32
1	0049948003	LED RED LONG LEAD LUMEX	D34
8	0030754000	LED RED T-1 3mm DIFFUSED	D2 D12 D18-20 D22-24
2	0024970001	RES CF 1/4W 5% 1.8k LL	R86 R119
13	0024997001	RES CF 1/4W 5% 100k LL	R7 R36 R43-44 R67 R73 R81 R92 R99 R105 R121 R124 R128
18	0024952001	RES CF 1/4W 5% 100ohm LL	R2-6 R8-10 R15-20 R22 R28 R76 R94
47	0024981001	RES CF 1/4W 5% 10k LL	R1 R11-14 R23-26 R32-33 R38 R40 R49-52 R56-60 R63 R69 R71-72 R74 R84 R91 R100 R102-104 R108 R113-114 R120 R125-127 R129-132 R138-139 R142
2	*	RES CF 1/4W 5% 10ohm LL	R75 R93
2	*	RES CF 1/4W 5% 12k LL	R135-136
1	*	RES CF 1/4W 5% 15k LL	R115
1	*	RES CF 1/4W 5% 1k LL	R89
8	*	RES CF 1/4W 5% 220ohm LL	R31 R37 R98 R107 R109 R112 R122-123
2	*	RES CF 1/4W 5% 22k LL	R34 R110
4	*	RES CF 1/4W 5% 24k LL	R61-62 R79 R82
4	*	RES CF 1/4W 5% 27k LL	R85 R96 R134 R137
1	*	RES CF 1/4W 5% 2k LL	R35
4	*	RES CF 1/4W 5% 3.3k LL	R27 R68 R83 R95
2	*	RES CF 1/4W 5% 3.9k LL	R39 R140
4	*	RES CF 1/4W 5% 300ohm LL	R48 R66 R77 R80
1	*	RES CF 1/4W 5% 330ohm LL	R29
2	*	RES CF 1/4W 5% 33k LL	R90 R111
9	*	RES CF 1/4W 5% 47ohm LL	R42 R47 R53-55 R64-65 R117-118
3	*	RES CF 1/4W 5% 5.1k LL	R97 R101 R106
3	*	RES CF 1/4W 5% 560ohm LL	R21 R30 R41
1	*	RES CF 1/4W 5% 680k LL	R88
1	*	RES CF 1/4W 5% 8.2k LL	R45
1	*	RES MOX 2W 5% 22ohm LL	R116
1	*	RES WW BT 5W 10% .1ohm	R70
11	0055988000	SWITCH PB MOMENTARY SPST	S16-18 S20-21 S23-28
3	0028091000	SWITCH PUSH SLFLK SHORT STROKE	S4 S401-402
2	*	XSTR N-CH JFET J111 TO-92	Q4-5
2	*	XSTR NPN 2N4401 TO-92	Q2-3

CYBER DELUXE

FP/RP/PA PRINTED CIRCUIT BOARD ASSEMBLY (CONT)

QTY	PART #	DESCRIPTION	REFERENCE DESIGNATION
1	*	XSTR PNP 2N4403 TO-92	Q1
1	*	HEAT SINK PLATE CYBER-DELUXE	HS1
25	0054657000	SPACER LED VERTICAL .1X.2"	@ D1-4 D6 D9-24 D27-28 D31-32
1	*	SCREW 4-40x3/8 HWHS ZI .1" HD	@ U1 & HS1
1	*	INSULATOR MICA TDA7294	@ U1 & HS1
2	*	SCRW TF 6-32x3/8 PHP ZI	@ HS1
3	0048451000	BUTTON PUSH OFF WHITE	@ S4 S401-402
2	0051660000	BRACKET R/A PC MNT #6-32	BK1-2
1	*	WASHER SHLDR NYL 1/8x1/4	@ U1
6	0037985000	SCRW SMA 2X3/8 PHP BLX	@ J402 J404 J501
REF	0056392000	SVC DIA CMB FP/RP/PA CYDLX	

CHASSIS ASSEMBLY

QTY	PART #	DESCRIPTION	REFERENCE DESIGNATION
REF	0040582000	SWITCH DPST .250 TAB GLOBAL	230V/240V - **
1	0039236000	SWITCH ROCKER DPST PSEUDO-IEC	100V/120V - **
10	0053986000	KNOB ROT ss W/ CH INS	
1	0056340000	KNOB DATA WHEEL LARGE	
1	0026790000	KNOB CONTROL THUMB BLACK	@REAR PANEL POT
4	0057256000	KNOB ROT ARROW W/ CHROME INSERT BLK WHT	
1	0056395000	WIRE SET CHS 120/100V CYBER-DELUXE	100/120V - **
1	0057760000	WIRE SET CHS 230/240V CYBER-DELUXE	230/240V - **
1	0056554000	XFMR PWR 120V CYBER-DELUXE 65W	**
REF	0056555000	XFMR PWR 230/240V CYBER-DELUXE 65W	**
REF	0057162000	XFMR PWR 100V CYBER-DELUXE 65W	**
1	*	CHASSIS CYBER-DELUXE	
1	0056386000	PANEL REAR CYBER-DELUXE	
1	0056385000	PANEL FRONT CYBER-DELUXE	
1	0054642000	CONNECTOR IEC SNAP IN	POWER INLET - **
1	0039367000	SCRW M6-32x3/8 PHP SS INTL WSHR	@ EMI PCB (230/240V ONLY)
5	0041595000	SCRW 6-32x3/16 PHP STL ZI SEMS	@PCBs / PEM STANDOFFS
5	0051404000	STANDOFF NYLON BLK .375	
1	0022186000	SCRW M6-32x3/8 PHP NI	CHS GND
1	0056398000	HEATSINK BAR 65W CHIP	**
5	0028500000	SCRW TF 8-32x3/4 HWH SLTD ZI	@HEATSINK
1	0053479000	NUT, HEX 7/16-20X1/8 NI	@FRONT IN JACK ONLY
1	0053480000	WASHER FLAT .442 X .692 NI	@FRONT IN JACK ONLY
1	0028560000	END BELL XFMR 85W	@XFMR - **
4	0028591000	NUT ACORN 8-32	@XFMR - **
4	0030007000	WSHR LCK INTL 8x.330x.02 ZI	@XFMR - **
2	0014999000	SCRW M 6-32x1/4 PHP BLX	@REAR PANEL
7	0055838000	NUT PLASTIC BLK REAN JACK	@REAR JACKS
1	0021709000	BUSHING SR .437x.062x13/32 BLK	@SPEAKER WIRE - **
1	0069393000	NUT 6-32 HEX EXT LOCK	@CHS GND
1	0053884000	FUSE QA 20mmX5mm 125V4A ULCSA	100V/120V - **
REF	0020793000	FUSE QA 20mmx5mm 250v 1.6A	EXPORT 220-240V - **

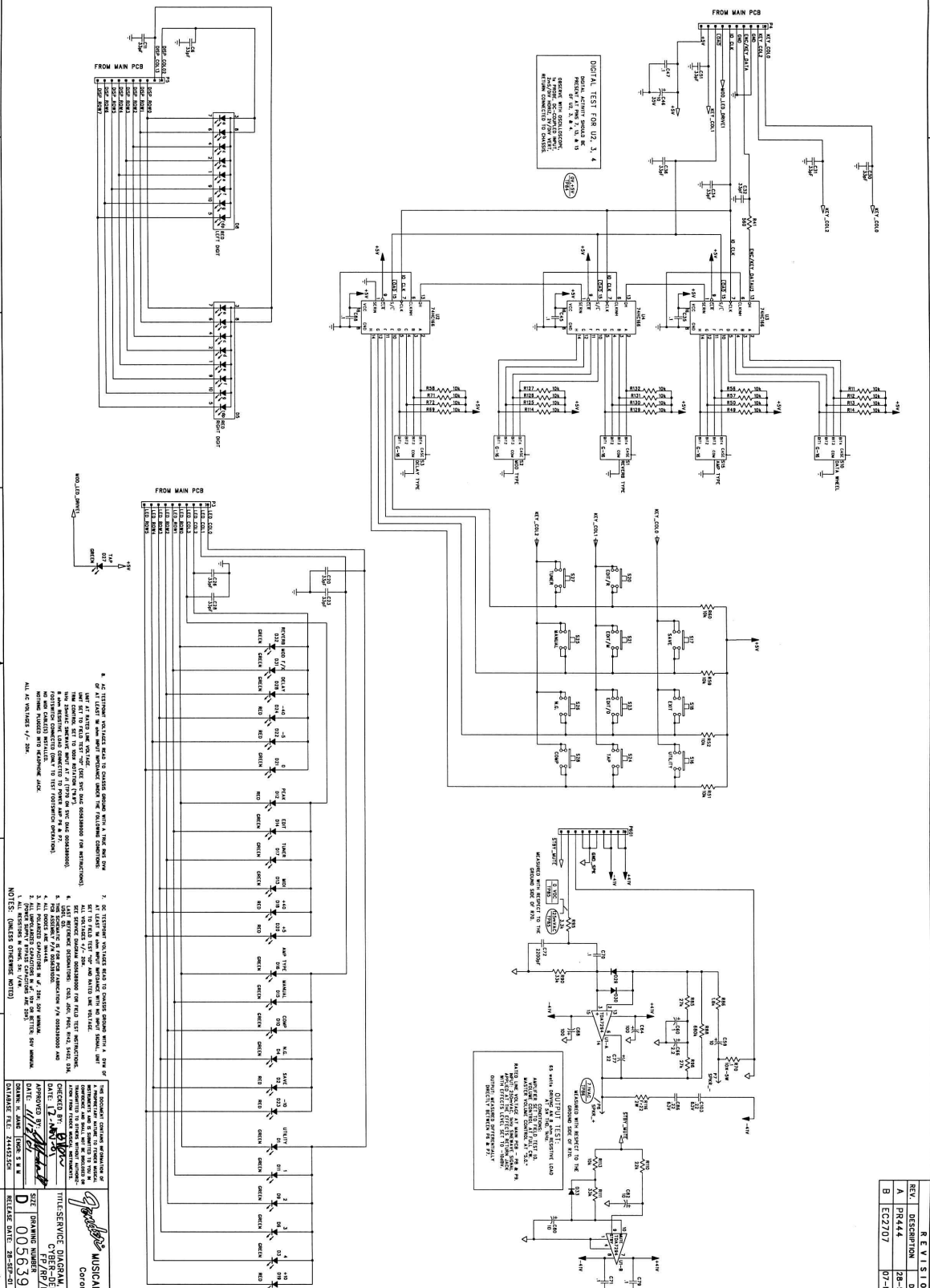
CYBER DELUXE CABINET ASSEMBLY

QTY	PART #	DESCRIPTION	REFERENCE DESIGNATION
4	0026566000	CORNER 2 HOLE W/ TAB NI	
2	0026568000	CORNER 3 HOLE NI	
4	0019276000	GLIDE CAB 1.24 X .335 NI	
4	0019275000	INSERT GLIDE CUSHION 1.27 DIA	
1	0027846000	HANDLE 9.25" NO LOGO	
1	0032524000	INSERT HANDLE	
2	0019279000	HANDLE CAP 2 HOLE NICKEL	
10	0026571000	SCREW SMAB 8X5/8 THP NI	
8	0021972000	NUT T 10-32X3/4 STR 3 PRNG BLX	
4	0022244000	SCRW M 10-32 X 1-1/8 OHP NI	
4	0026625000	SCREW WOOD 8X1 FH	
REF	0029085000	VELCRO STRIP LOOP 1.5" WD BLK	
REF	0029086000	VELCRO STRIP HOOK 1.5" WD BLK	
REF	0026570000	TOLEX BRAVURA BLACK	
REF	0032793000	TAPE ALUM 7-1/2" X 60 YD	
REF	0037788000	GRILLE CLOTH BLK / SILVER	

END ITEM ASSEMBLY

QTY	PART #	DESCRIPTION	REFERENCE DESIGNATION
1	0029906000	NAMEPLATE FENDER GENERIC SMALL	
1	0054420000	SPEAKER CELESTION G12T-100	
6	0036199000	SCRW M 8-32x1-3/16 OHP BLX CP	@CHS (PEM)
2	0018113000	SCRW SMA 4X1/2 OHP BLX	@LOGO
4	0026577000	SCRW M 10-32x1 PHP BLX	@SPKR
6	0029527000	WSHR FNSH 8-5/8 FLNGD BLX WX	@CHS / GRILLE
1	0057671000	COVER CYBER-DELUXE	(OPTIONAL)
1	0057219000	FOOTSWITCH 4 BTN DSP	
REF	0057213000	SCHEMATIC FOOTSWITCH 4-BTN DSP	
1	0056399000	CAB ASSY CYBER-DELUXE	
1	0047248000	CORD PWR W/ IEC CONN DOM	
REF	0047250000	CORD PWR W/ IEC CONN 250V	
REF	0047249000	CORD PWR W/ IEC CONN 230V UK	
REF	0047251000	CORD PWR W/ IEC CONN 230V	
REF	0053997000	CORD PWR W/ IEC CONN 100V JPN	
REF	0056389000	SRV DIA CMB CYDLX MAIN PCB	
REF	0056392000	SRV DIA CMB CYDLX FP/RP/PA PCB	
REF	0056393000	MANUAL OWNERS CYBER-DELUXE	
REF	0057371000	PRESET LIST CYBER-DELUXE	

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
A	PR444	28-SEP-01	S.M.M.
B	EC2707	07-NOV-01	S.M.M.



8. SETTING UP THE TEST POINTS TO CHECK THE LOGIC UNIT OF THE INSTRUMENT. THE TEST POINTS ARE LOCATED AS FOLLOWS:

1. TEST POINT 1: 5V
2. TEST POINT 2: 5V
3. TEST POINT 3: 5V
4. TEST POINT 4: 5V
5. TEST POINT 5: 5V
6. TEST POINT 6: 5V
7. TEST POINT 7: 5V
8. TEST POINT 8: 5V
9. TEST POINT 9: 5V
10. TEST POINT 10: 5V
11. TEST POINT 11: 5V
12. TEST POINT 12: 5V
13. TEST POINT 13: 5V
14. TEST POINT 14: 5V
15. TEST POINT 15: 5V
16. TEST POINT 16: 5V

9. SETTING UP THE TEST POINTS TO CHECK THE LOGIC UNIT OF THE INSTRUMENT. THE TEST POINTS ARE LOCATED AS FOLLOWS:

1. TEST POINT 1: 5V
2. TEST POINT 2: 5V
3. TEST POINT 3: 5V
4. TEST POINT 4: 5V
5. TEST POINT 5: 5V
6. TEST POINT 6: 5V
7. TEST POINT 7: 5V
8. TEST POINT 8: 5V
9. TEST POINT 9: 5V
10. TEST POINT 10: 5V
11. TEST POINT 11: 5V
12. TEST POINT 12: 5V
13. TEST POINT 13: 5V
14. TEST POINT 14: 5V
15. TEST POINT 15: 5V
16. TEST POINT 16: 5V

10. SETTING UP THE TEST POINTS TO CHECK THE LOGIC UNIT OF THE INSTRUMENT. THE TEST POINTS ARE LOCATED AS FOLLOWS:

1. TEST POINT 1: 5V
2. TEST POINT 2: 5V
3. TEST POINT 3: 5V
4. TEST POINT 4: 5V
5. TEST POINT 5: 5V
6. TEST POINT 6: 5V
7. TEST POINT 7: 5V
8. TEST POINT 8: 5V
9. TEST POINT 9: 5V
10. TEST POINT 10: 5V
11. TEST POINT 11: 5V
12. TEST POINT 12: 5V
13. TEST POINT 13: 5V
14. TEST POINT 14: 5V
15. TEST POINT 15: 5V
16. TEST POINT 16: 5V

11. SETTING UP THE TEST POINTS TO CHECK THE LOGIC UNIT OF THE INSTRUMENT. THE TEST POINTS ARE LOCATED AS FOLLOWS:

1. TEST POINT 1: 5V
2. TEST POINT 2: 5V
3. TEST POINT 3: 5V
4. TEST POINT 4: 5V
5. TEST POINT 5: 5V
6. TEST POINT 6: 5V
7. TEST POINT 7: 5V
8. TEST POINT 8: 5V
9. TEST POINT 9: 5V
10. TEST POINT 10: 5V
11. TEST POINT 11: 5V
12. TEST POINT 12: 5V
13. TEST POINT 13: 5V
14. TEST POINT 14: 5V
15. TEST POINT 15: 5V
16. TEST POINT 16: 5V

12. SETTING UP THE TEST POINTS TO CHECK THE LOGIC UNIT OF THE INSTRUMENT. THE TEST POINTS ARE LOCATED AS FOLLOWS:

1. TEST POINT 1: 5V
2. TEST POINT 2: 5V
3. TEST POINT 3: 5V
4. TEST POINT 4: 5V
5. TEST POINT 5: 5V
6. TEST POINT 6: 5V
7. TEST POINT 7: 5V
8. TEST POINT 8: 5V
9. TEST POINT 9: 5V
10. TEST POINT 10: 5V
11. TEST POINT 11: 5V
12. TEST POINT 12: 5V
13. TEST POINT 13: 5V
14. TEST POINT 14: 5V
15. TEST POINT 15: 5V
16. TEST POINT 16: 5V

13. SETTING UP THE TEST POINTS TO CHECK THE LOGIC UNIT OF THE INSTRUMENT. THE TEST POINTS ARE LOCATED AS FOLLOWS:

1. TEST POINT 1: 5V
2. TEST POINT 2: 5V
3. TEST POINT 3: 5V
4. TEST POINT 4: 5V
5. TEST POINT 5: 5V
6. TEST POINT 6: 5V
7. TEST POINT 7: 5V
8. TEST POINT 8: 5V
9. TEST POINT 9: 5V
10. TEST POINT 10: 5V
11. TEST POINT 11: 5V
12. TEST POINT 12: 5V
13. TEST POINT 13: 5V
14. TEST POINT 14: 5V
15. TEST POINT 15: 5V
16. TEST POINT 16: 5V

14. SETTING UP THE TEST POINTS TO CHECK THE LOGIC UNIT OF THE INSTRUMENT. THE TEST POINTS ARE LOCATED AS FOLLOWS:

1. TEST POINT 1: 5V
2. TEST POINT 2: 5V
3. TEST POINT 3: 5V
4. TEST POINT 4: 5V
5. TEST POINT 5: 5V
6. TEST POINT 6: 5V
7. TEST POINT 7: 5V
8. TEST POINT 8: 5V
9. TEST POINT 9: 5V
10. TEST POINT 10: 5V
11. TEST POINT 11: 5V
12. TEST POINT 12: 5V
13. TEST POINT 13: 5V
14. TEST POINT 14: 5V
15. TEST POINT 15: 5V
16. TEST POINT 16: 5V

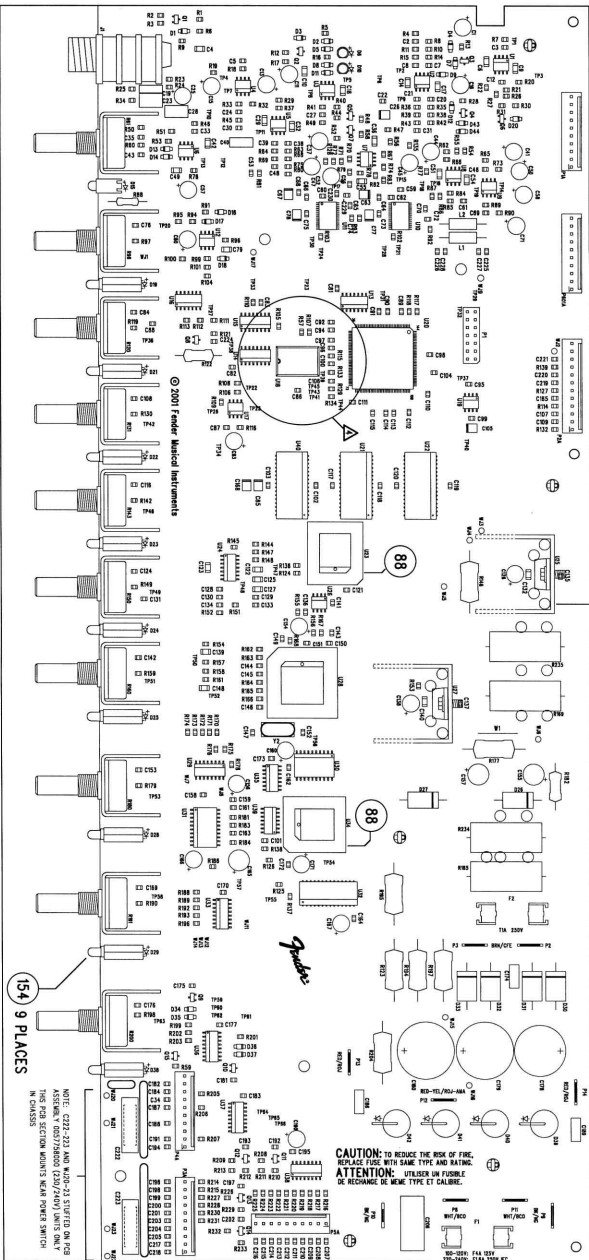
15. SETTING UP THE TEST POINTS TO CHECK THE LOGIC UNIT OF THE INSTRUMENT. THE TEST POINTS ARE LOCATED AS FOLLOWS:

1. TEST POINT 1: 5V
2. TEST POINT 2: 5V
3. TEST POINT 3: 5V
4. TEST POINT 4: 5V
5. TEST POINT 5: 5V
6. TEST POINT 6: 5V
7. TEST POINT 7: 5V
8. TEST POINT 8: 5V
9. TEST POINT 9: 5V
10. TEST POINT 10: 5V
11. TEST POINT 11: 5V
12. TEST POINT 12: 5V
13. TEST POINT 13: 5V
14. TEST POINT 14: 5V
15. TEST POINT 15: 5V
16. TEST POINT 16: 5V

APPROVED BY: *[Signature]*
 DATE: 12 JAN 01
 CHECKED BY: *[Signature]*
 DATE: 12 JAN 01
 DRAWING NUMBER: 0056392000
 RELEASE DATE: 28-SEP-01
 SHEET: 1 OF 3

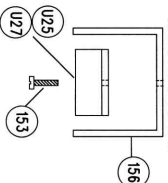
INTELSERVICE DIAGRAM CORP. (Incorporated)
 CHEROKEE DRIVE
 CORONA, CA USA

REV.	DESCRIPTION	DATE	APPROVED
A	PR444	03-OCT-01	S.M.M.
B	EC 2698	03-DEC-01	S.M.M.



FILE/WORK PCB ASSEMBLY DRAWING
 DATABASE Z444PXB DATE 03-DEC-01

DETAIL A. 2 PLACES



- 1. SPRAY 2 COATS OF CONFORMAL COATING, TECH-SPRAY COVER THE PCB AND EDGE OF 100 NEAR CASE. SIGHT OVERSPRAY IS PERMISSIBLE IF NO SPRAY GETS INTO SOCKETS OF U23 AND U54 OR DVI/O CONNECTORS P4-454.
 - 2. WAX TO REDUCE CORROSION, TENSILE INVESTIGATE AND REMOVE EXCESS WAX FROM BOARD SURFACE OF THE PCB.
 - 3. WIREST MAIN PCB THE CYBER-DECLINE
 - 4. USE ANY SILICONE RUBBER COMPOUND TO ADHERE CTR-90 TOGETHER.
 - 5. SEE SHEETS 2 THROUGH 6 FOR B.O.M.
- NOTES: (UNLESS OTHERWISE NOTED)

THE DOCUMENT CONTAINS INFORMATION OF A PROPRIETARY NATURE AND IS LOANED TO YOU BY THE LENDING PARTY. IT IS NOT TO BE REPRODUCED OR TRANSMITTED TO OTHERS WITHOUT AUTHORIZATION FROM THE LENDING PARTY.	
CHECKED BY: <i>[Signature]</i> DATE: 11/26/01	TITLE: PCB ASSEMBLY CYBER-DECLINE MAIN PCB-120/100V
APPROVED BY: <i>[Signature]</i> DATE: 11/26/01	SIZE: <i>[Signature]</i> DRAWING NUMBER: 0056388000
DRAWN: SN/MLJ ENGR. S.M.M. DATABASE FILE: Z444PXB	RELEASE DATE: 03-OCT-01 SHEET 1 OF 6

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TABLE 1 - RIBBON CABLE INTERCONNECT

ITEM	FROM			TO			NUMBERS OF RIBBON CABLE CIRCUITS
	GENDER	DESCRIPTION (ITEM 17)	CONNECTOR NO.	GENDER	DESCRIPTION (ITEM 15)	CONNECTOR NO.	
A	FEMALE	REAR PANEL PCB	P1	MALE	MAIN PCB	P1A	10
B	FEMALE	REAR PANEL PCB	P2	MALE	MAIN PCB	P2A	12
C	FEMALE	POWER AMP PCB	P601	MALE	MAIN PCB	P601A	10
D	FEMALE	FRONT PANEL PCB	P3	MALE	MAIN PCB	P3A	10
E	FEMALE	FRONT PANEL PCB	P4	MALE	MAIN PCB	P4A	10
F	FEMALE	FRONT PANEL PCB	P5	MALE	MAIN PCB	P5A	10

TABLE 2 - TRANSFORMER INTERCONNECT

ITEM	FROM	TO
	TRANSFORMER WIRE (ITEM 6)	MAIN PCB (ITEM 15)
A	WHITE	P11
B	BLACK	P10
C	RED	P14
D	RED	P13
E	RED/YELLOW	P12
F	BROWN	P3
G	BROWN	P2

TABLE 4A - 230V/240V CHASSIS WIRE SET INTERCONNECT

ITEM	COLOR	LENGTH	FROM	TO
A	GRN/YEL	5"	IEC (GND)	CHS GND
B	BLK/WHT	15"	WHT: POWER AMP P6 BLK: POWER AMP P7	WHT: SPKR (+) BLK: SPKR (-)
C	BLK	10"	MAIN PCB P9	SW (HOT)
D	WHT	10"	MAIN PCB P8	SW (NTRL)

TABLE 4B - EMI PCB WIRE SET INTERCONNECT

ITEM	COLOR	LENGTH	FROM	TO
A	BLK	3"	EMI PCB-WJ20	IEC (HOT)
B	WHT	3"	EMI PCB-WJ22	IEC (NTRL)
C	BLK	4"+FERRITE	EMI PCB-WJ21	SW (HOT)
D	WHT	4"+FERRITE	EMI PCB-WJ23	SW (NTRL)

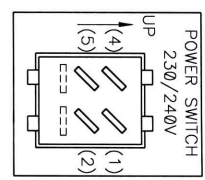
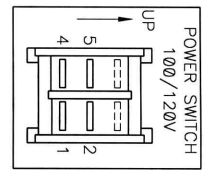
TABLE 3 - 120V/100V CHASSIS WIRE SET INTERCONNECT

ITEM	COLOR	LENGTH	FROM	TO
A	GRN/YEL	5"	IEC (GND)	CHS GND
B	BLK	4"	IEC (HOT)	SW (HOT)
C	BLK/WHT	15"	WHT: POWER AMP P6 BLK: POWER AMP P7	WHT: SPKR (+) BLK: SPKR (-)
D	BLK	10"	MAIN PCB P9	SW (HOT)
E	WHT	10"	MAIN PCB P8	SW (NTRL)
F	WHT	4"	IEC (NTRL)	SW (NTRL)

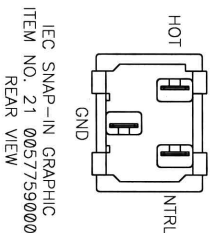
1. DO NOT SCALE DRAWING.
2. ALL DIMENSIONS ARE IN INCHES.
3. BEFORE STARTING PRODUCTION, MUST BE APPROVED BY ENGINEER AND MODICAL INSTRUMENTS CORP.
4. COPYRIGHT - 2002 - FINDER

NOTES: UNLESS OTHERWISE NOTED

REV	DATE	BY	CHKD
A	12/01/2000	RS	RS
B	12/01/2000	RS	RS



REAR VIEW OF ITEM 2 (POWERSWITCH)
SW (HOT) IS LEFT SIDE
SW (NTRL) IS RIGHT SIDE
SEE MATRIX ON SHEET 1



IEC SNAP-IN GRAPHIC
ITEM NO. 21 0057759000
REAR VIEW

ENGINEER MARSHALL	DATE 12/01/2000	TITLE CHASSIS ASSEMBLY CYBER-DELUXE	SHEET 2012	SCALE N/A	SIZE D	DRAWING NUMBER 0056379000	REV. B
DIRECTOR ROBERT OBERG		FINDER MODICAL INSTRUMENTS CORP. CHRYSLER, OAKBROOK, ILL. U.S.A.		SHEET SIZE N/A		MASTER ASSEMBLY	

8

7

6

5

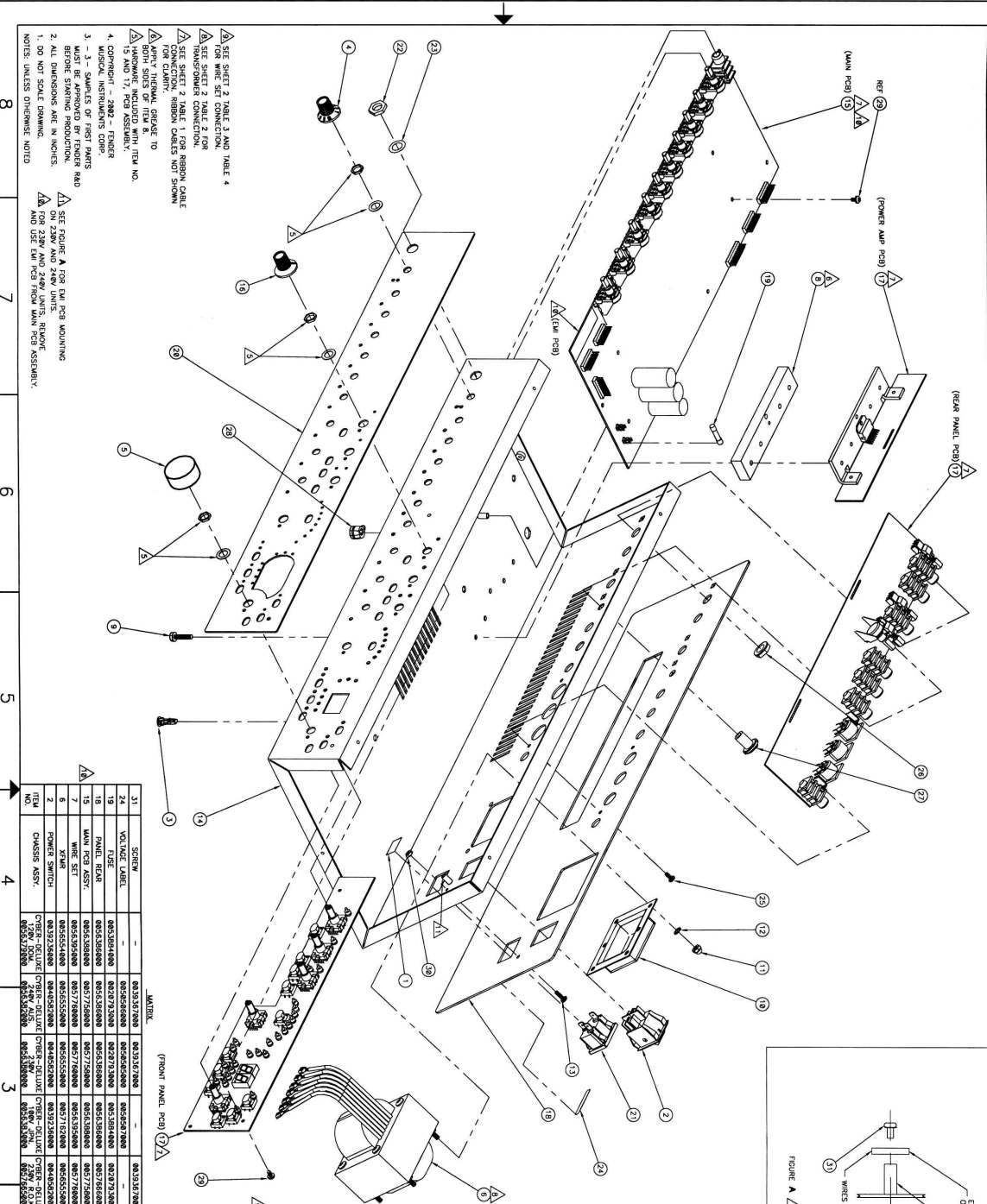
4

3

2

1

THE OCCASIONAL CHASSIS ASSEMBLY IS A SEPARATE UNIT. IT IS IDENTIFIED BY THE PART NUMBER 0056379000 AND IS SHOWN IN FIGURE 4. THE CHASSIS ASSEMBLY IS IDENTIFIED BY THE PART NUMBER 0056379000 AND IS SHOWN IN FIGURE 4. THE CHASSIS ASSEMBLY IS IDENTIFIED BY THE PART NUMBER 0056379000 AND IS SHOWN IN FIGURE 4.



REV.	DATE	BY	CHKD.	DESCRIPTION
A	12/01/2000	DR	MS	ISSUE FOR PRODUCTION
B	02/28/2001	DR	MS	REVISION 1
C	03/28/2001	DR	MS	REVISION 2
D	05/14/2001	DR	MS	REVISION 3

REV.	DATE	BY	CHKD.	DESCRIPTION
1	12/01/2000	DR	MS	ISSUE FOR PRODUCTION
2	02/28/2001	DR	MS	REVISION 1
3	03/28/2001	DR	MS	REVISION 2
4	05/14/2001	DR	MS	REVISION 3

REV.	DATE	BY	CHKD.	DESCRIPTION
1	12/01/2000	DR	MS	ISSUE FOR PRODUCTION
2	02/28/2001	DR	MS	REVISION 1
3	03/28/2001	DR	MS	REVISION 2
4	05/14/2001	DR	MS	REVISION 3

REV.	DATE	BY	CHKD.	DESCRIPTION
1	12/01/2000	DR	MS	ISSUE FOR PRODUCTION
2	02/28/2001	DR	MS	REVISION 1
3	03/28/2001	DR	MS	REVISION 2
4	05/14/2001	DR	MS	REVISION 3

1. SEE FIGURE 4 FOR THE PCB MOUNTING FOR 230V AND 240V UNITS. REMOVE AND USE THE PCB FROM MAIN PCB ASSEMBLY.

2. ALL DIMENSIONS ARE IN INCHES.

3. - 3 - SAMPLES OF FIRST PARTS MUST BE APPROVED BY FRANK RAO BEFORE PRODUCTION.

4. COPYRIGHT - 2002 - FENDER MUSICAL INSTRUMENTS CORP.

APPLY THERMAL GREASE TO BOTH SIDES OF THE MAIN PCB AND THE REAR PANEL PCB.

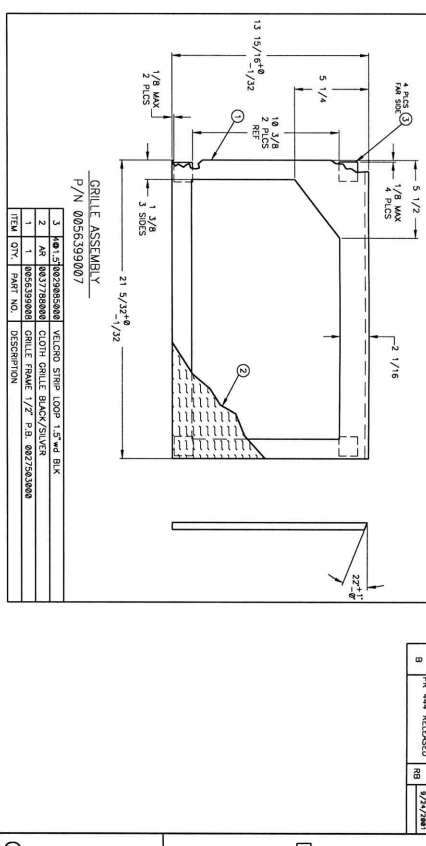
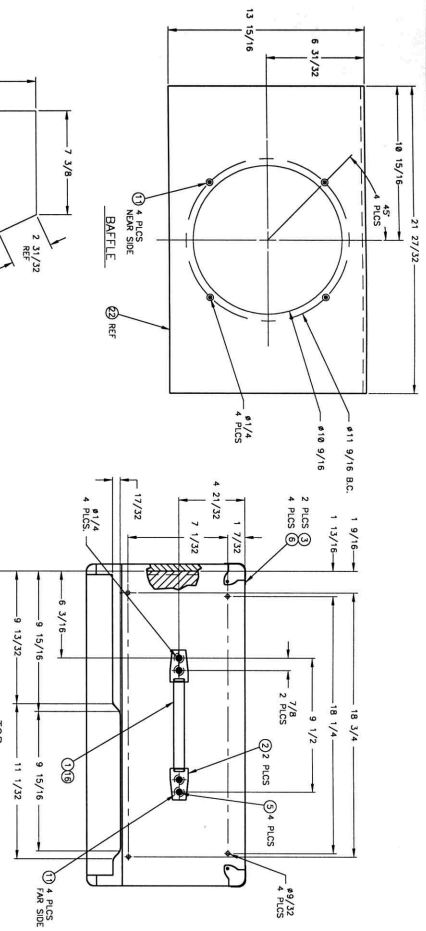
SEE SHEET 2, TABLE 1 FOR RIBBON CABLE CONNECTION.

SEE SHEET 2, TABLE 2 FOR TRANSFORMER CONNECTION.

SEE SHEET 2, TABLE 3 AND TABLE 4.

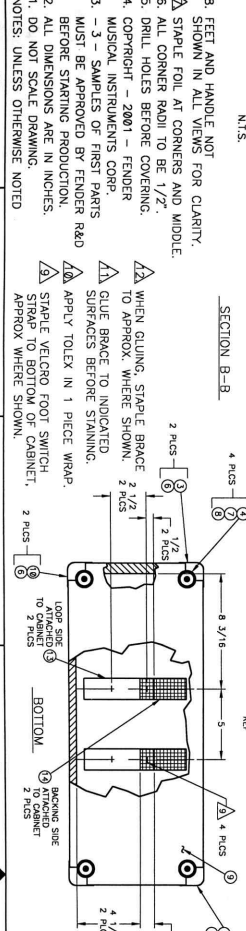
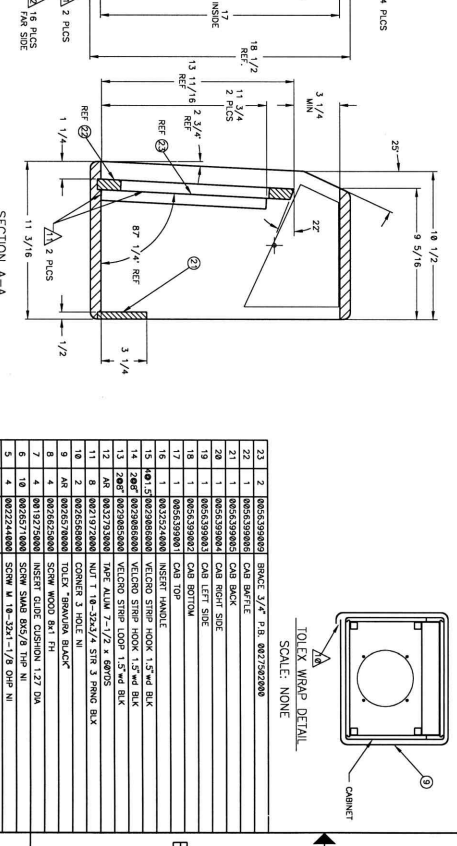
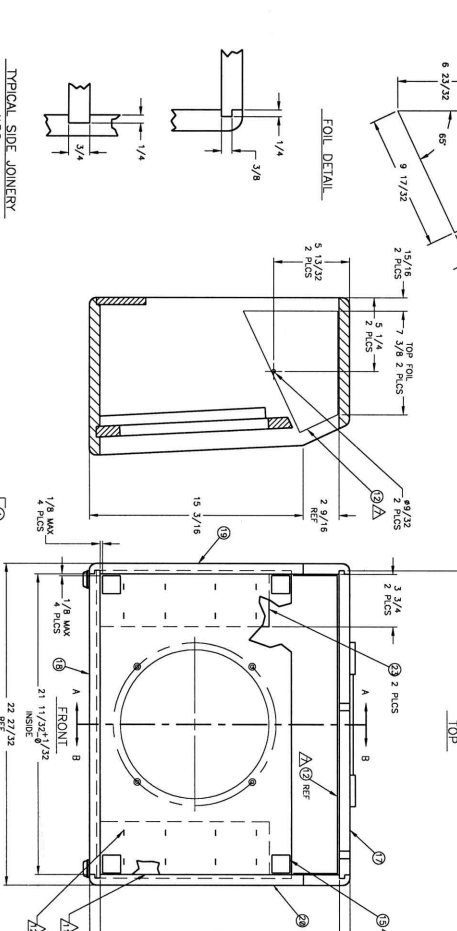
NOTES: UNLESS OTHERWISE NOTED

THE OCCURRING CORNER JOINERY OF A RESEMBLING NATURE TO THOSE SHOWN IN THIS DRAWING IS TO BE USED IN ALL OTHER DRAWINGS UNLESS OTHERWISE NOTED BY THE DRAWING ENGINEER.



GRILLE ASSEMBLY
P/N 0056399007

REV	DATE	BY	CHK	DESCRIPTION
3	08/27/98	WJL	WJL	VELOCIR STIMP LOOP 1.5" Wd BLK
2	08/27/98	WJL	WJL	CLOTH GRILLE BLACK/SILVER
1	08/25/98	WJL	WJL	GRILLE FRAME 1/2" P.B. 0827262000

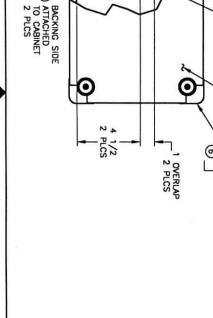
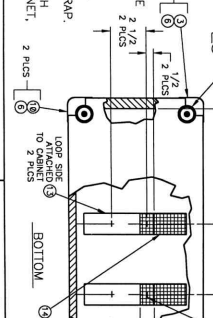
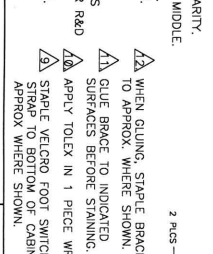


SECTION A-A

REV	DATE	BY	CHK	DESCRIPTION
23	08/25/98	WJL	WJL	SPICE 3/4" P.B. 0827262000
22	08/25/98	WJL	WJL	CAB BACK
21	08/25/98	WJL	WJL	CAB RIGHT SIDE
20	08/25/98	WJL	WJL	CAB LEFT SIDE
19	08/25/98	WJL	WJL	CAB TOP
18	08/25/98	WJL	WJL	VELOCIR STIMP LOOP 1.5" Wd BLK
17	08/25/98	WJL	WJL	CLOTH GRILLE BLACK/SILVER
16	08/25/98	WJL	WJL	GRILLE FRAME 1/2" P.B. 0827262000
15	08/25/98	WJL	WJL	VELOCIR STIMP LOOP 1.5" Wd BLK
14	08/25/98	WJL	WJL	CLOTH GRILLE BLACK/SILVER
13	08/25/98	WJL	WJL	VELOCIR STIMP LOOP 1.5" Wd BLK
12	08/25/98	WJL	WJL	CLOTH GRILLE BLACK/SILVER
11	08/25/98	WJL	WJL	VELOCIR STIMP LOOP 1.5" Wd BLK
10	08/25/98	WJL	WJL	CLOTH GRILLE BLACK/SILVER
9	08/25/98	WJL	WJL	VELOCIR STIMP LOOP 1.5" Wd BLK
8	08/25/98	WJL	WJL	CLOTH GRILLE BLACK/SILVER
7	08/25/98	WJL	WJL	VELOCIR STIMP LOOP 1.5" Wd BLK
6	08/25/98	WJL	WJL	CLOTH GRILLE BLACK/SILVER
5	08/25/98	WJL	WJL	VELOCIR STIMP LOOP 1.5" Wd BLK
4	08/25/98	WJL	WJL	CLOTH GRILLE BLACK/SILVER
3	08/25/98	WJL	WJL	VELOCIR STIMP LOOP 1.5" Wd BLK
2	08/25/98	WJL	WJL	CLOTH GRILLE BLACK/SILVER
1	08/25/98	WJL	WJL	VELOCIR STIMP LOOP 1.5" Wd BLK

MAATERIAL: 1/2" P.B. CAB BACK
P/N 0827262000 3/4" P.B. ALL ELSE
DRAWN: WJL/DP/LSKA
DATE: 1/22/99
TITLE: CABINET ASSEMBLY
CYBER-DELUXE
REV. B

8. FEET AND HANDLE NOT SHOWN IN ALL VIEWS FOR CLARITY.
 9. STAPLE FOIL AT CORNERS AND MIDDLE.
 10. ALL CORNER RADIUS TO BE 1/2".
 11. DRILL HOLES BEFORE COVERING.
 12. COPYRIGHT - 2001 - FENDER MUSICAL INSTRUMENTS CORP.
 13. - 3 - SAMPLES OF FIRST PARTS MUST BE APPROVED BY FENDER R&D BEFORE STARTING PRODUCTION.
 14. ALL DIMENSIONS ARE IN INCHES.
 15. DO NOT SCALE DRAWING.
 NOTES: UNLESS OTHERWISE NOTED



GRILLE ASSEMBLY
P/N 0056399007

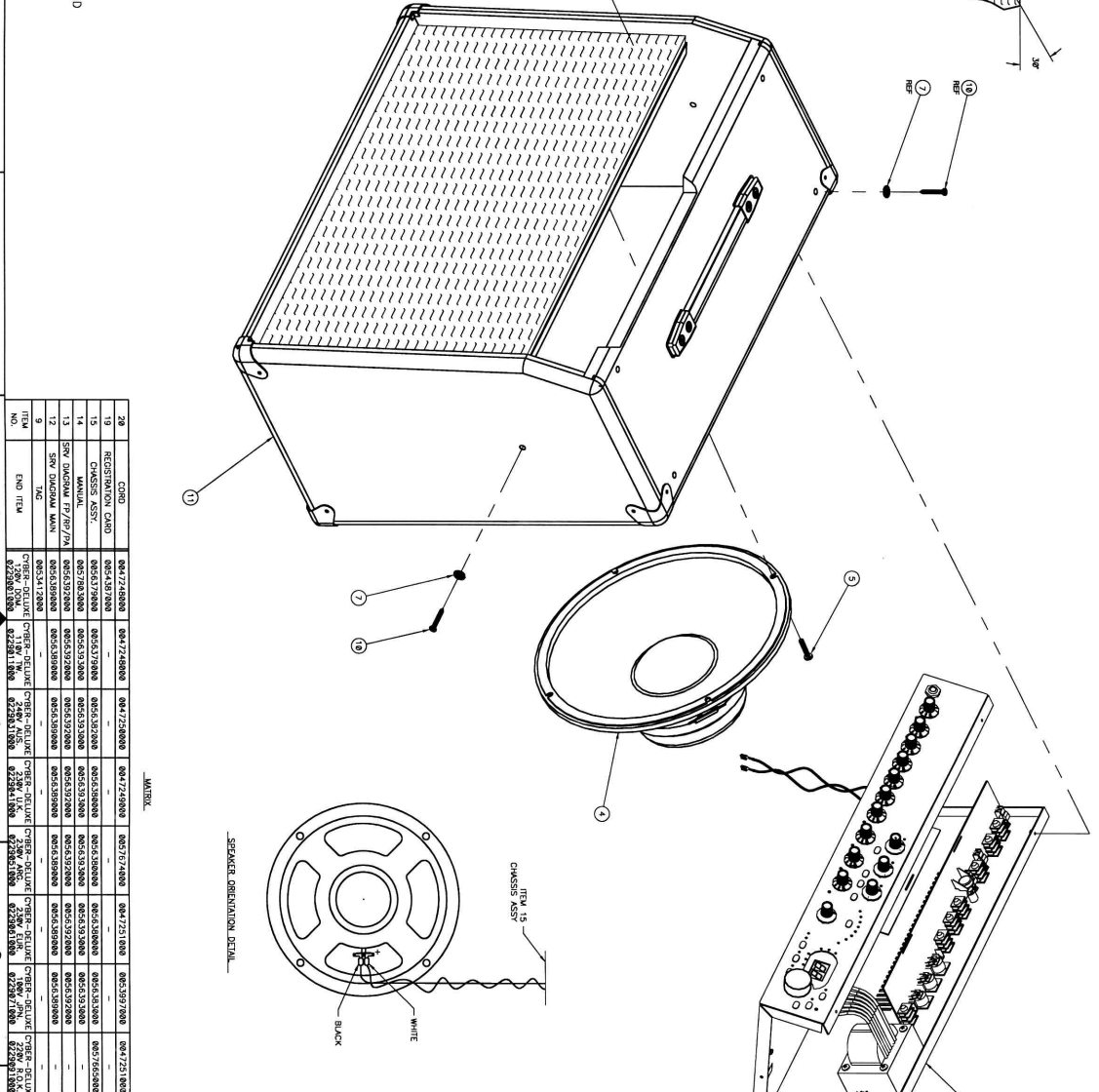
REV	DATE	BY	CHK	DESCRIPTION
3	08/27/98	WJL	WJL	VELOCIR STIMP LOOP 1.5" Wd BLK
2	08/27/98	WJL	WJL	CLOTH GRILLE BLACK/SILVER
1	08/25/98	WJL	WJL	GRILLE FRAME 1/2" P.B. 0827262000

MAATERIAL: 1/2" P.B. CAB BACK
P/N 0827262000 3/4" P.B. ALL ELSE
DRAWN: WJL/DP/LSKA
DATE: 1/22/99
TITLE: CABINET ASSEMBLY
CYBER-DELUXE
REV. B

MAATERIAL: 1/2" P.B. CAB BACK
P/N 0827262000 3/4" P.B. ALL ELSE
DRAWN: WJL/DP/LSKA
DATE: 1/22/99
TITLE: CABINET ASSEMBLY
CYBER-DELUXE
REV. B

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 2. ALL DIMENSIONS ARE IN INCHES.
 1. DO NOT SCALE DRAWING.
 NOTES: UNLESS OTHERWISE NOTED

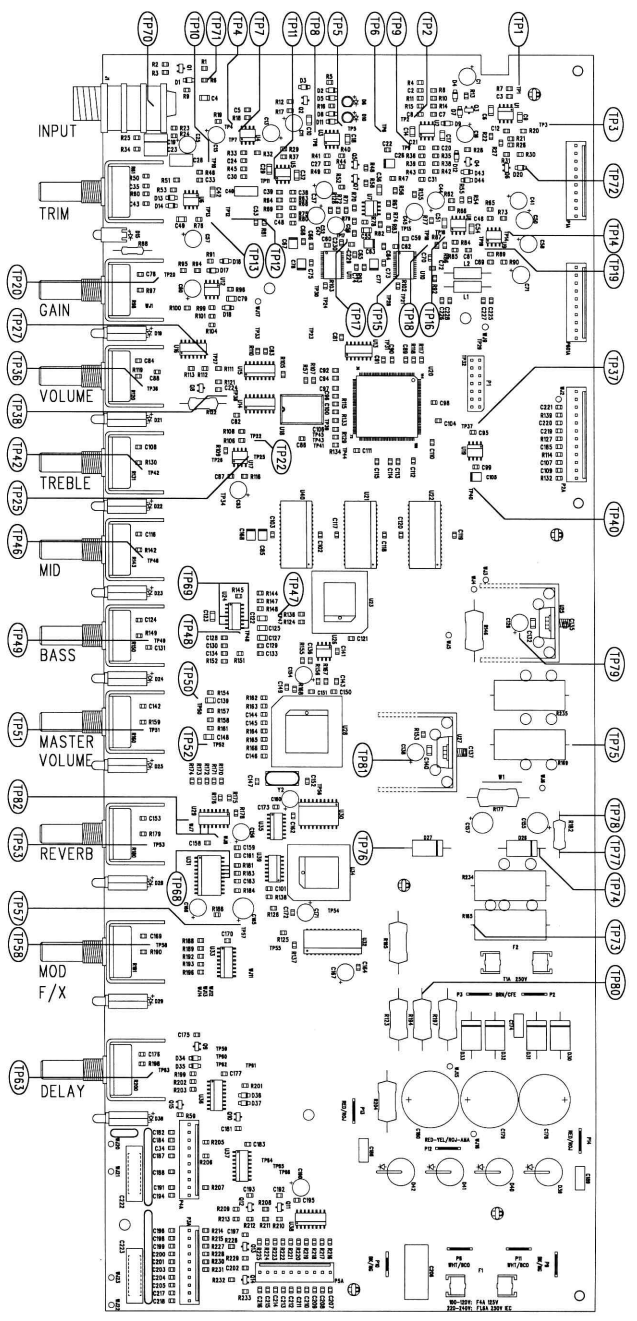


REV.	DATE	BY	CHKD.	DESCRIPTION
0	11/17/2002	RB	RB	REVISED TO ADD DIMENSIONS
1	11/17/2002	RB	RB	REVISED TO ADD DIMENSIONS
2	11/17/2002	RB	RB	REVISED TO ADD DIMENSIONS

ITEM NO.	QTY	DESCRIPTION	ITEM NO.	QTY	DESCRIPTION
1	1	CHASSIS ASSEMBLY	15	1	CHASSIS ASSEMBLY
2	1	CHASSIS ASSEMBLY	16	1	CHASSIS ASSEMBLY
3	1	CHASSIS ASSEMBLY	17	1	CHASSIS ASSEMBLY
4	1	CHASSIS ASSEMBLY	18	1	CHASSIS ASSEMBLY
5	1	CHASSIS ASSEMBLY	19	1	CHASSIS ASSEMBLY
6	1	CHASSIS ASSEMBLY	20	1	CHASSIS ASSEMBLY
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11	1	CHASSIS ASSEMBLY	25	1	CHASSIS ASSEMBLY
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13	1	CHASSIS ASSEMBLY	27	1	CHASSIS ASSEMBLY
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63	1	CHASSIS ASSEMBLY	77	1	CHASSIS ASSEMBLY
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65	1	CHASSIS ASSEMBLY	79	1	CHASSIS ASSEMBLY
66	1	CHASSIS ASSEMBLY	80	1	CHASSIS ASSEMBLY
67	1	CHASSIS ASSEMBLY	81	1	CHASSIS ASSEMBLY
68	1	CHASSIS ASSEMBLY	82	1	CHASSIS ASSEMBLY
69	1	CHASSIS ASSEMBLY	83	1	CHASSIS ASSEMBLY
70	1	CHASSIS ASSEMBLY	84	1	CHASSIS ASSEMBLY
71	1	CHASSIS ASSEMBLY	85	1	CHASSIS ASSEMBLY
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83	1	CHASSIS ASSEMBLY	97	1	CHASSIS ASSEMBLY
84	1	CHASSIS ASSEMBLY	98	1	CHASSIS ASSEMBLY
85	1	CHASSIS ASSEMBLY	99	1	CHASSIS ASSEMBLY
86	1	CHASSIS ASSEMBLY	100	1	CHASSIS ASSEMBLY

END ITEM: CYBER-DELUXE
 DRAWING NUMBER: 0229001000
 SCALE: N/A
 MASTER/ASSEMBLY: D

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
A	PR444	03-OCT-01	S.M.W.
B	EC 2698	05-DEC-01	S.M.W.



FILE NAME: SERVICE DIAGRAM
 DATABASE: Z444PUBS DATE: 03-DEC-01

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Yamaha
 MUSICAL INSTRUMENTS
 CORP., CA U.S.A.

TITLE: SERVICE DIAGRAM, COMBINED (POB 0893)
 CYBER-DELUXE
 MAIN PCB

APPROVED BY: *[Signature]*
 DATE: 11/28/01

DATE: 11/28/01
 ENGINE: S.M.W.

SIZE: DRAWING NUMBER
 C 0056389000

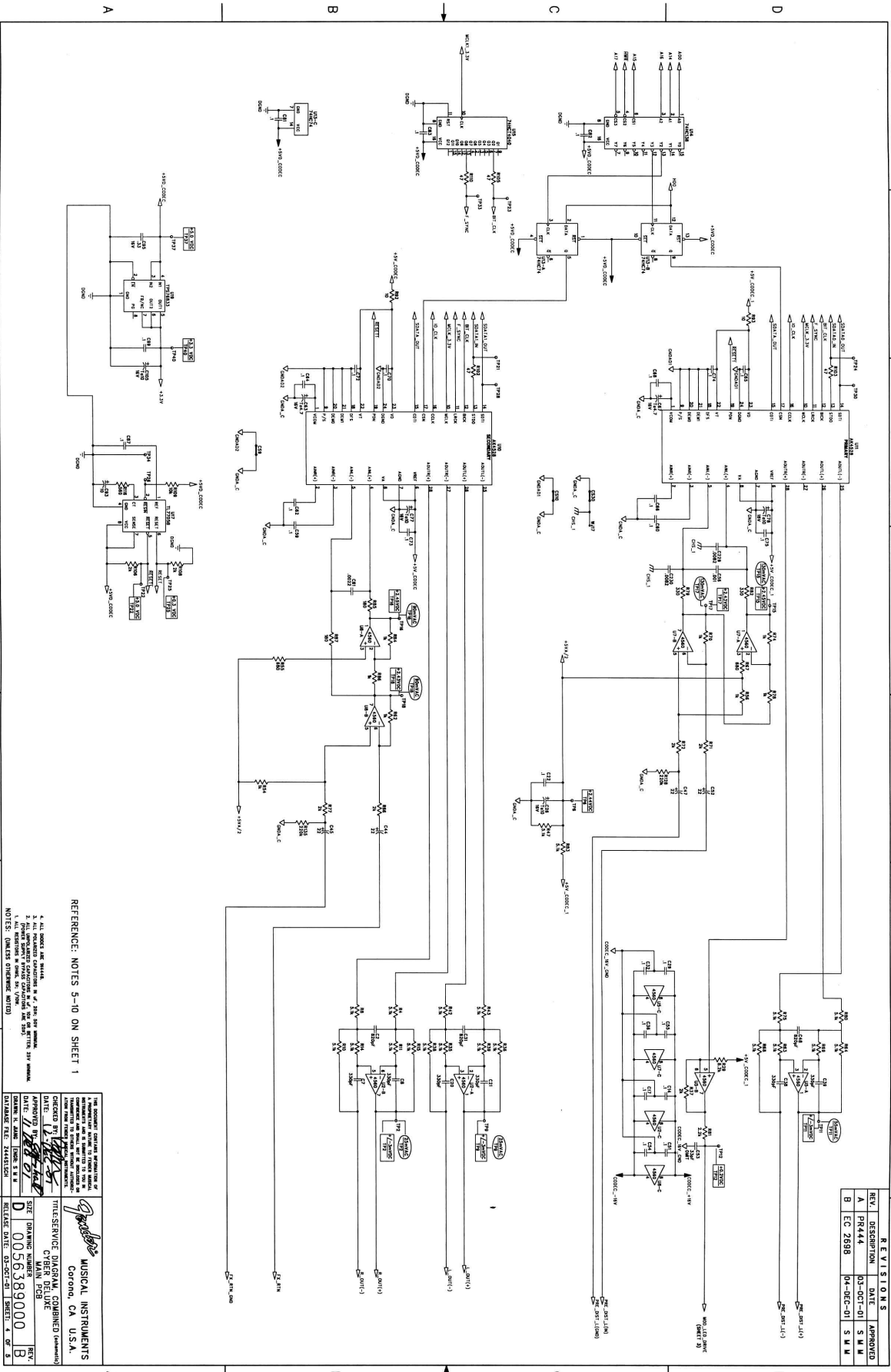
RELEASE DATE: 03-OCT-01 SHEET 5 OF 5

1. SEE SHEETS 1-4 FOR PRIMARY WIRING, TEST CONDITIONS, TEST POINT VALUES, ETC.
 NOTES: (UNLESS OTHERWISE NOTED)

8 7 6 5 4 3 2 1

A B C D

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
A	PR444	03-01-01	S.M.M.
B	EC 2598	04-02-01	S.M.M.



REFERENCE: NOTES 5-10 ON SHEET 1

4. ALL BOARD LINE WIDTHS
 2. ALL BOARD LINE SPACING
 3. BOARD BOARD SPACING
 1. BOARD BOARD SPACING

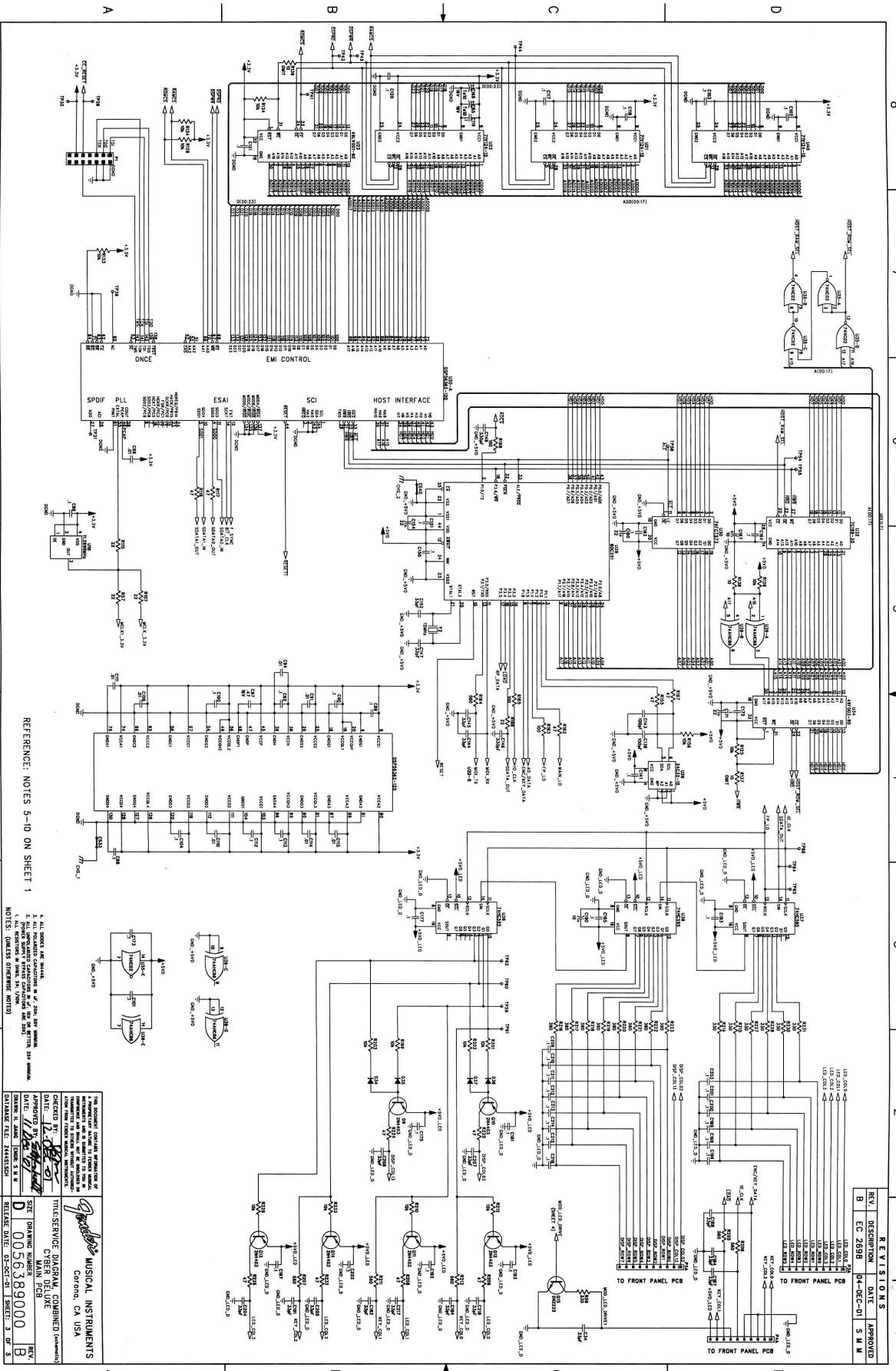
NOTES: (CHECK OTHER SHEETS)

MUSICAL INSTRUMENTS
 Corona, CA U.S.A.

INTESERVICE DIAGRAM COMBINED (continued)
 CYBER DELUXE
 MAIN PCB

DATE: 11/12/83
 APPROVED BY: [Signature]
 SIZE: 0056389000
 RELEASE DATE: 03-02-83
 SHEET: 4 OF 5

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
B	EC 2698	04-DEC-01	S M W



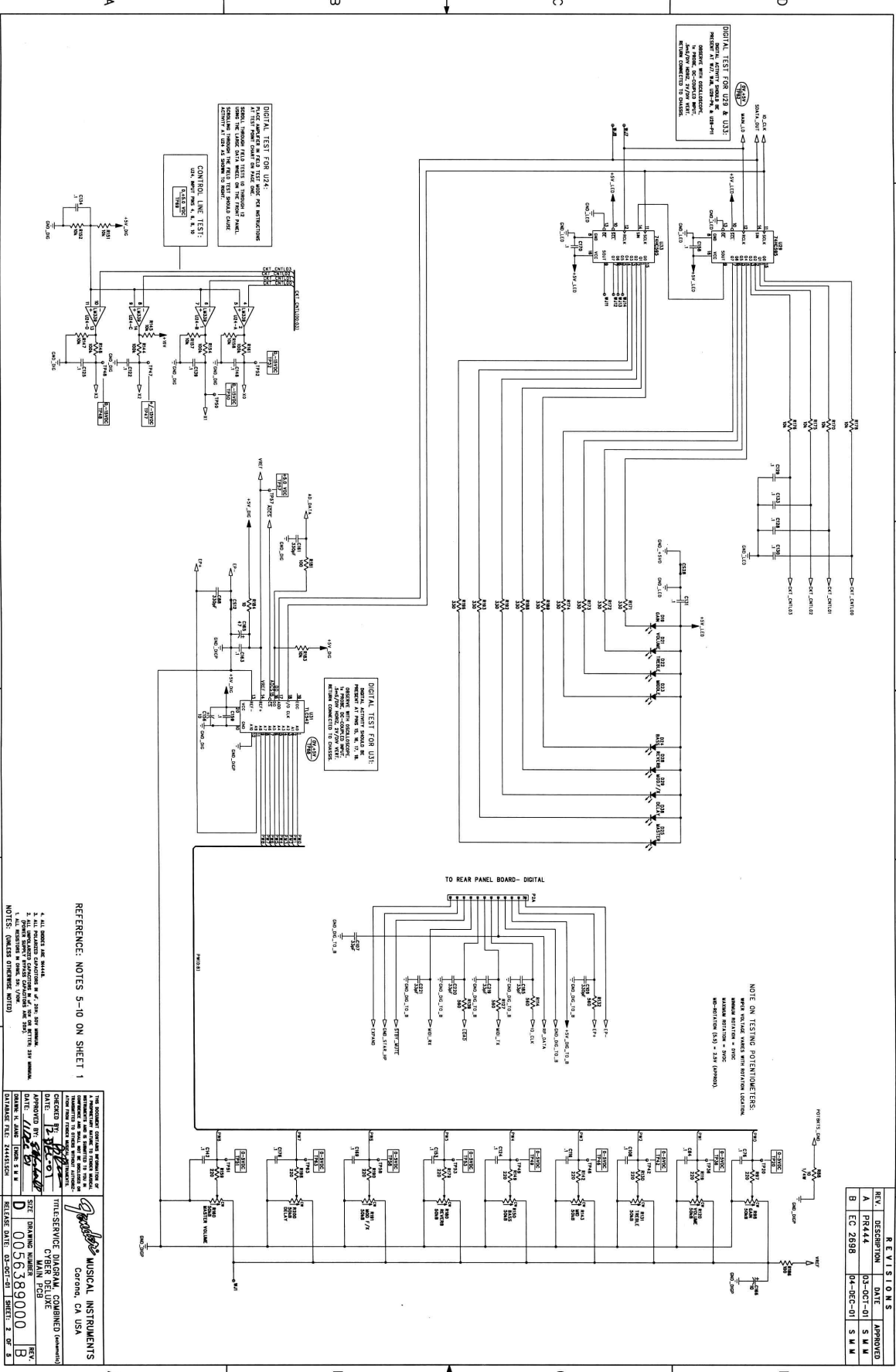
THE SOLE AGENT FOR THE SALE AND SERVICE OF ALL PRODUCTS OF THE COMPANY IS: **MOORE MUSICAL INSTRUMENTS**, 10000 WILSON AVENUE, SUITE 100, BELLFLOWER, CA 91706, USA.

CHECKED BY: *[Signature]*
 DATE: 12/15/01
 APPROVED BY: *[Signature]*
 DATE: 12/15/01

TITLE: SERVICE DIAGRAM COMBINED (ASSEMBLY)
 DRAWING NUMBER: PCH
 SIZE: 0056389000
 RELEASE DATE: 03-DEC-01
 SHEET: 3 OF 3

- REFERENCE: NOTES 5-10 ON SHEET 1
1. POINT TO POINT WIRE CONNECTIONS ARE SHOWN IN THE 100% VIEW.
 2. ALL DIMENSIONS ARE IN MILLIMETERS.
 3. ALL DIMENSIONS ARE IN MILLIMETERS.
 4. ALL DIMENSIONS ARE IN MILLIMETERS.
- NOTES: (UNLESS OTHERWISE NOTED)

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
A	PR4444	03-01-01	S.M.W.
B	EC 2598	04-DEC-01	S.M.W.



REFERENCE NOTES 5-10 ON SHEET 1

4. ALL SYMBOLS ARE SHOWN.

5. ALL PARTS LISTED IN THE PARTS LIST ARE SHOWN.

6. PARTS LISTED IN THE PARTS LIST ARE SHOWN.

7. PARTS LISTED IN THE PARTS LIST ARE SHOWN.

8. PARTS LISTED IN THE PARTS LIST ARE SHOWN.

9. PARTS LISTED IN THE PARTS LIST ARE SHOWN.

10. PARTS LISTED IN THE PARTS LIST ARE SHOWN.

NOTES: (UNLESS OTHERWISE NOTED)

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INTELSERVICE DIAGRAM COMBINED DRAWING

CYBER DELUXE

CORPORAL, ON USA

APPROVED BY: *[Signature]*

DATE: 11/26/01

SIZE: 0056389000

RELEASE DATE: 03-DEC-01

SHEET: 2 OF 5

REV.	DESCRIPTION	DATE	APPROVED
A	PR444	03-OCT-01	S.W.M.
B	EC 2898	04-DEC-01	S.W.M.



FIG. 3 TEST SETUP.

RESISTANCE VALUES ARE IN OHMS UNLESS OTHERWISE SPECIFIED.

TEST POINT	TEST POINT	TEST POINT	TEST POINT
TP1	TP2	TP3	TP4
TP5	TP6	TP7	TP8
TP9	TP10	TP11	TP12
TP13	TP14	TP15	TP16
TP17	TP18	TP19	TP20
TP21	TP22	TP23	TP24

RESISTANCE VALUES ARE IN OHMS UNLESS OTHERWISE SPECIFIED.

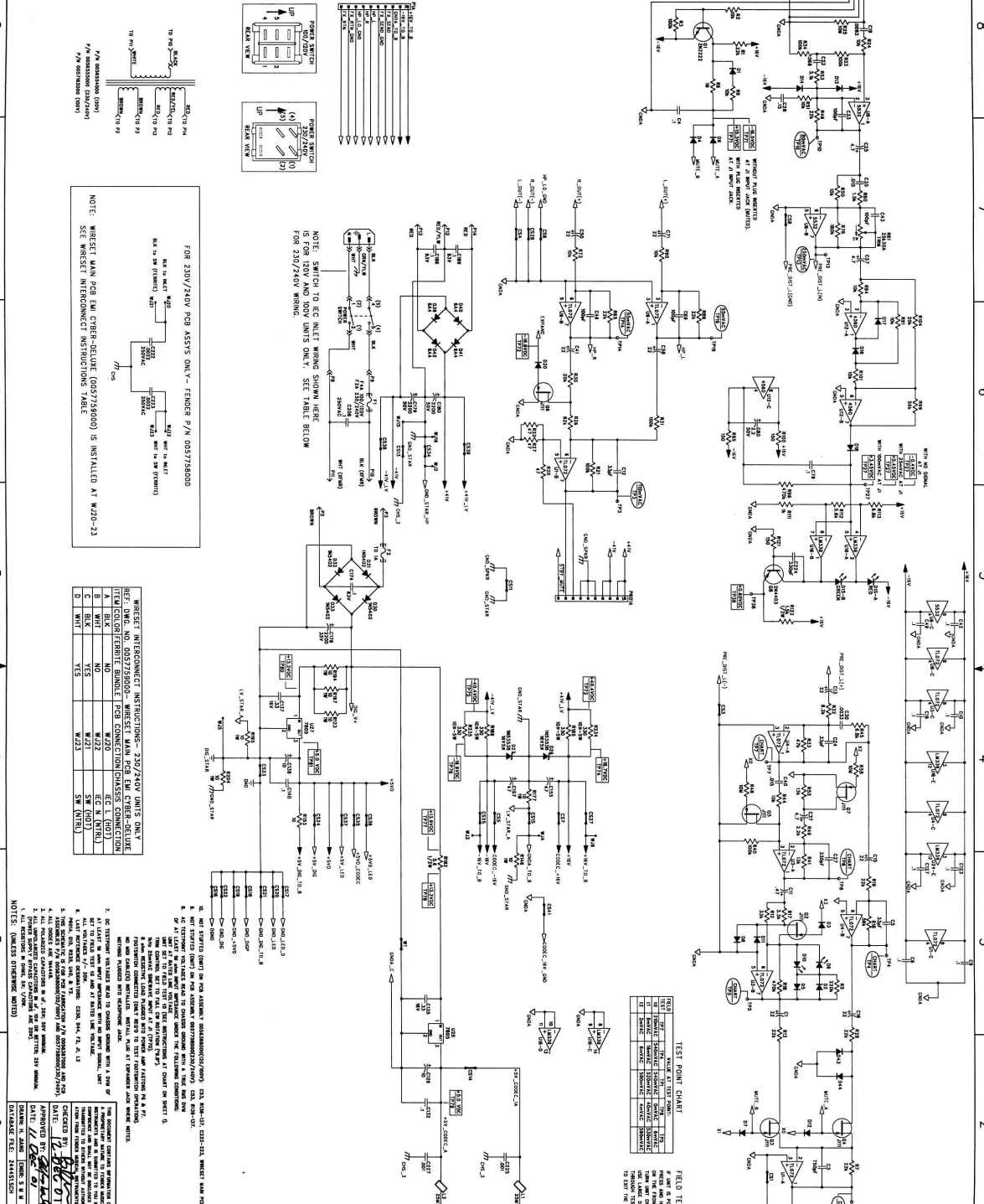


FIG. 3 TEST SETUP.

RESISTANCE VALUES ARE IN OHMS UNLESS OTHERWISE SPECIFIED.

TEST POINT	TEST POINT	TEST POINT	TEST POINT
TP1	TP2	TP3	TP4
TP5	TP6	TP7	TP8
TP9	TP10	TP11	TP12
TP13	TP14	TP15	TP16
TP17	TP18	TP19	TP20
TP21	TP22	TP23	TP24

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TP17	TP18	TP19	TP20
TP21	TP22	TP23	TP24

RESISTANCE VALUES ARE IN OHMS UNLESS OTHERWISE SPECIFIED.

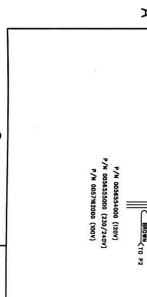


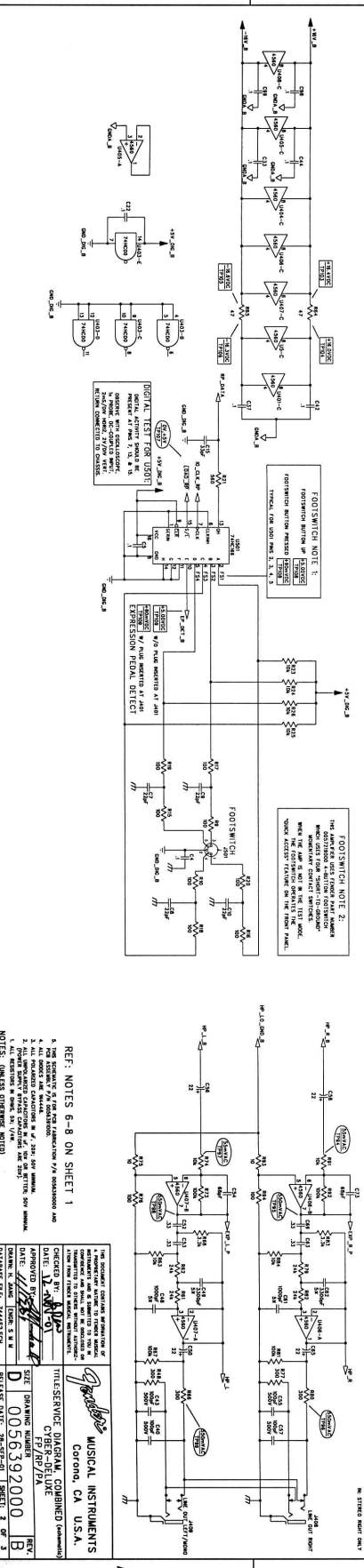
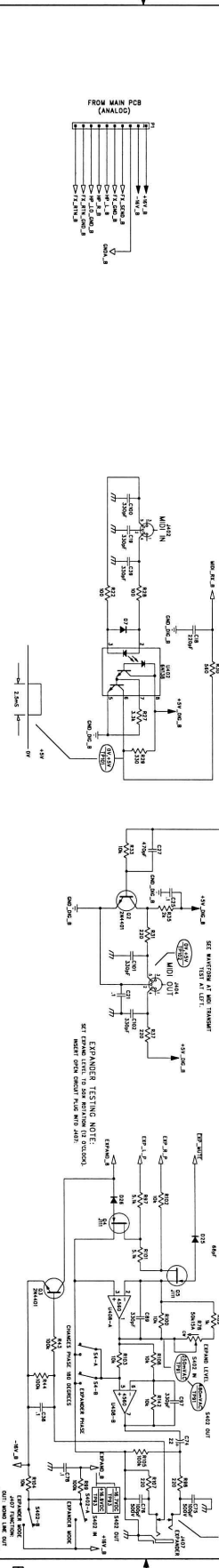
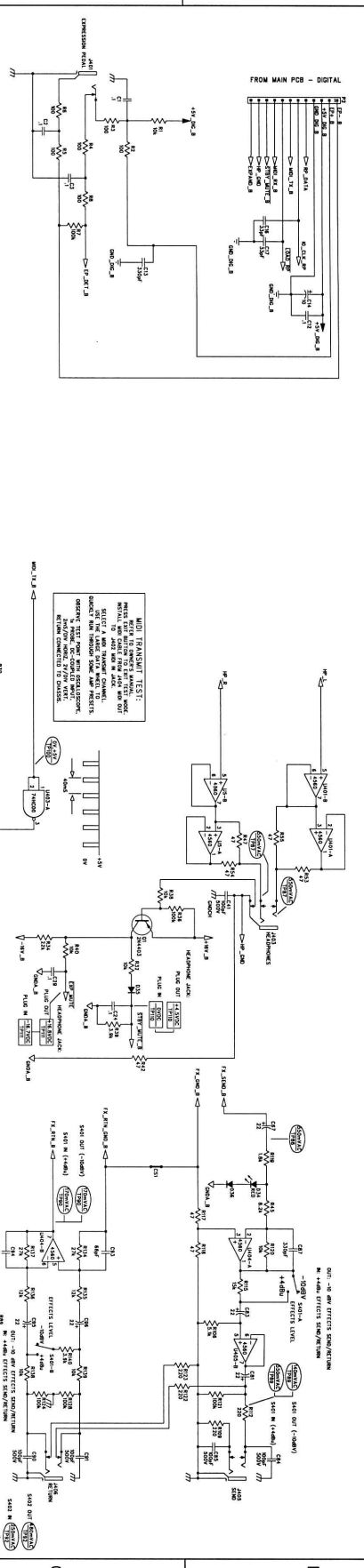
FIG. 3 TEST SETUP.

RESISTANCE VALUES ARE IN OHMS UNLESS OTHERWISE SPECIFIED.

TEST POINT	TEST POINT	TEST POINT	TEST POINT
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TP5	TP6	TP7	TP8
TP9	TP10	TP11	TP12
TP13	TP14	TP15	TP16
TP17	TP18	TP19	TP20
TP21	TP22	TP23	TP24

RESISTANCE VALUES ARE IN OHMS UNLESS OTHERWISE SPECIFIED.

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
A	PR444	28-SEP-01	S M M
B	EC2707	07-NOV-01	S M M



REF: NOTES 6-8 ON SHEET 1

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SPECIFIED.
2. ALL DIMENSIONS ARE TO CENTER UNLESS OTHERWISE SPECIFIED.
3. ALL DIMENSIONS ARE TO CENTER UNLESS OTHERWISE SPECIFIED.
4. ALL DIMENSIONS ARE TO CENTER UNLESS OTHERWISE SPECIFIED.
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9. ALL DIMENSIONS ARE TO CENTER UNLESS OTHERWISE SPECIFIED.
10. ALL DIMENSIONS ARE TO CENTER UNLESS OTHERWISE SPECIFIED.

MUSICAL INSTRUMENTS
Corona, CA U.S.A.

DATE: 12-NOV-01
DRAWING NUMBER: 0056392000
RELEASE DATE: 28-SEP-01

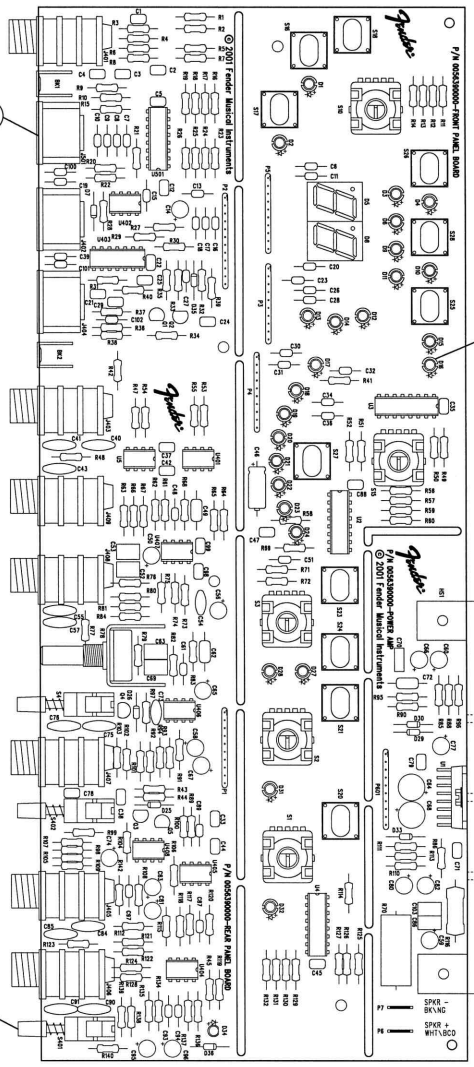
APPROVED BY: [Signature]
CHECKED BY: [Signature]
DATE: 12-NOV-01

THE COMPANY ASSUMES NO RESPONSIBILITY FOR THE USE OF THIS DRAWING IN ANY MANNER OTHER THAN THAT AUTHORIZED BY THE COMPANY. THE COMPANY ASSUMES NO RESPONSIBILITY FOR THE USE OF THIS DRAWING IN ANY MANNER OTHER THAN THAT AUTHORIZED BY THE COMPANY.

DATE: 12-NOV-01
DRAWING NUMBER: 0056392000
RELEASE DATE: 28-SEP-01

FILE/PCB: PCB ASSEMBLY DRAWING
 DRAWING: Z4442725B DATE: 07-NOV-01

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
A	PR444	28-SEP-01	S.M.M.
B	EC2707	07-NOV-01	S.M.M.

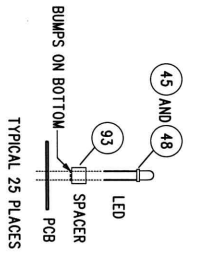
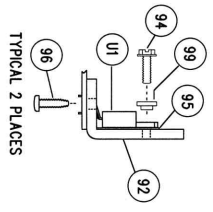


93) TYPICAL 25 PLACES
SEE DETAIL B

SEE DETAIL A

INSTALL 2 SCREWS EACH AT J402, J404, J501
INSTALL UNDERNEATH PCB

TYPICAL 3 PLACES



NOTE: THERMAL GREASE REQUIRED BOTH SIDES OF ITEM 95.

DETAIL A

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 Corona, CA USA

TITLE: PCB ASSEMBLY
 CYBER DELUXE
 FPV RPA, PA

CHECKED BY: [Signature]
 DATE: 12-11-01

APPROVED BY: [Signature]
 DATE: [Signature]

SIZE: C DRAWING NUMBER: 0056391000

DATE: 28-SEP-01 SHEET 1 OF 4

1. SEE A-SIZE SHEETS 2 THROUGH 4 FOR DIM. NOTES: (UNLESS OTHERWISE NOTED)