



**Service Dept.**

6033 De Soto Ave.

Woodland Hills, CA 91367

P. 818-575-3600

F. 818-676-1585

E. [service@line6.com](mailto:service@line6.com)

**\*\*\*WARNING!!!\*\*\***

---

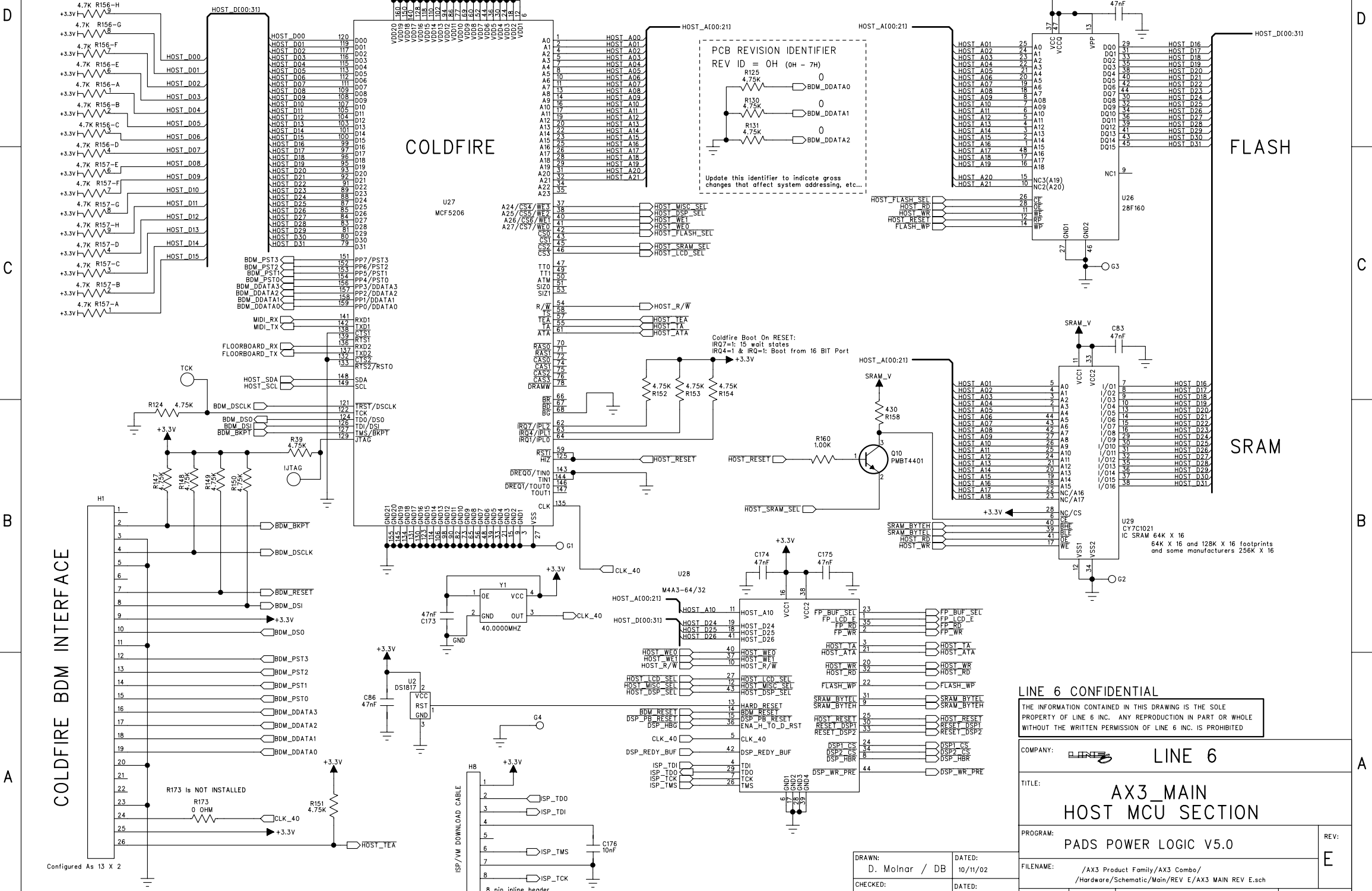
**Dangerous and lethal potentials are present in this product!!**

**Before proceeding any further, the service center is warned that caution must be used when troubleshooting, repairing and testing the circuits in this unit. High voltage AC line-connected potentials are present in the circuits used in this unit.**

**All work performed on this unit must be done with an isolation transformer connected between the power circuit's input and the AC line in order to prevent electric shock, especially when connecting test equipment to the circuit. **Extreme caution must be used when working on this product!!!****

ECOs INCLUDED ON THIS SCHEMATIC/PCB REVISION		
ECO NO:	DATE:	DESCRIPTION:
0228403	10/11/02	INCORPORATE ECOS THRU THIS DATE.

### HOST MCU SECTION



**LINE 6 CONFIDENTIAL**

THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF LINE 6 INC. ANY REPRODUCTION IN PART OR WHOLE WITHOUT THE WRITTEN PERMISSION OF LINE 6 INC. IS PROHIBITED.

COMPANY:		<b>LINE 6</b>
TITLE:	<b>AX3_MAIN HOST MCU SECTION</b>	
PROGRAM:	<b>PADS POWER LOGIC V5.0</b>	
FILENAME:	/AX3 Product Family/AX3 Combo/ /Hardware/Schematic/Main/REV E/AX3 MAIN REV E.sch	
DRAWN:	D. Molnar / DB	DATE: 10/11/02
CHECKED:		DATE:
SCALE:	1:1	SIZE: C
PART NUMBER:	35-00-0094	SHEET: 1 OF 8

# AX3 OPTION CARDS INTERFACE (DIGITAL AUDIO, USB, ETC...)

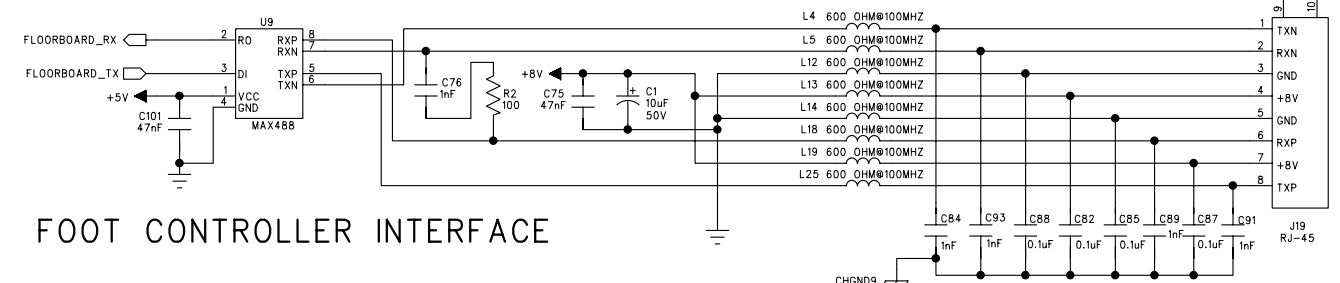
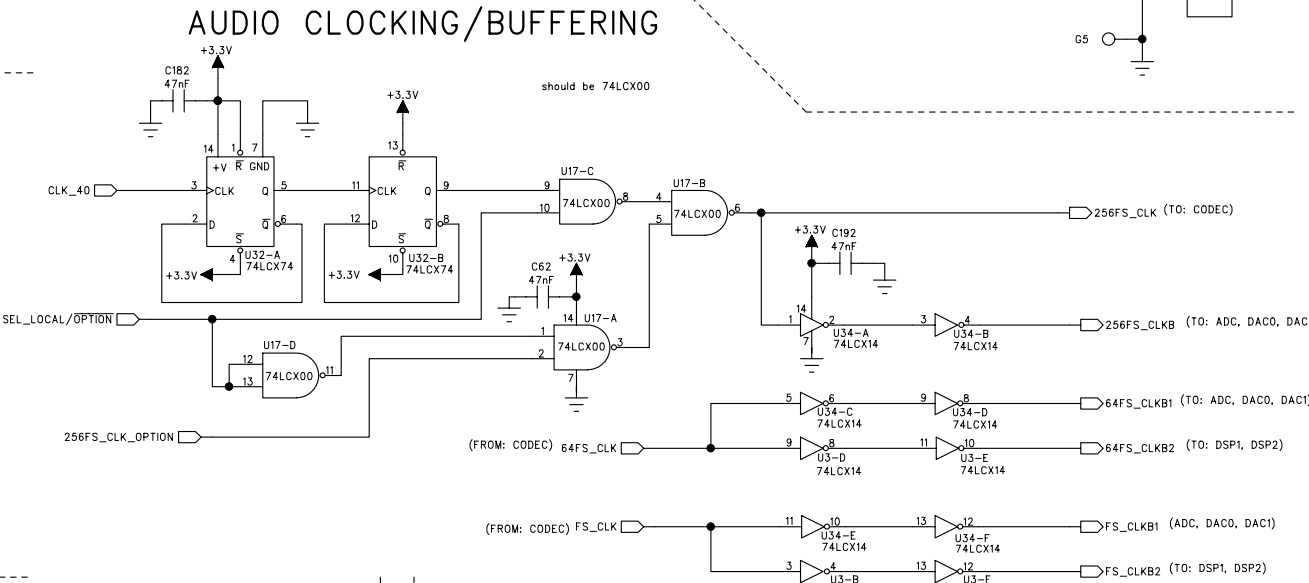
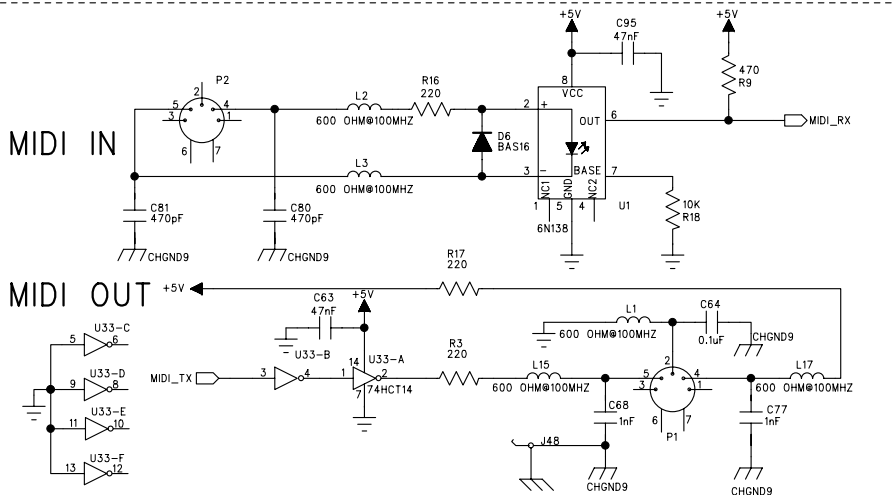
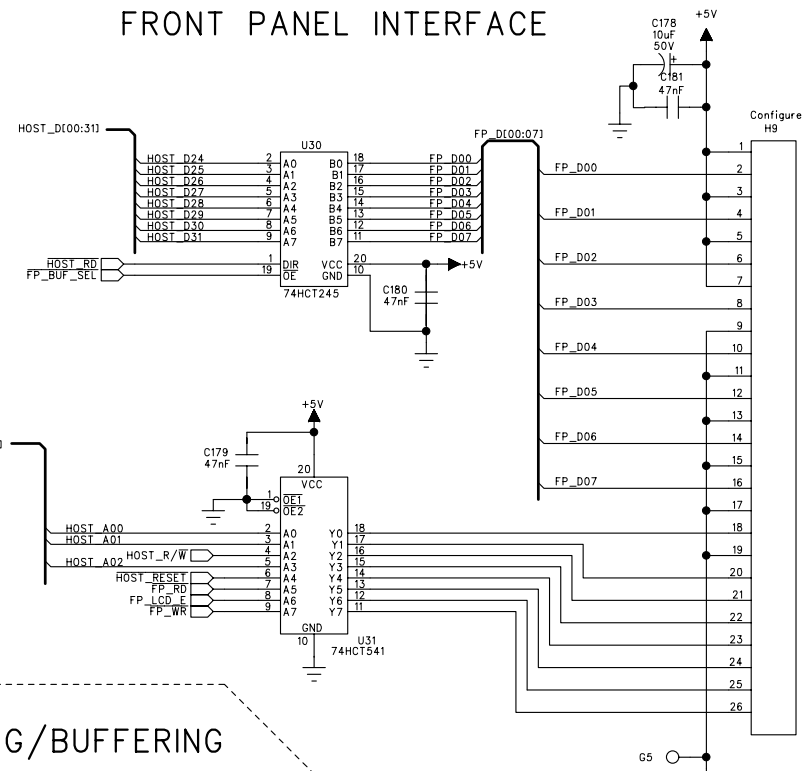
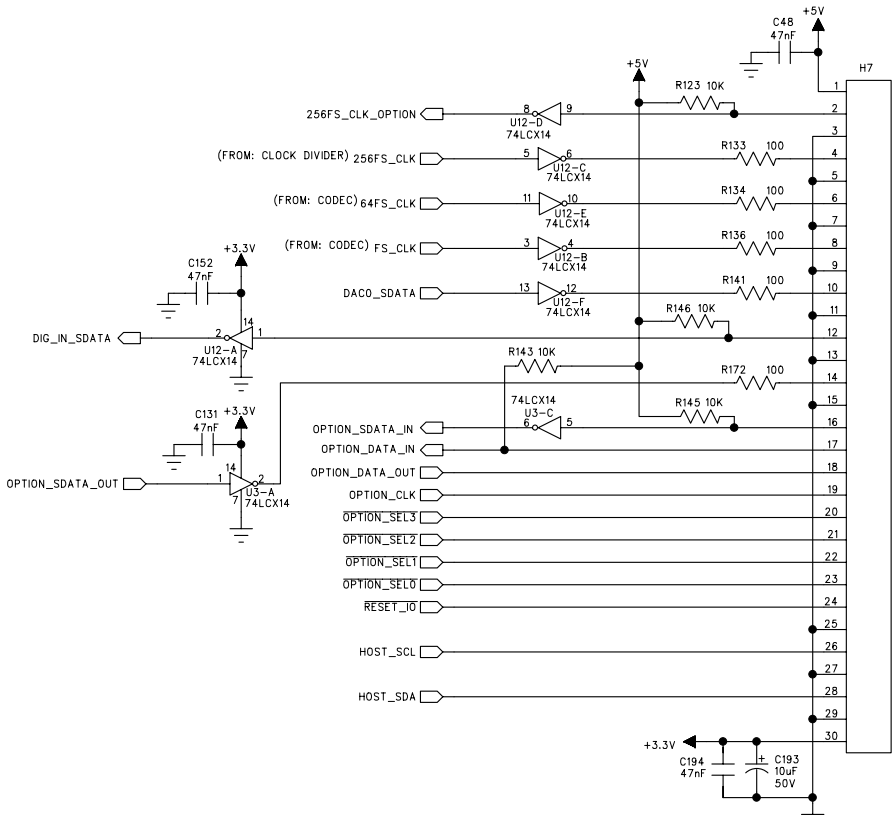
THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF LINE 6 INC. ANY REPRODUCTION IN PART OR WHOLE WITHOUT THE WRITTEN PERMISSION OF LINE 6 INC. IS PROHIBITED

ECOs INCLUDED ON THIS SCHEMATIC/PCB REVISION

ECO NO: DATE: DESCRIPTION:

LINE 6 CONFIDENTIAL

## FRONT PANEL INTERFACE



COMPANY: <b>LINE 6</b>		REV: <b>E</b>
TITLE: <b>AX3 MAIN PCB INTERFACE/CLOCKING</b>		
PROGRAM: <b>PADS POWER LOGIC V5.0</b>		SCALE: 1:1 SIZE: C PART NUMBER: 35-00-0094 SHEET: 2 OF 8
FILENAME: /AX3 Product Family/AX3 Combo/ /Hardware/Schematic/Main/REV E/AX3 MAIN REV E.sch		
DRAWN: <b>D. Molnar</b>	DATED: <b>10/11/02</b>	
CHECKED:	DATED:	

ECOs INCLUDED ON THIS SCHEMATIC/PCB REVISION		
ECO NO:	DATE:	DESCRIPTION:

D

C

B

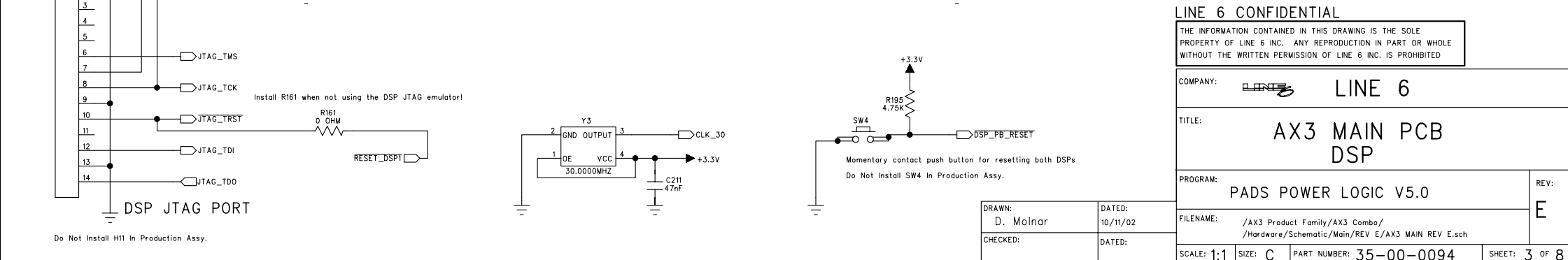
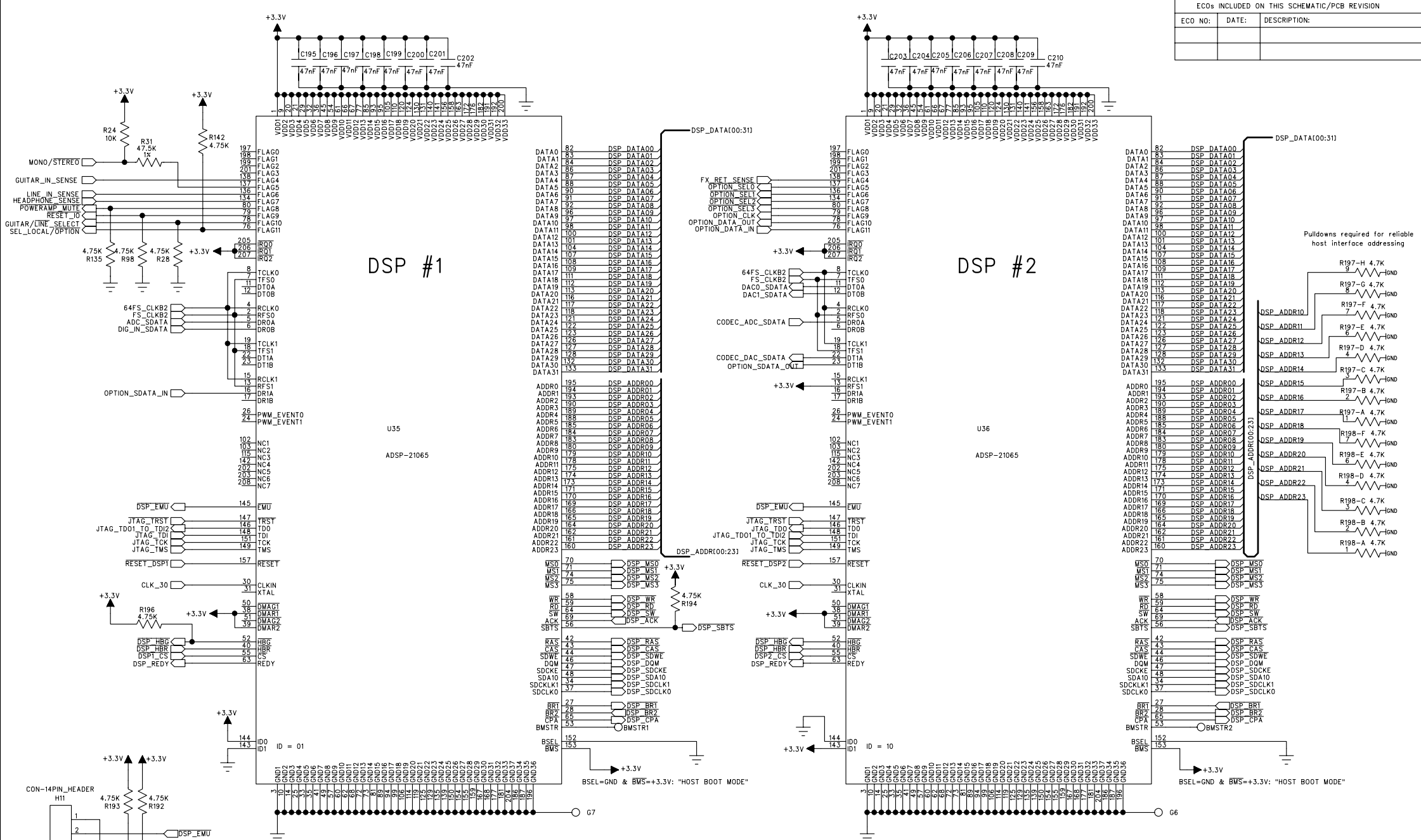
A

D

C

B

A



LINE 6 CONFIDENTIAL

THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF LINE 6 INC. ANY REPRODUCTION IN PART OR WHOLE WITHOUT THE WRITTEN PERMISSION OF LINE 6 INC. IS PROHIBITED

COMPANY:	LINE 6
TITLE:	AX3 MAIN PCB DSP
PROGRAM:	PADS POWER LOGIC V5.0
FILENAME:	/AX3 Product Family/AX3 Combo/ /Hardware/Schematic/Main/REV E/AX3 MAIN REV E.sch
SCALE: 1:1	SIZE: C PART NUMBER: 35-00-0094 SHEET: 3 OF 8

DRAWN:	D. Molnar	DATED:	10/11/02
CHECKED:		DATED:	

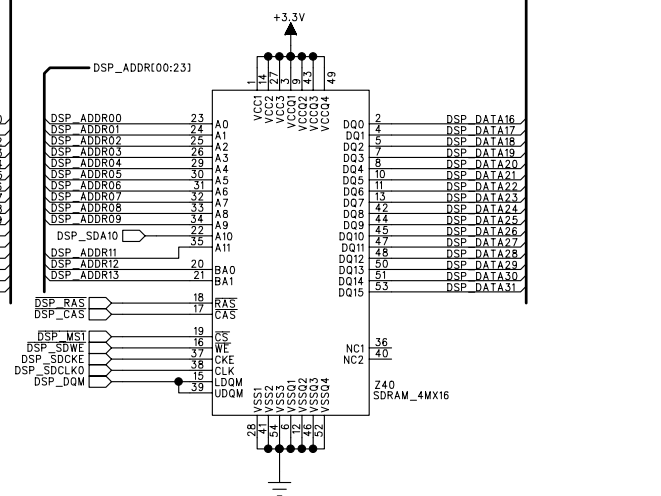
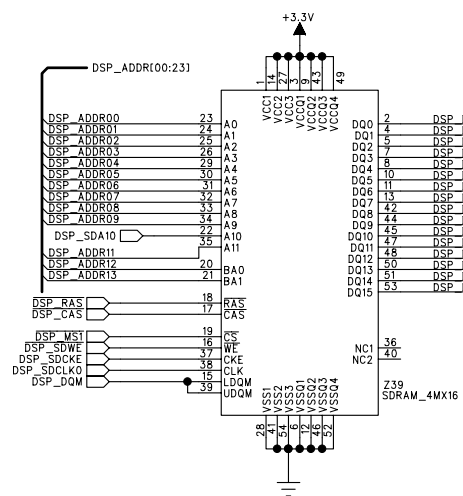
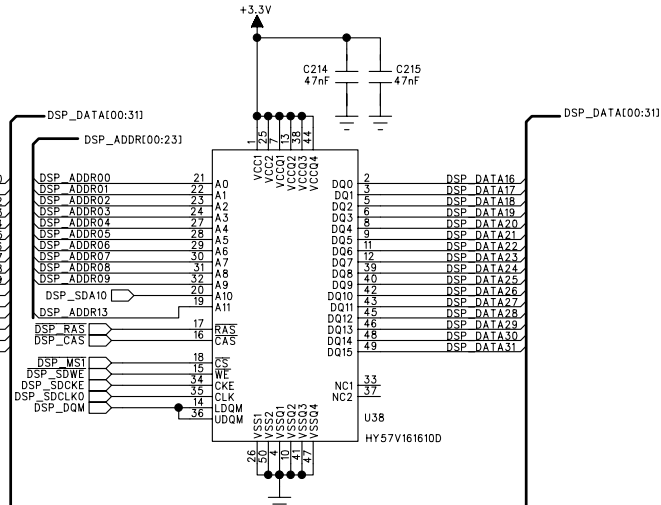
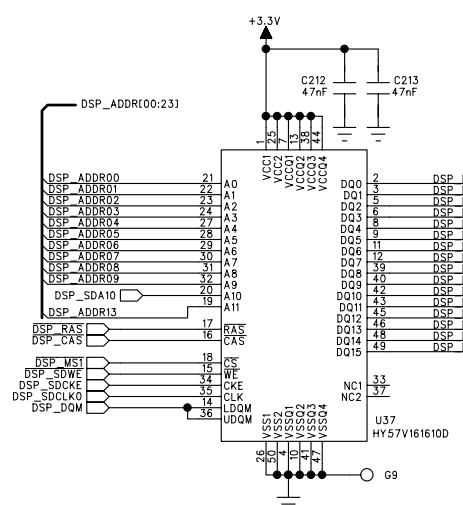
REV: E

ECOs INCLUDED ON THIS SCHEMATIC/PCB REVISION		
ECO NO:	DATE:	DESCRIPTION:

### DSP MEMORY

### SDRAM LOWER 1M X 16

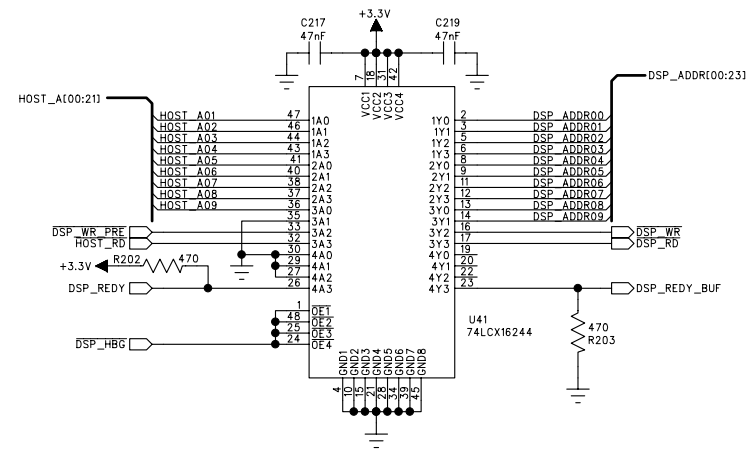
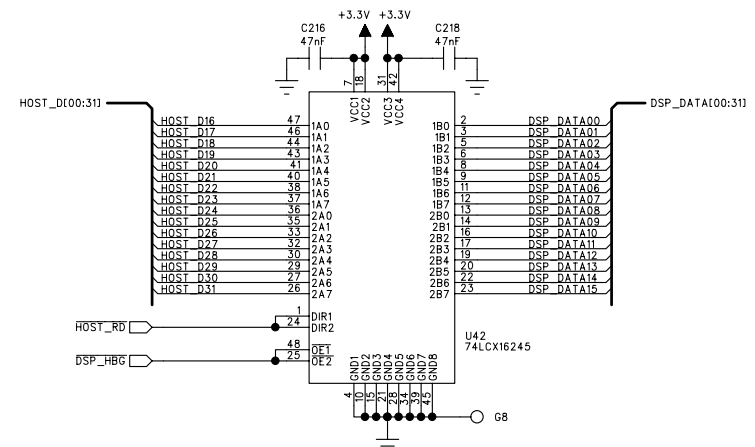
### SDRAM UPPER 1M X 16



### SDRAM LOWER 4M X 16

### SDRAM UPPER 4M X 16

### DSP HOST INTERFACE



NOTE: The PCB layout is configured to install Either the 1M X 16 or the 4M X 16 parts but not both!

LINE 6 CONFIDENTIAL

THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF LINE 6 INC. ANY REPRODUCTION IN PART OR WHOLE WITHOUT THE WRITTEN PERMISSION OF LINE 6 INC. IS PROHIBITED

COMPANY: LINE 6

TITLE: AX3 MAIN PCB  
DSP PERIPHERALS

PROGRAM: PADS POWER LOGIC V5.0

FILENAME: /AX3 Product Family/AX3 Combo/  
/Hardware/Schematic/Main/REV E/AX3 MAIN REV E.sch

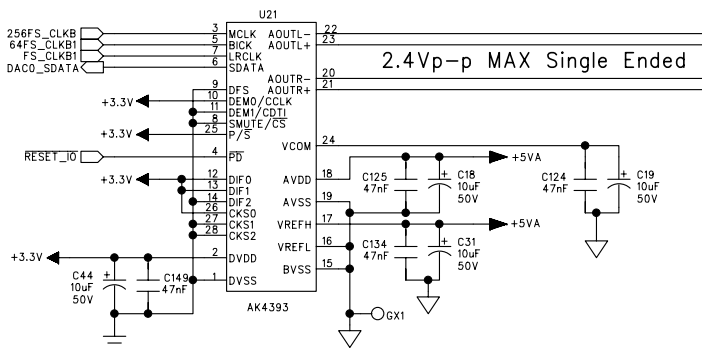
DRAWN: D. Molnar  
CHECKED:

DATED: 10/11/02  
DATED:

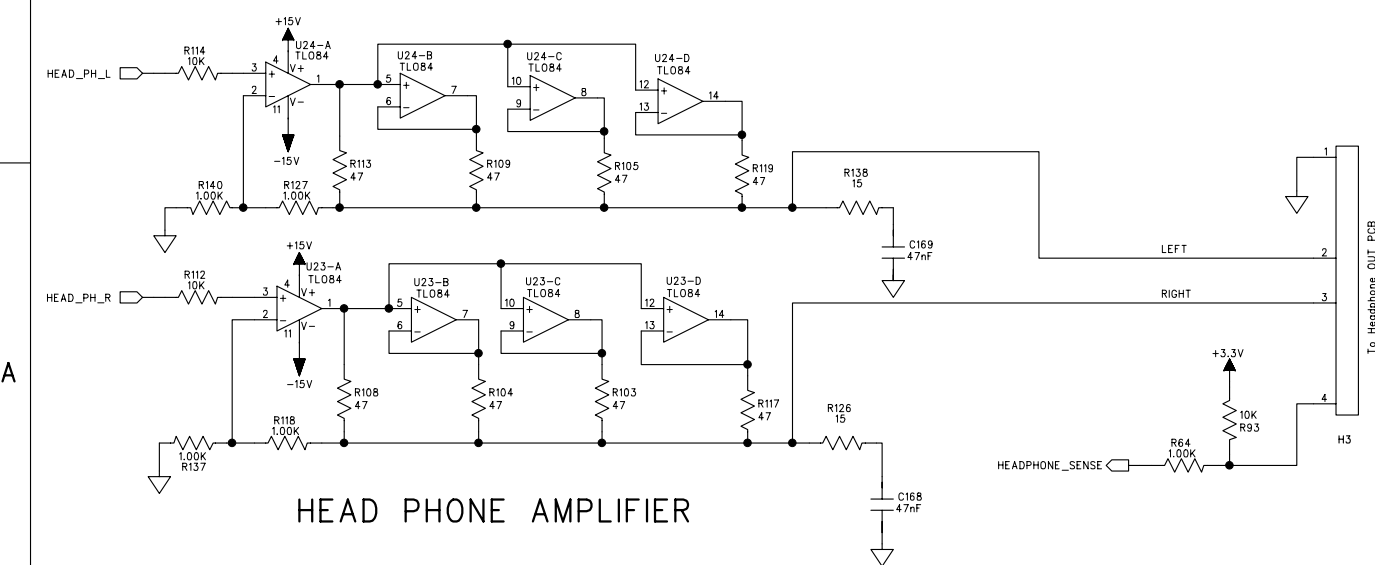
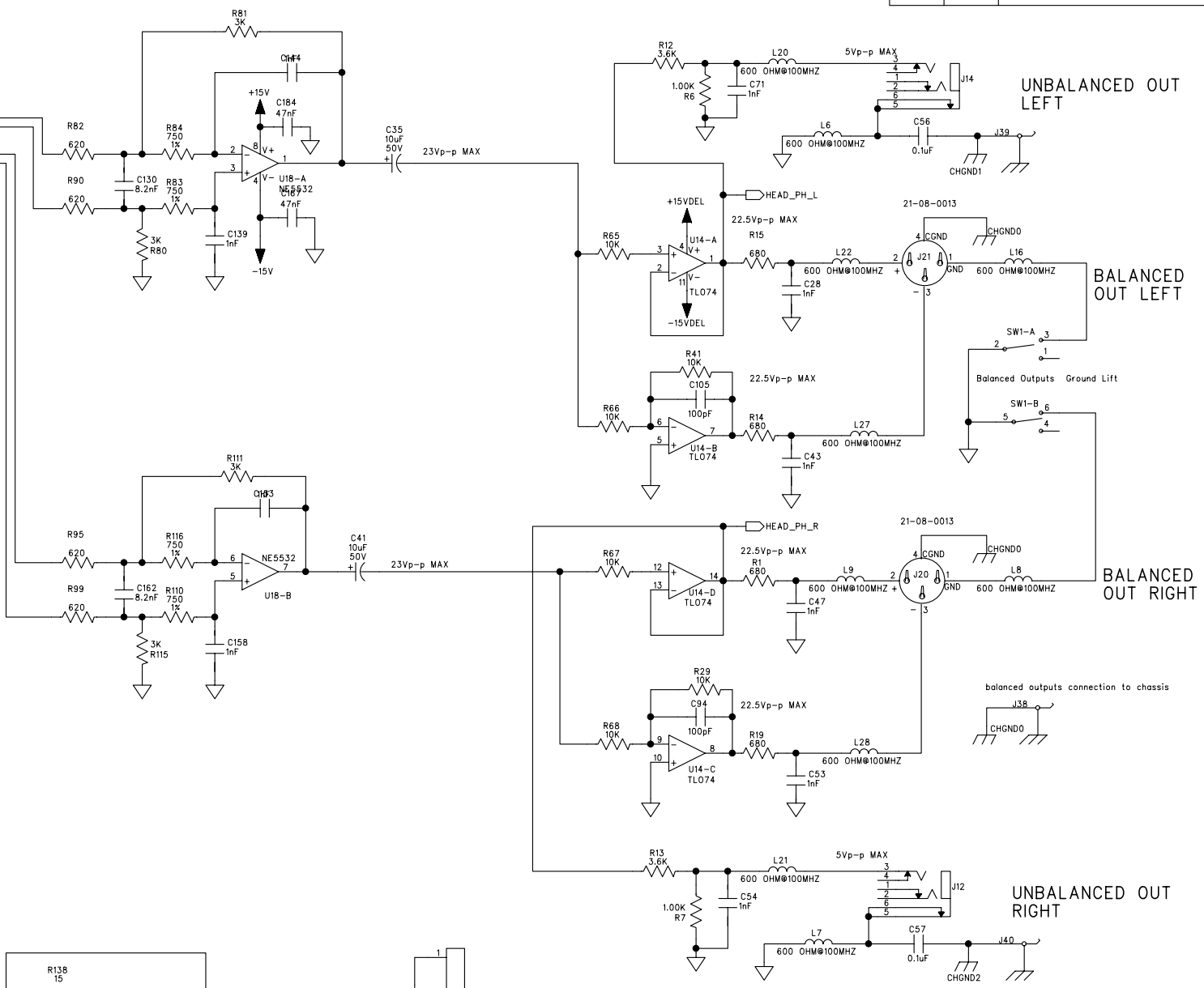
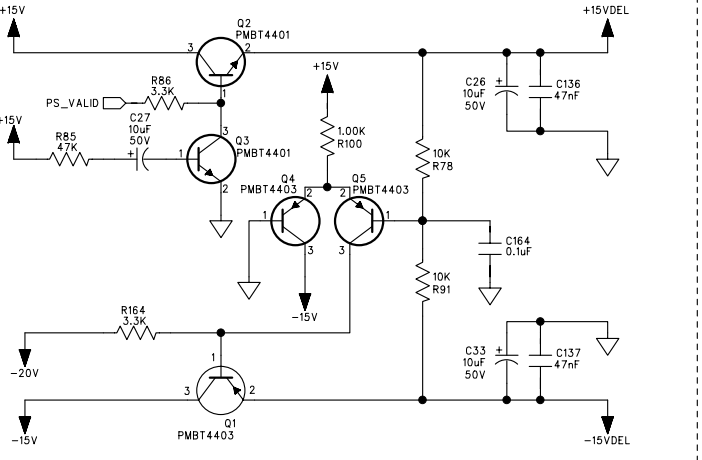
REV: E

# DIRECT / WET OUTPUTS

ECOS INCLUDED ON THIS SCHEMATIC/PCB REVISION		
ECO NO:	DATE:	DESCRIPTION:



## OUTPUT OF AMPS POWER SUPPLY DELAY



**LINE 6 CONFIDENTIAL**  
 THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF LINE 6 INC. ANY REPRODUCTION IN PART OR WHOLE WITHOUT THE WRITTEN PERMISSION OF LINE 6 INC. IS PROHIBITED

COMPANY:	LINE 6
TITLE:	AX3 MAIN PCB DIRECT OUT/HEADPHONES
PROGRAM:	PADS POWER LOGIC V5.0
FILENAME:	/AX3 Product Family/AX3 Combo/ Hardware/Schematic/Main/REV E/AX3 MAIN REV E.sch
DRAWN:	D. Molnar
DATED:	10/11/02
CHECKED:	
DATED:	
SCALE:	1:1
SIZE:	C
PART NUMBER:	35-00-0094
SHEET:	5 OF 8

A

B

C

D

A

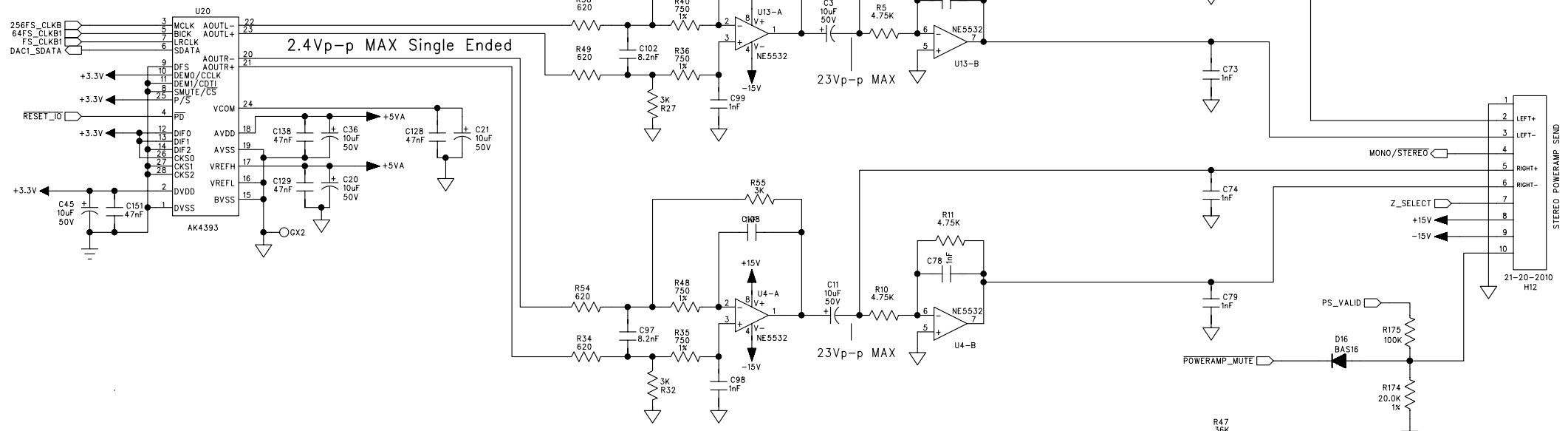
B

C

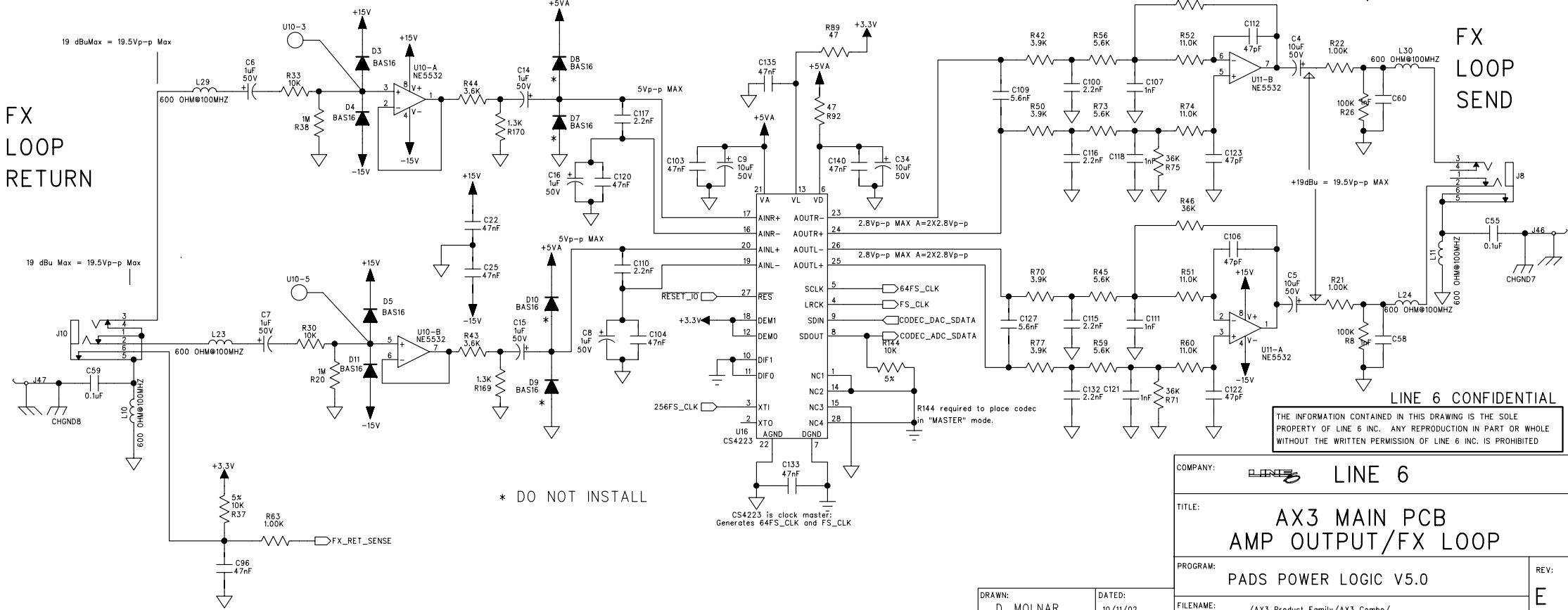
D

ECOs INCLUDED ON THIS SCHEMATIC/PCB REVISION		
ECO NO:	DATE:	DESCRIPTION:

### INTERNAL POWER AMP OUTPUTS



### FX LOOP RETURN



### FX LOOP SEND

LINE 6 CONFIDENTIAL

THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF LINE 6 INC. ANY REPRODUCTION IN PART OR WHOLE WITHOUT THE WRITTEN PERMISSION OF LINE 6 INC. IS PROHIBITED

COMPANY:	LINE 6		
TITLE:	AX3 MAIN PCB AMP OUTPUT/FX LOOP		
PROGRAM:	PADS POWER LOGIC V5.0		
FILENAME:	/AX3 Product Family/AX3 Combo/ Hardware/Schematic/Main/REV E/AX3 MAIN REV E.sch		
DRAWN:	D. MOLNAR	DATED:	10/11/02
CHECKED:		DATED:	
SCALE:	1:1	SIZE:	C
PART NUMBER:	35-00-0094	SHEET:	6 OF 8

\* DO NOT INSTALL

CS4223 is clock master:  
Generates 64FS\_CLK and FS\_CLK

REV: E

6

5

4

3

2

1

ECOs INCLUDED ON THIS SCHEMATIC/PCB REVISION		
ECO NO:	DATE:	DESCRIPTION:

D

D

C

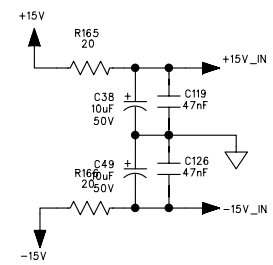
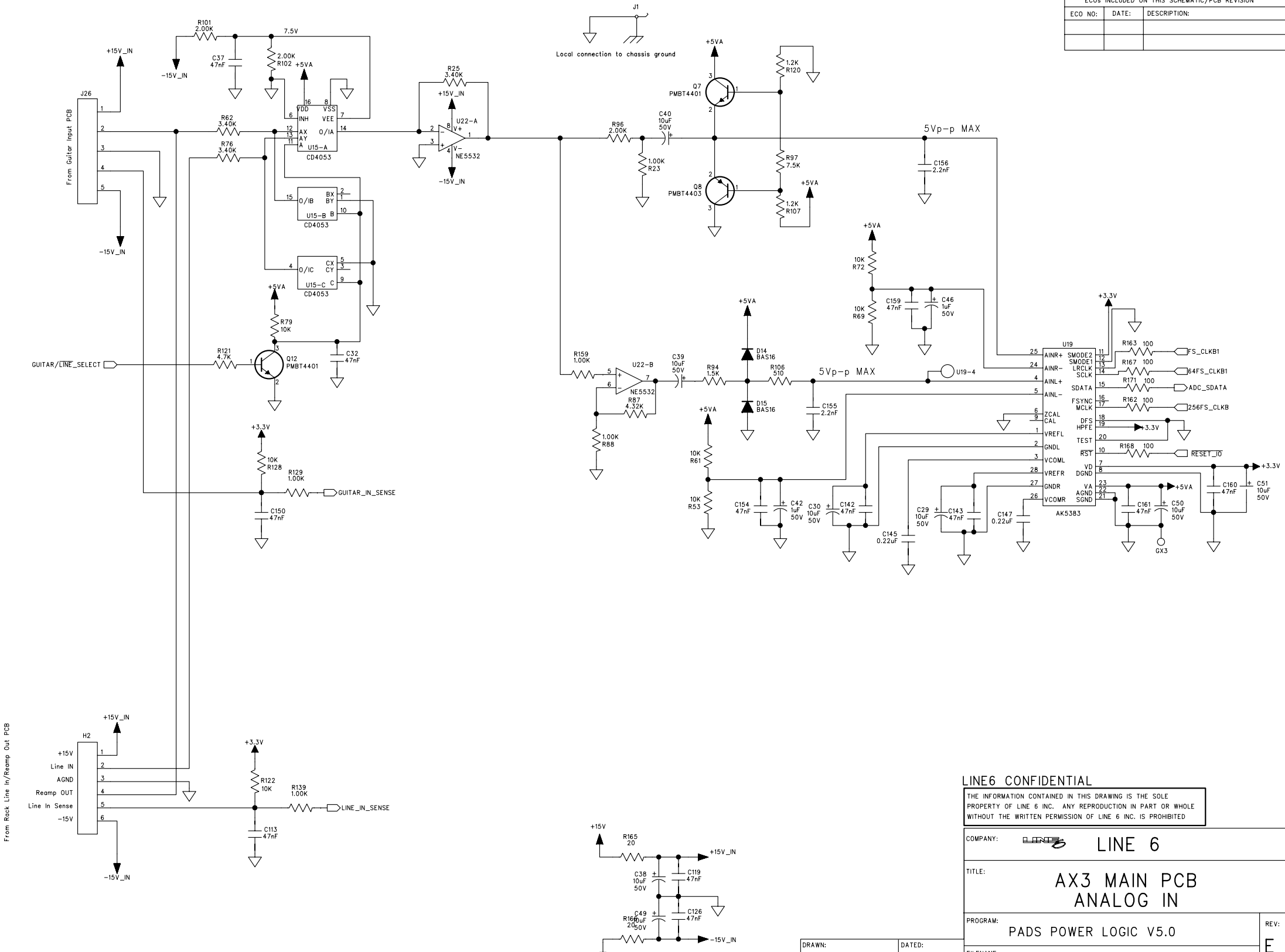
C

B

B

A

A



LINE6 CONFIDENTIAL

THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF LINE 6 INC. ANY REPRODUCTION IN PART OR WHOLE WITHOUT THE WRITTEN PERMISSION OF LINE 6 INC. IS PROHIBITED

COMPANY:	LINE 6
TITLE:	AX3 MAIN PCB ANALOG IN
PROGRAM:	PADS POWER LOGIC V5.0
FILENAME:	/AX3 Product Family/AX3 Combo/ /Hardware/Schematic/Main/REV E/AX3 MAIN REV E.sch
SCALE: 1:1	SIZE: C PART NUMBER: 35-00-0094
SHEET: 7	OF 8

DRAWN:	D. MOLNAR	DATED:	10/11/02
CHECKED:		DATED:	

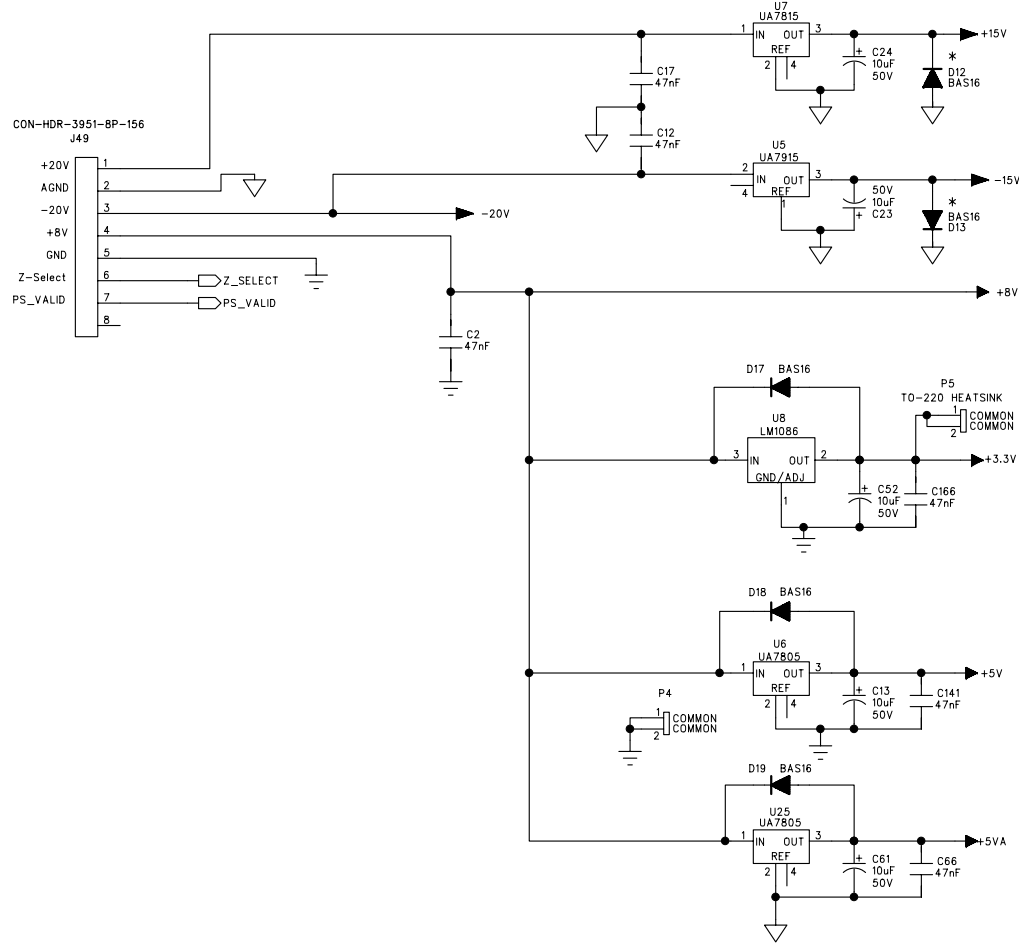
REV: E



ECOs INCLUDED ON THIS SCHEMATIC/PCB REVISION		
ECO NO:	DATE:	DESCRIPTION:

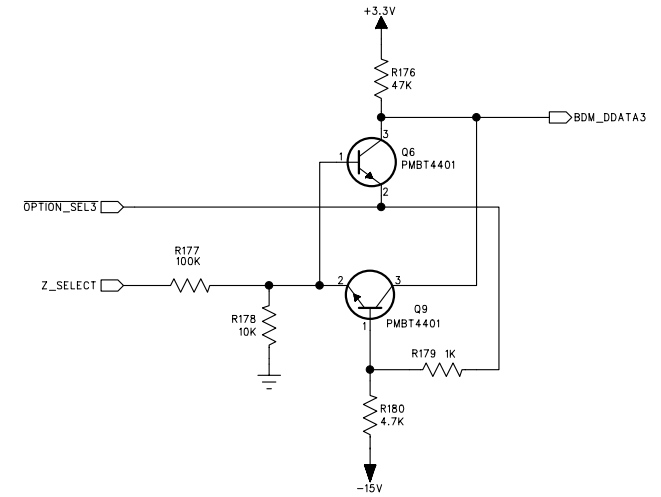
# POWER ENTRY

FROM POWER SUPPLY PCB

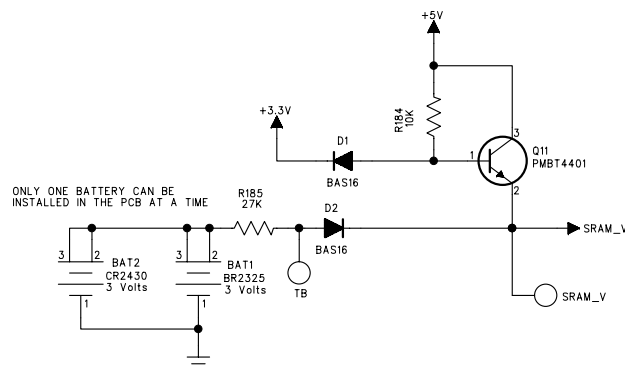


\* DO NOT INSTALL

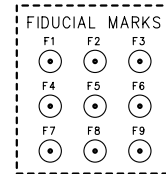
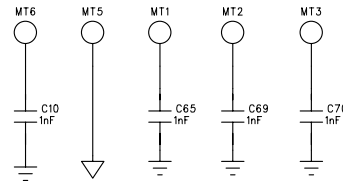
# Z-SELECT DETECTION CIRCUITRY



# BATTERY FOR NON VOLATILE SRAM



ONLY ONE BATTERY CAN BE INSTALLED IN THE PCB AT A TIME



**LINE 6 CONFIDENTIAL**  
 THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF LINE 6 INC. ANY REPRODUCTION IN PART OR WHOLE WITHOUT THE WRITTEN PERMISSION OF LINE 6 INC. IS PROHIBITED

COMPANY: **LINE 6**  
 TITLE: **AX3 MAIN PCB POWER**

PROGRAM: **PADS POWER LOGIC V5.0**

FILENAME: /AX3 Product Family/AX3 Combo/  
 /Hardware/Schematic/Main/REV E/AX3 MAIN REV E.sch

DRAWN: D. MOLNAR / DB  
 CHECKED:   
 DATED: 10/11/02

SCALE: 1:1 SIZE: C PART NUMBER: 35-00-0094

SHEET: 8 OF 8

REV: E

6 5 4 3 2 1

**\*Vetta Head and Combo use the same PCB**  
 The schematic reflects the components inserted for each respective assembly

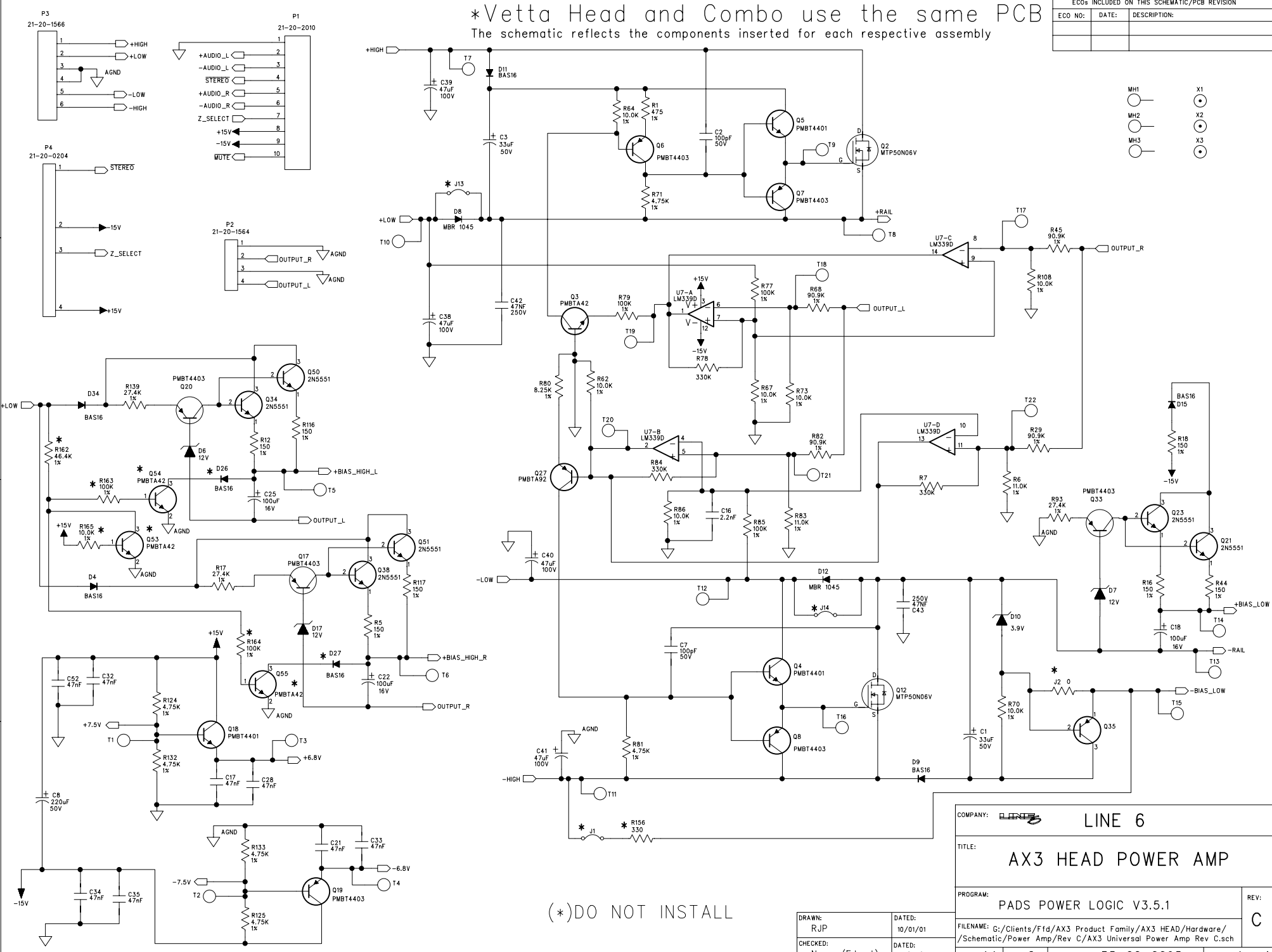
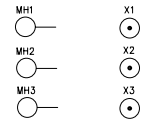
ECO# INCLUDED ON THIS SCHEMATIC/PCB REVISION		
ECO NO:	DATE:	DESCRIPTION:

D

C

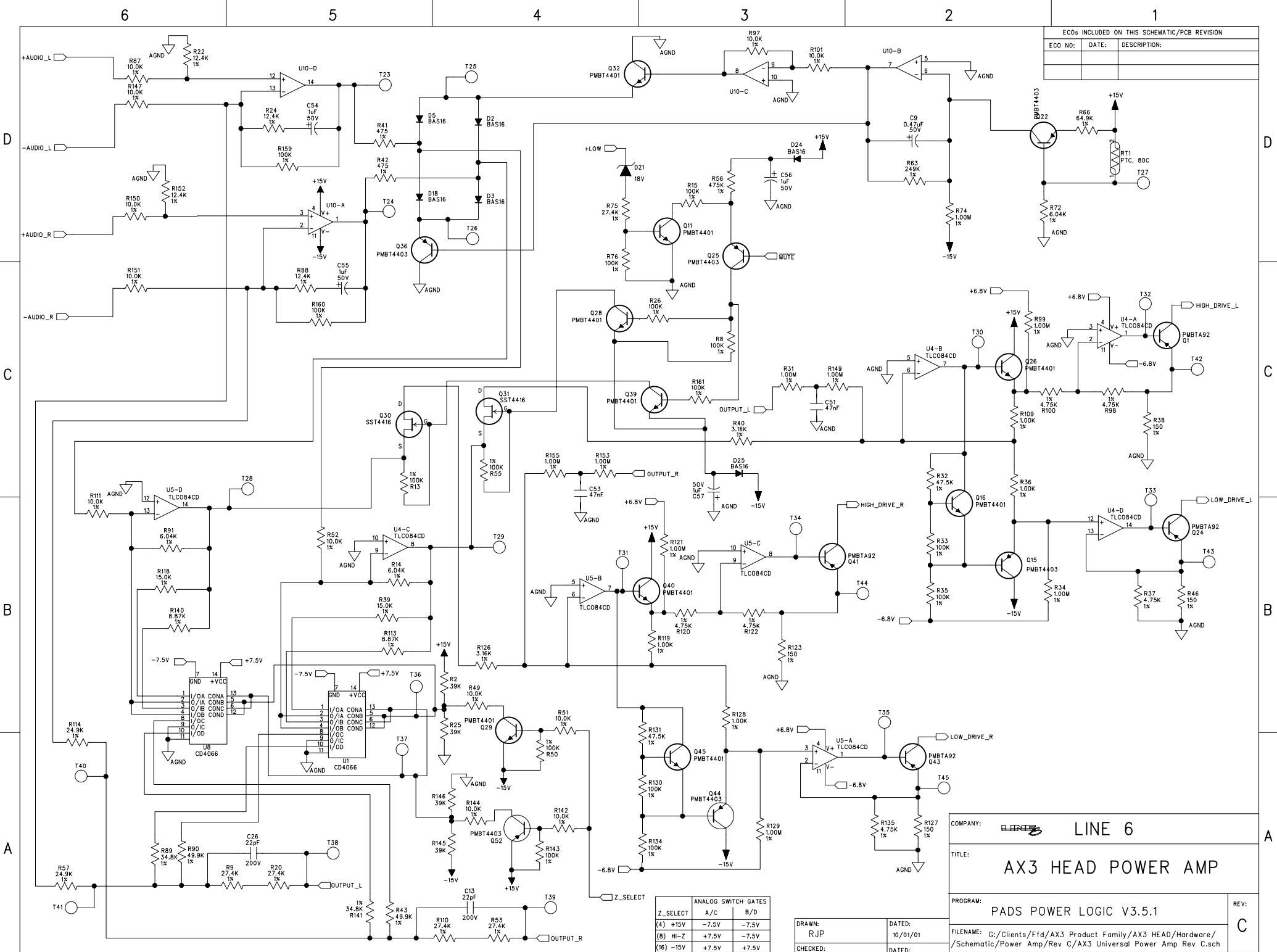
B

A



(\*DO NOT INSTALL

COMPANY:		LINE 6	
TITLE: AX3 HEAD POWER AMP			
PROGRAM: PADS POWER LOGIC V3.5.1		REV: C	
FILENAME: G:/Clients/F1d/AX3 Product Family/AX3 HEAD/Hardware/Schematic/Power Amp/Rev C/AX3 Universal Power Amp Rev C.sch	SCALE: 1:1	SIZE: C	PART NUMBER: 35-00-0095
DRAWN: RJP	DATED: 10/01/01	SHEET: 1 OF 4	
CHECKED: Name (F.Last)	DATED: 00/00/01		



ECO# INCLUDED ON THIS SCHEMATIC/PCB REVISION		
ECO NO:	DATE:	DESCRIPTION:

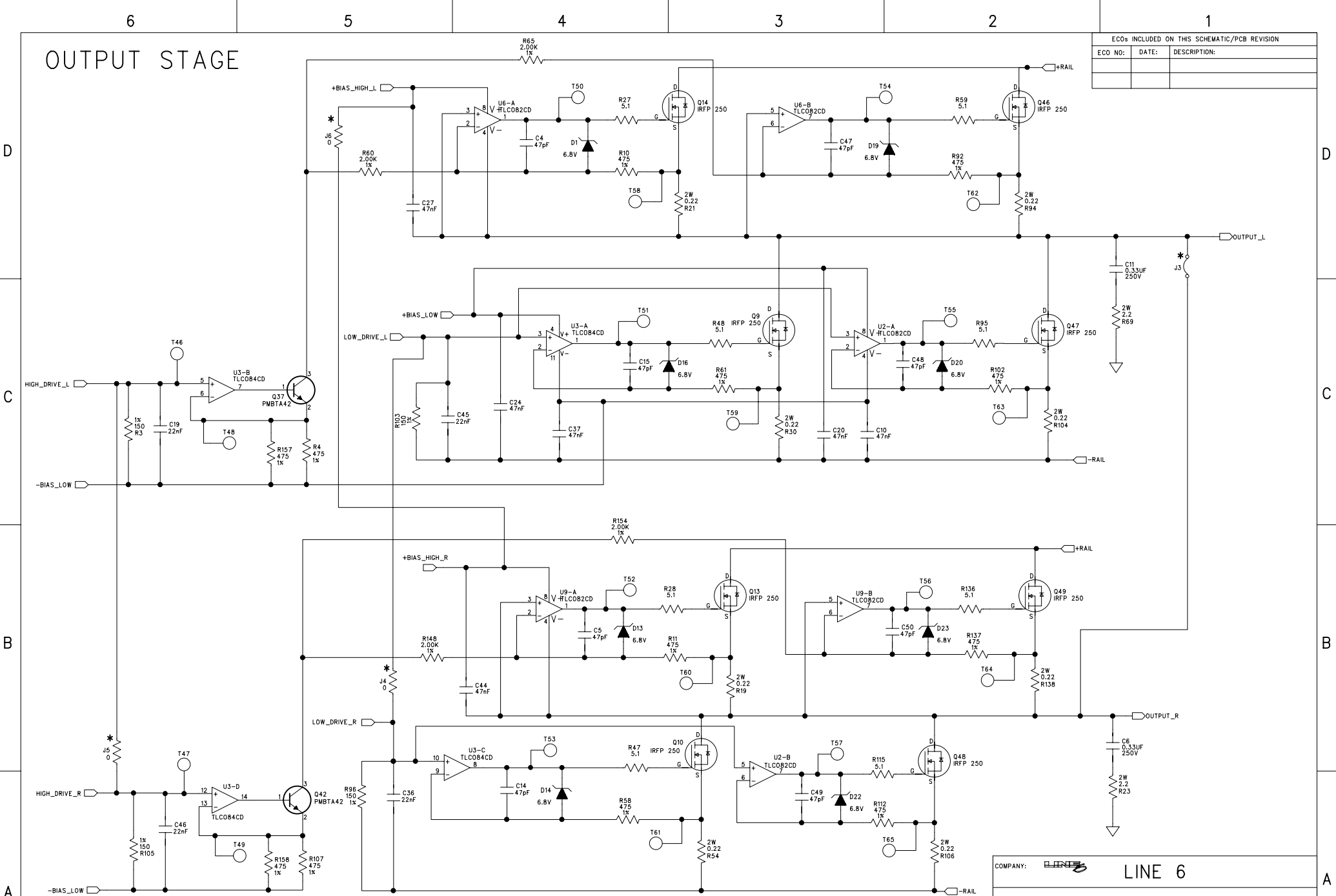
Z_SELECT	A/C	B/D
(4) +15V	-7.5V	-7.5V
(8) Hi-Z	+7.5V	-7.5V
(16) -15V	+7.5V	+7.5V

DRAWN: RJP	DATED: 10/01/01
CHECKED: Name (F.Last)	DATED: 00/00/01

COMPANY: LINE 6	REV: C
TITLE: AX3 HEAD POWER AMP	
PROGRAM: PADS POWER LOGIC V3.5.1	
FILENAME: G:/Clients/Ffd/AX3 Product Family/AX3 HEAD/Hardware/Schematic/Power Amp/Rev C/AX3 Universal Power Amp Rev C.sch	SCALE: 1:1
SHEET: 2 OF 4	PART NUMBER: 35-00-0095

OUTPUT STAGE

ECO# INCLUDED ON THIS SCHEMATIC/PCB REVISION		
ECO NO:	DATE:	DESCRIPTION:



(\*DO NOT INSTALL

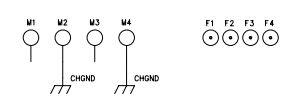
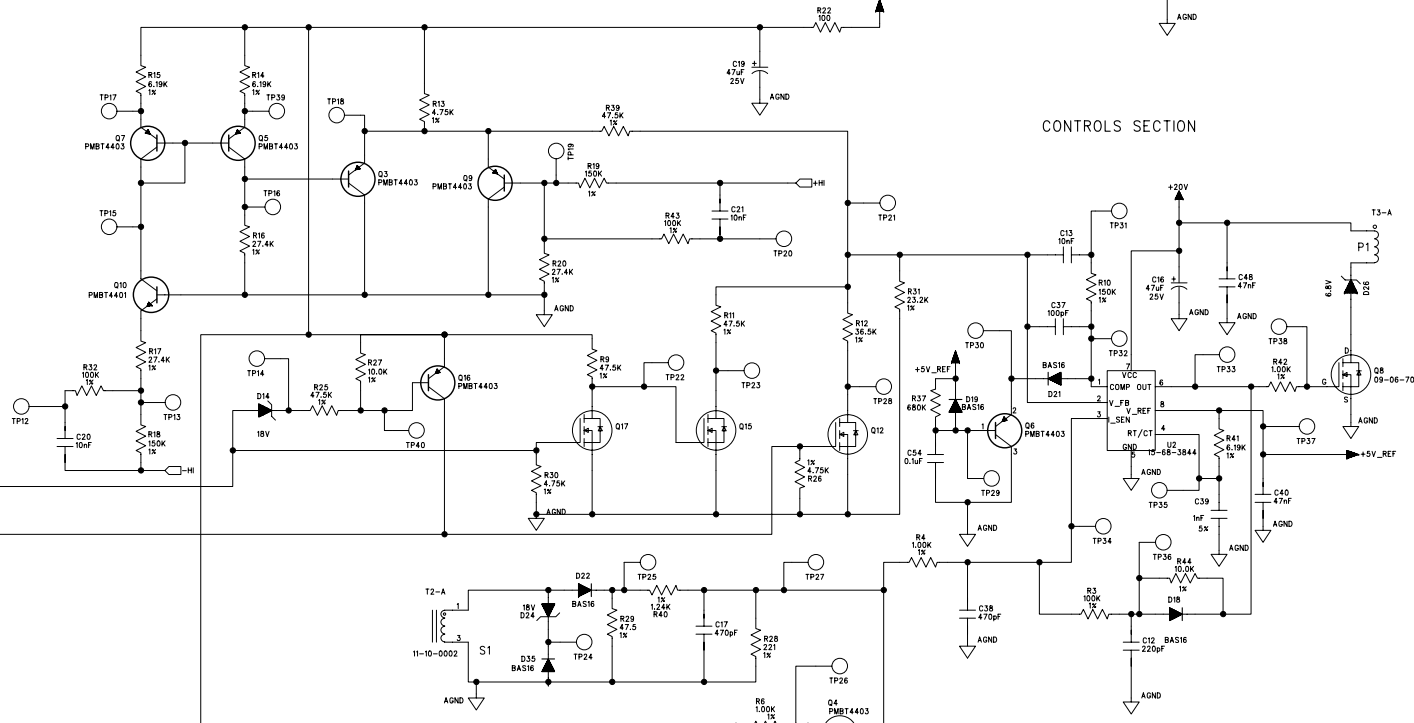
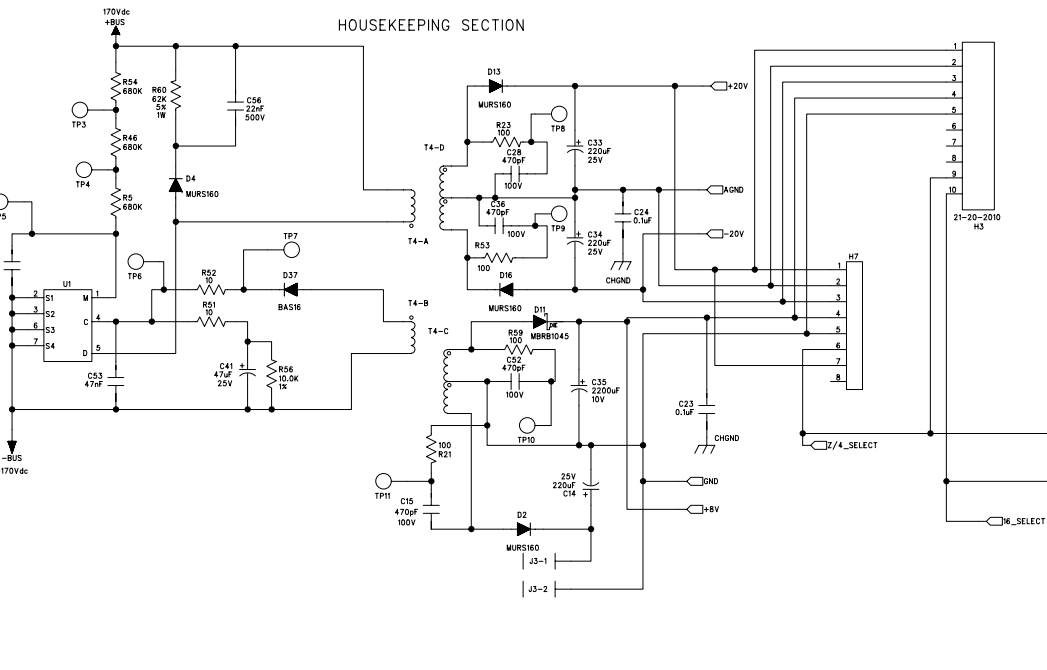
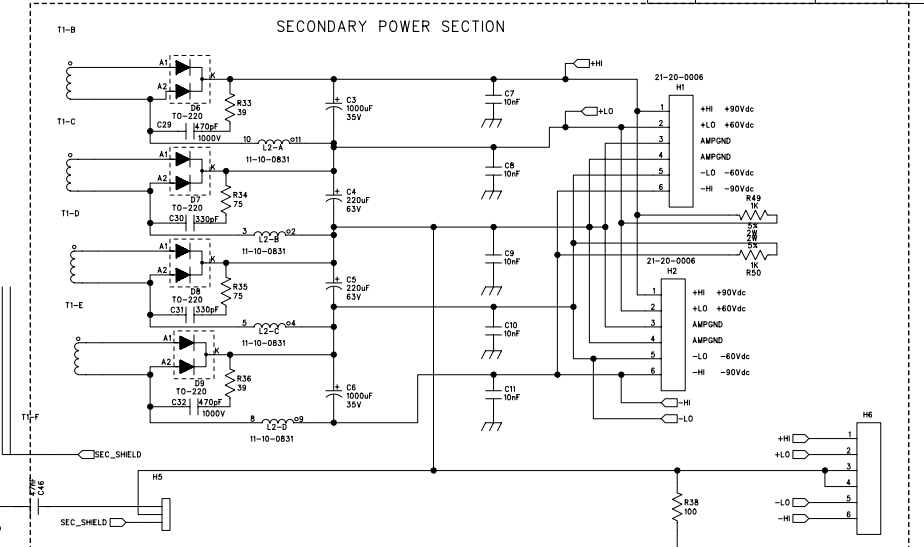
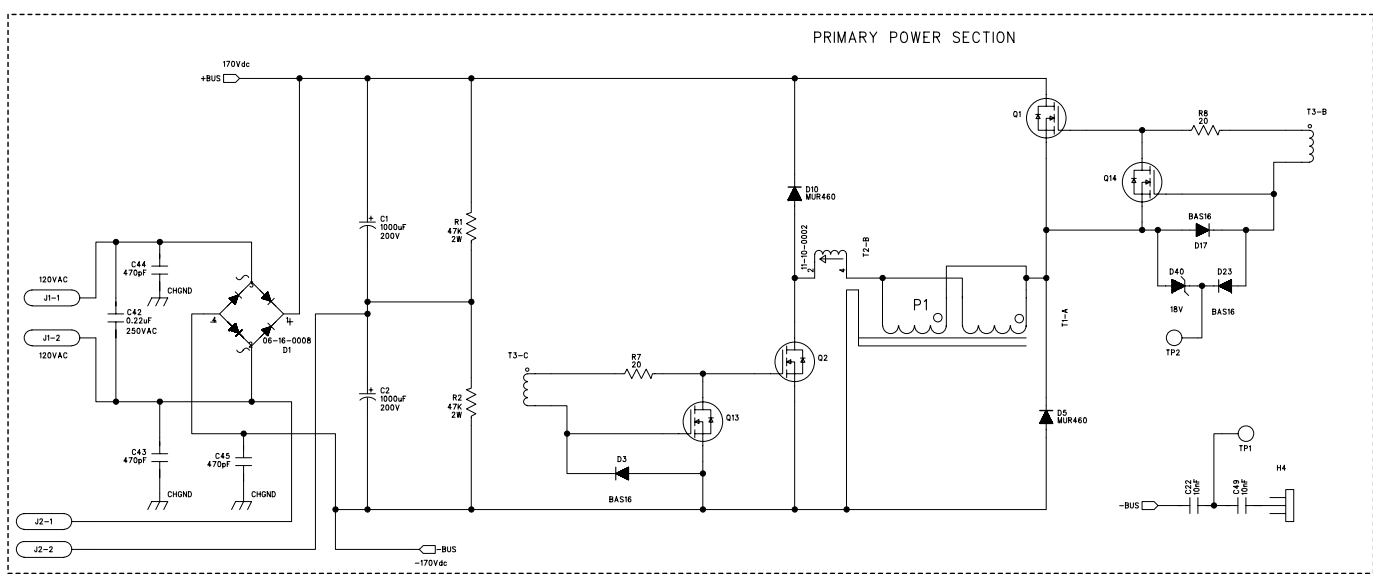
COMPANY:	LINE 6	
TITLE:	AX3 HEAD POWER AMP	
PROGRAM:	PADS POWER LOGIC V3.5.1	
REV:	C	
FILENAME:	G:/Clients/Ffd/AX3 Product Family/AX3 HEAD/Hardware/ /Schematic/Power Amp/Rev C/AX3 Universal Power Amp Rev C.sch	
SCALE: 1:1	SIZE: C	PART NUMBER: 35-00-0095
SHEET: 3	OF 4	

DRAWN:	DATED:
RJP	10/01/01
CHECKED:	DATED:
Name (F.Last)	00/00/01

ECOs INCLUDED ON REV A PCB REVISION

ECO#	DATE	DESCRIPTION	APPROVED	DATE

REV A RELEASED TO PRODUCTION 7/30/01



THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF LINE 6 INC. ANY REPRODUCTION IN PART OR WHOLE WITHOUT THE WRITTEN PERMISSION OF LINE 6 INC. IS PROHIBITED

COMPANY:	ELERCE LINE 6		
TITLE:	AX3 PROPOWER N&MPLY BD		
PROGRAM:	PADS POWER LOGIC V3.5.1		
REV:	D		
DRAWN:	BNge (F.Last)	DATED:	02/02/01
CHECKED:	MPHs (F.Last)	DATED:	04/00/01
FILENAME:	Data on F:\d\clients\Fid\AX3 Product Family\AX3 HEAD\Hardware\ Data on F:\d\clients\Fid\AX3 Product Family\Supply\AX3-IMP-PRV\FIDPRV.D.sch		
SCALE:	1:1	SIZE:	D
PART NUMBER:	85-00-0100X	SHEET:	1 OF 1

6

5

4

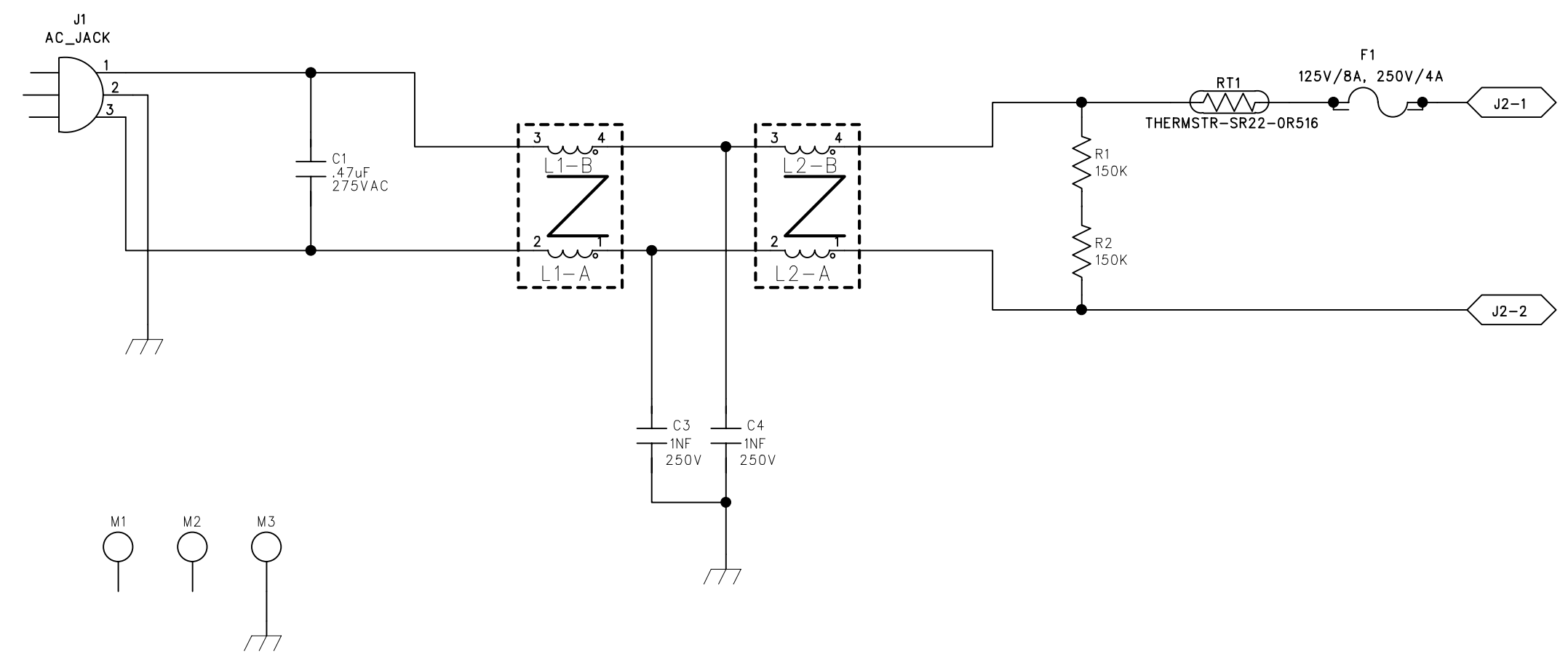
3

2

1

REVISION RECORD			
LTR	ECO NO:	APPROVED:	DATE:
	Changed T1 to RT1.		
	Added fuse warning		
B	REPLACED C1		

UPDATED TO REV A FOR PRODUCTION RELEASE. SAME AS REV X2.



COMPANY:		LINE 6	
TITLE:		PRIMARY POWER LINE FILTER BOARD	
PROGRAM:			REV:
PADS POWER LOGIC V3.0			B
FILENAME: Data on Ffd/Clients/Ffd/HDII/Hardware/Schematics/Line Filter/HDII LINE FILTER Rev B.sch			
SCALE: 1:1		SIZE: B	PART NUMBER: 35-00-4001
SHEET: 1		OF 1	

DRAWN: DB	DATED: FEB 1, 2001
CHECKED: Initials	DATED: Date

D

D

C

C

B

B

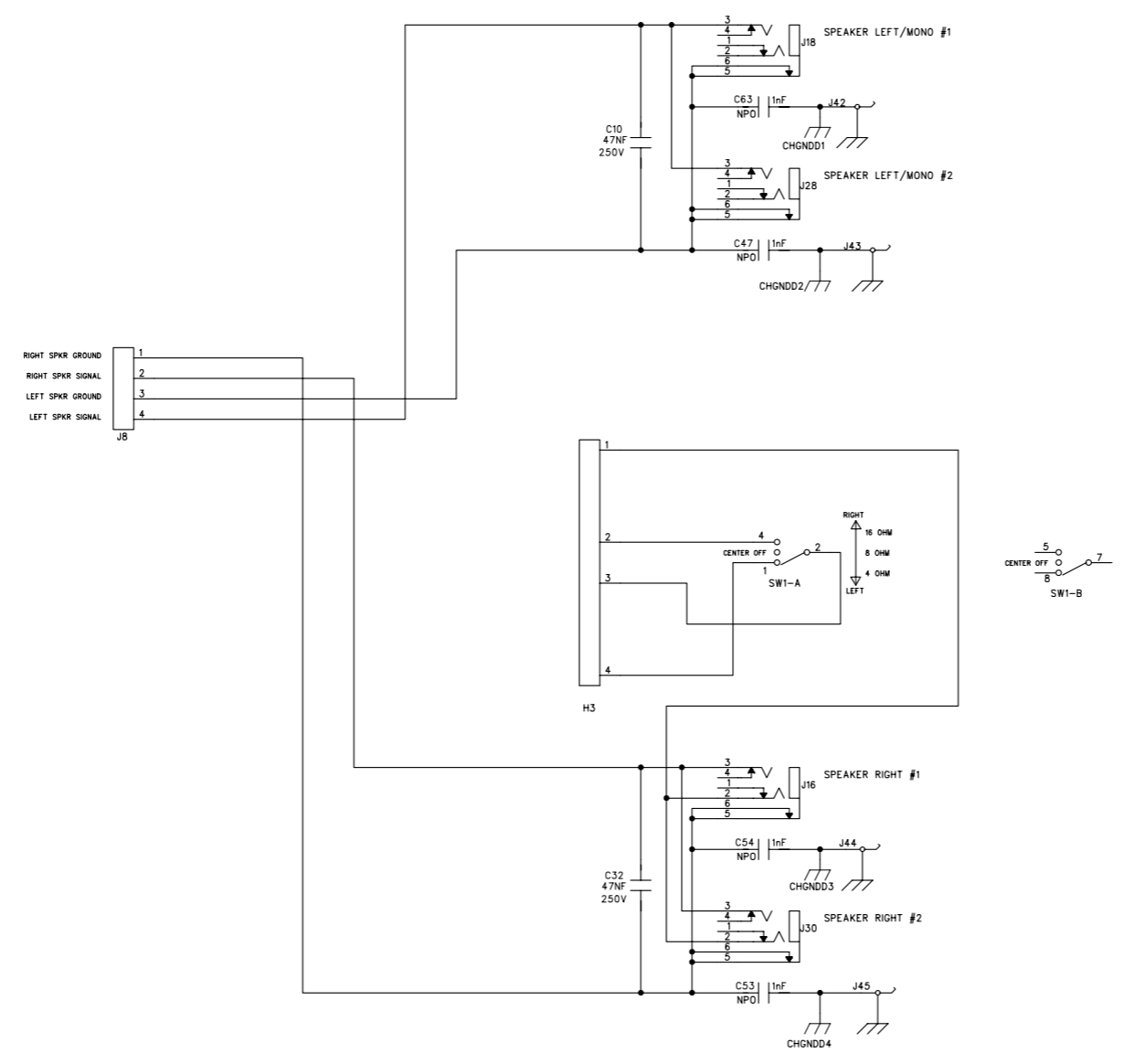
A

A

6                      5                      4                      3                      2                      1

### AX3 HEAD SPEAKER OUTPUTS PCB

ECOs INCLUDED ON THIS SCHEMATIC/PCB REVISION		
ECO NO:	DATE:	DESCRIPTION:



COMPANY:		LINE 6	
TITLE:		AX3 HEAD SPEAKER OUTPUTS PCB	
PROGRAM:		PADS POWER LOGIC V3.5	
DRAWN:		D. Molnar	
CHECKED:		Initials	
DATED:		Date	
FILENAME:		G:/Clients/Ffd/AX3 Product Family/Ax3 Head/Hardware/ /Schematic/Output Speaker HD/Rev A/AX3 HEAD SPKR OUT BD REV A.SCH	
SCALE: 1:1		SIZE: C	PART NUMBER: 35-00-0104
SHEET: 1		OF 1	

D

C

B

A

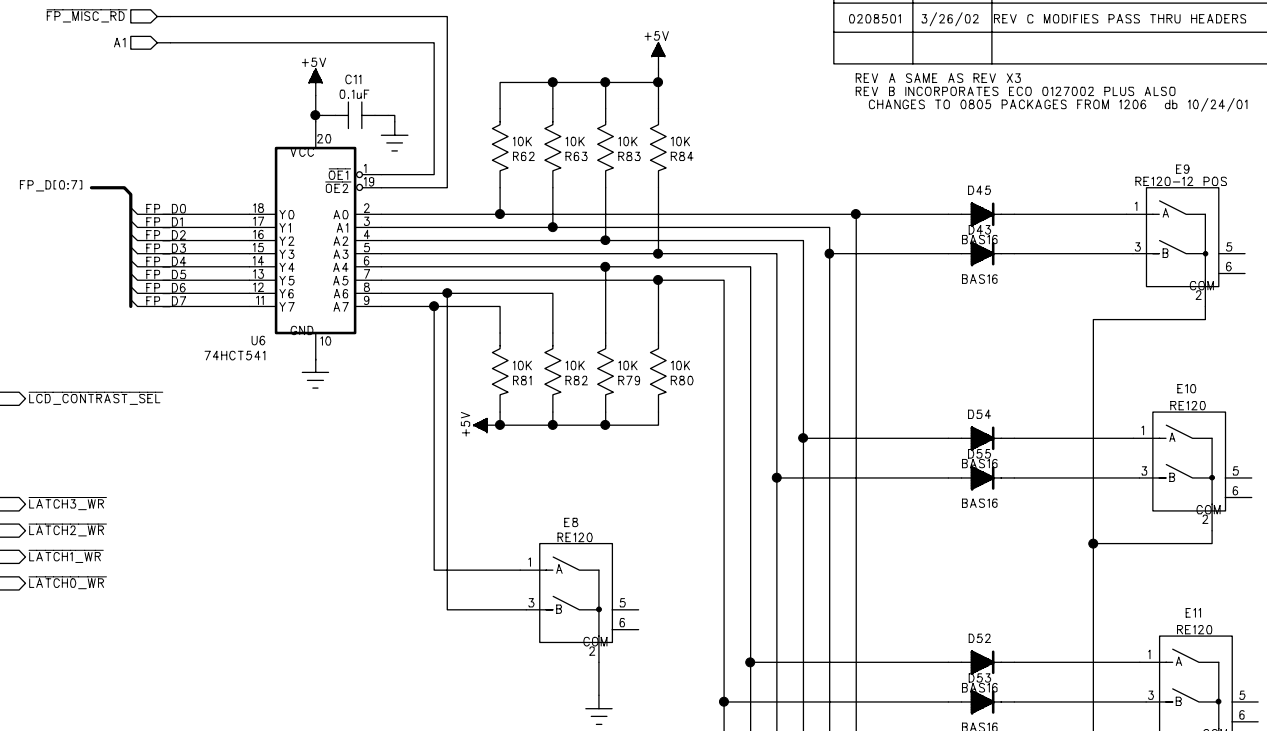
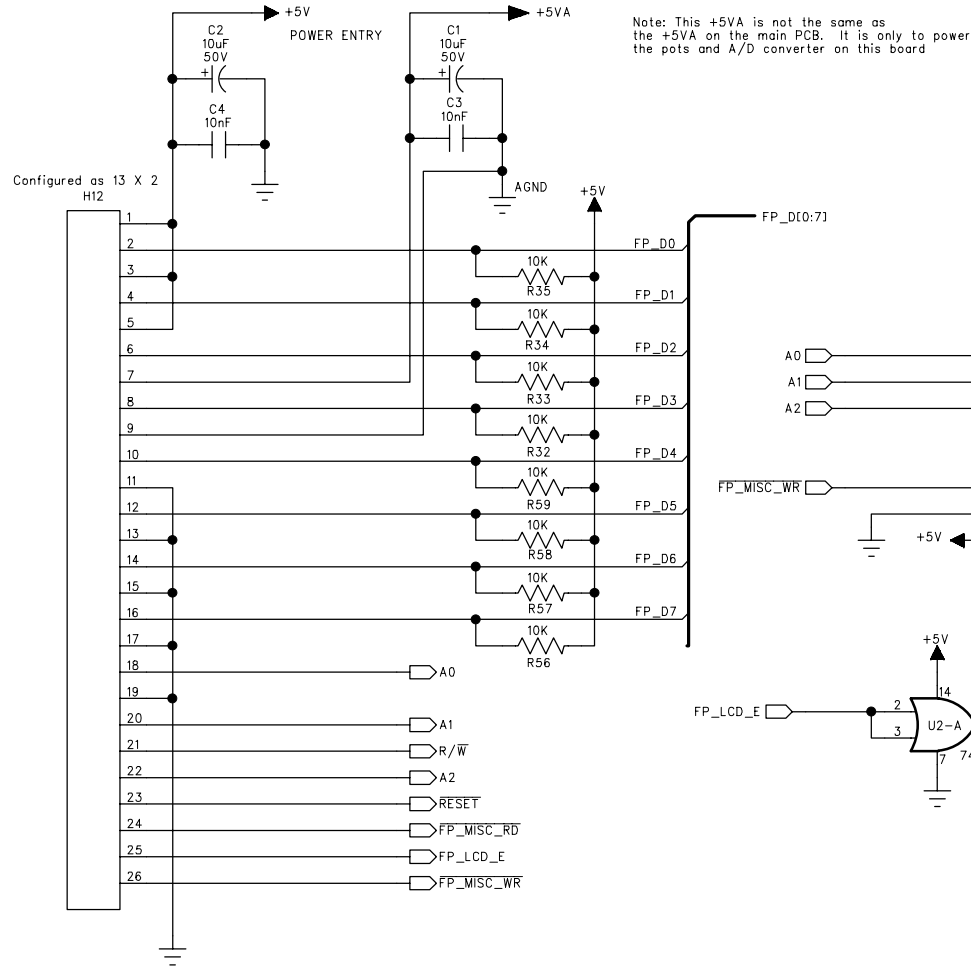
D

C

B

A

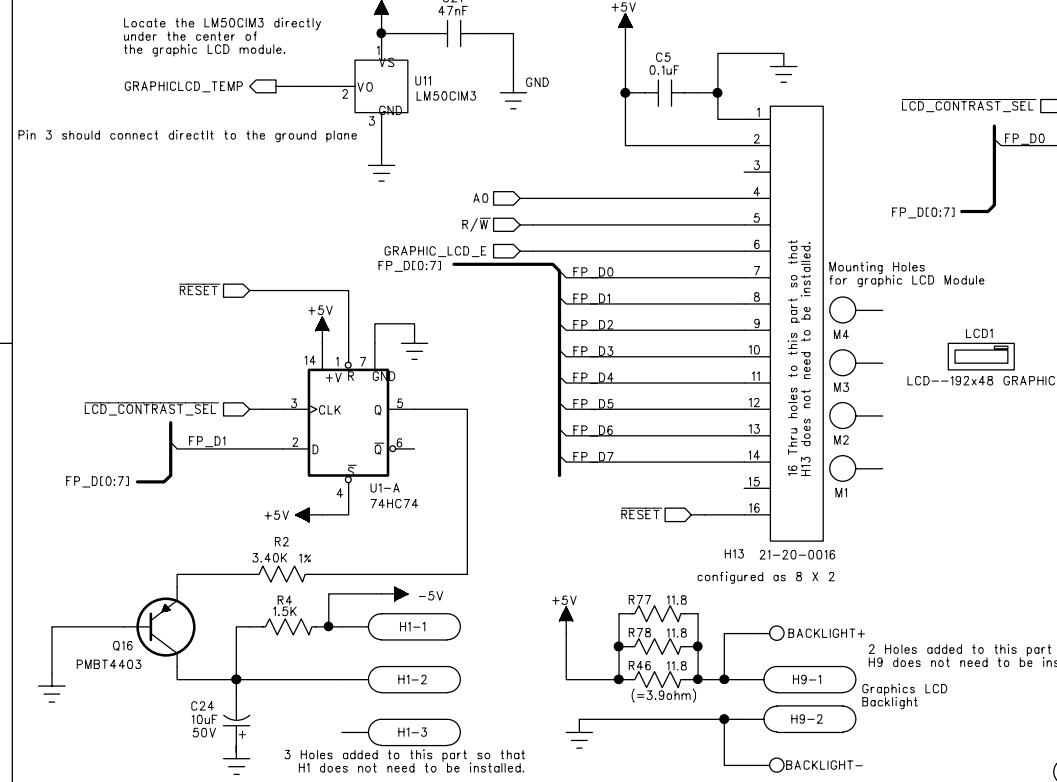
### INTERFACE TO DIGITAL PCB



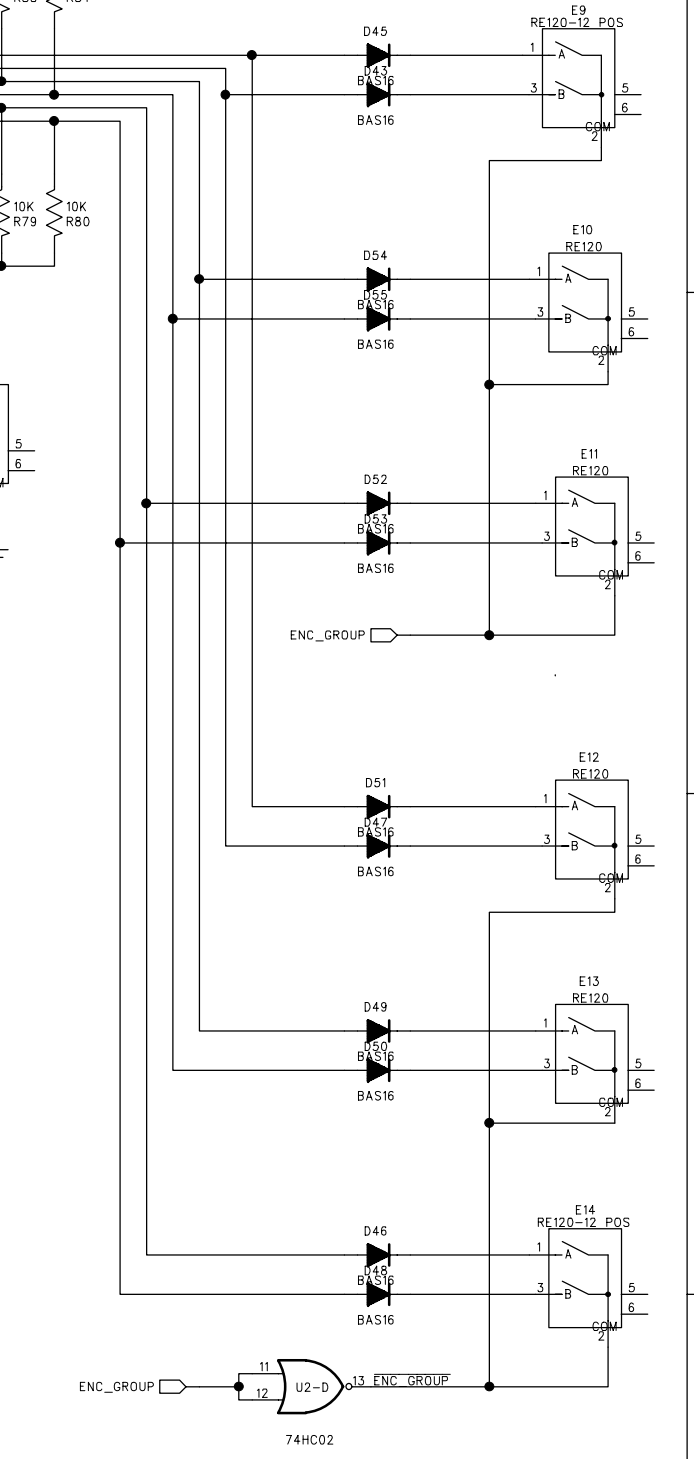
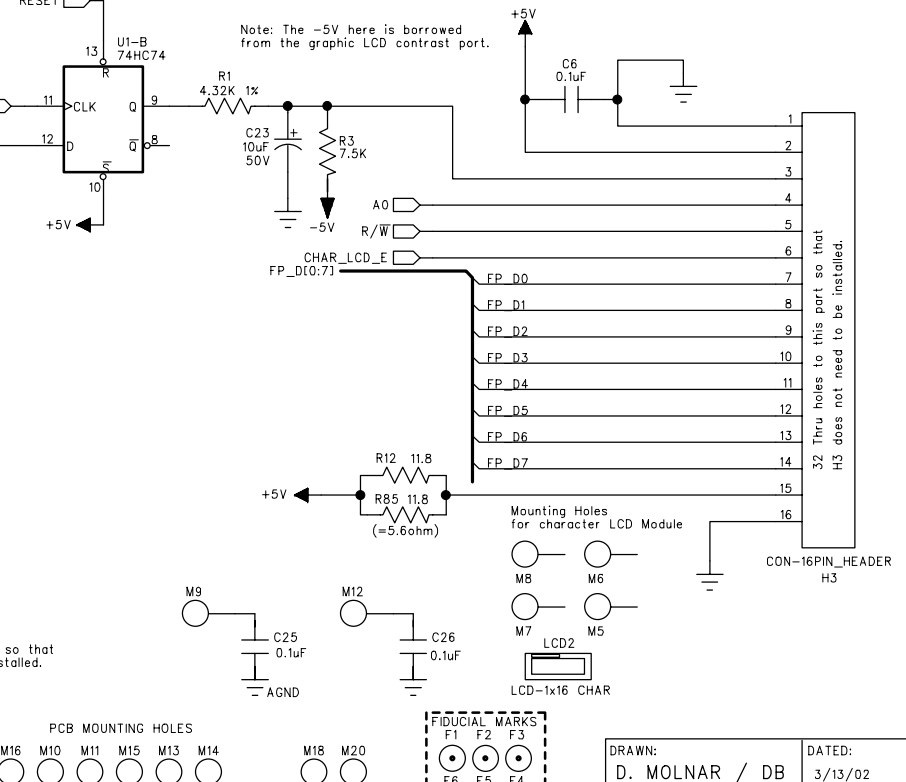
ECOs INCLUDED ON THIS SCHEMATIC/PCB REVISION		
ECO NO:	DATE:	DESCRIPTION:
0208501	3/26/02	REV C MODIFIES PASS THRU HEADERS

REV A SAME AS REV X3  
REV B INCORPORATES ECO 0127002 PLUS ALSO CHANGES TO 0805 PACKAGES FROM 1206 db 10/24/01

### GRAPHIC LCD INTERFACE



### CHARACTER LCD INTERFACE



COMPANY:	REV: C
TITLE: VETTA COMBO/HEAD U.I. LEFT	
PROGRAM: PADS POWER LOGIC V4.0	
FILENAME: /AX3 Product Family/AX3 Combo/Hardware/Schematic/UI_BOARD/REV B/AX3 COMBO UI LEFT REV C.sch	
SCALE: 1:1	SHEET: 1 OF 3

DRAWN: D. MOLNAR / DB	DATED: 3/13/02
CHECKED:	DATED:



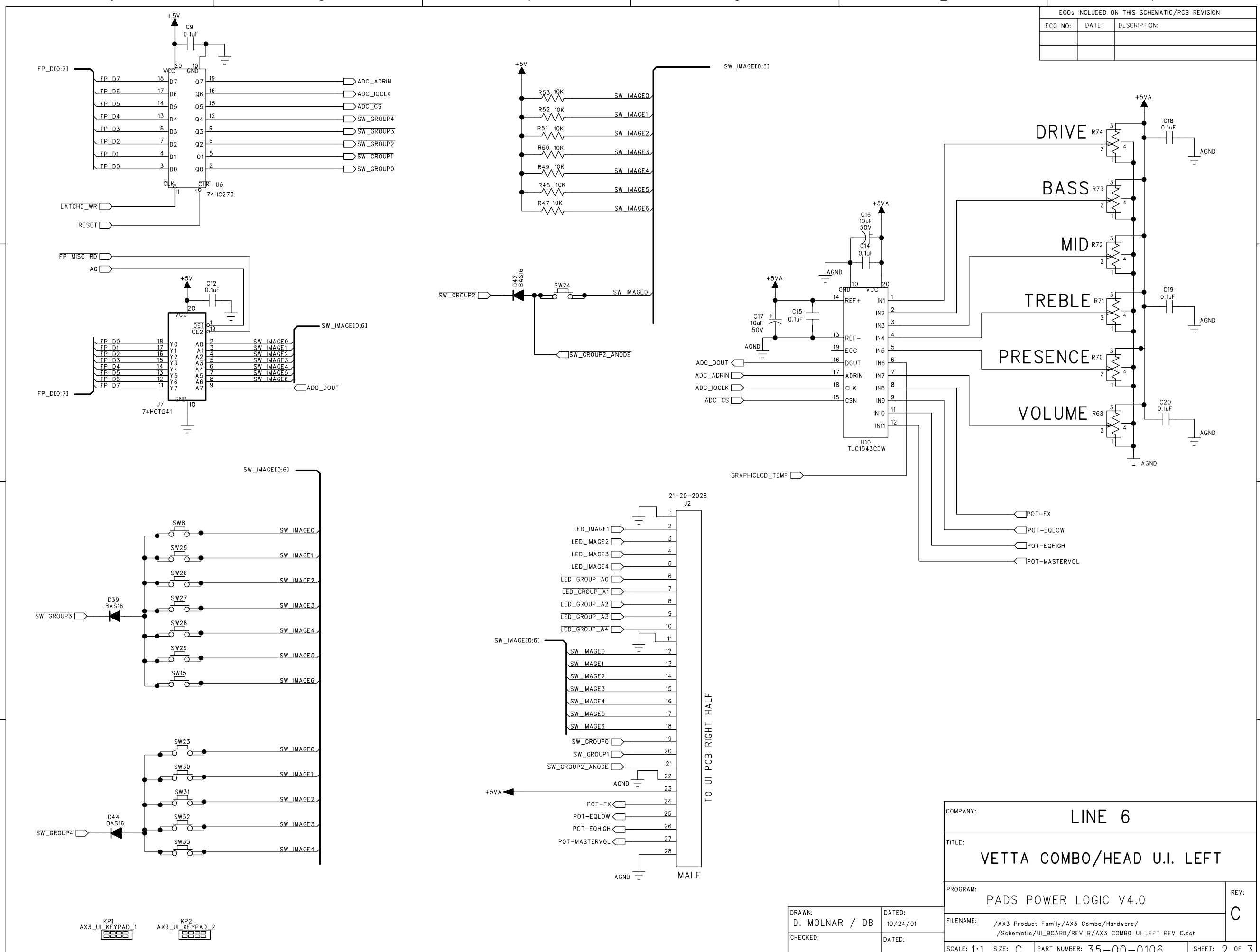
ECOs INCLUDED ON THIS SCHEMATIC/PCB REVISION		
ECO NO:	DATE:	DESCRIPTION:

D

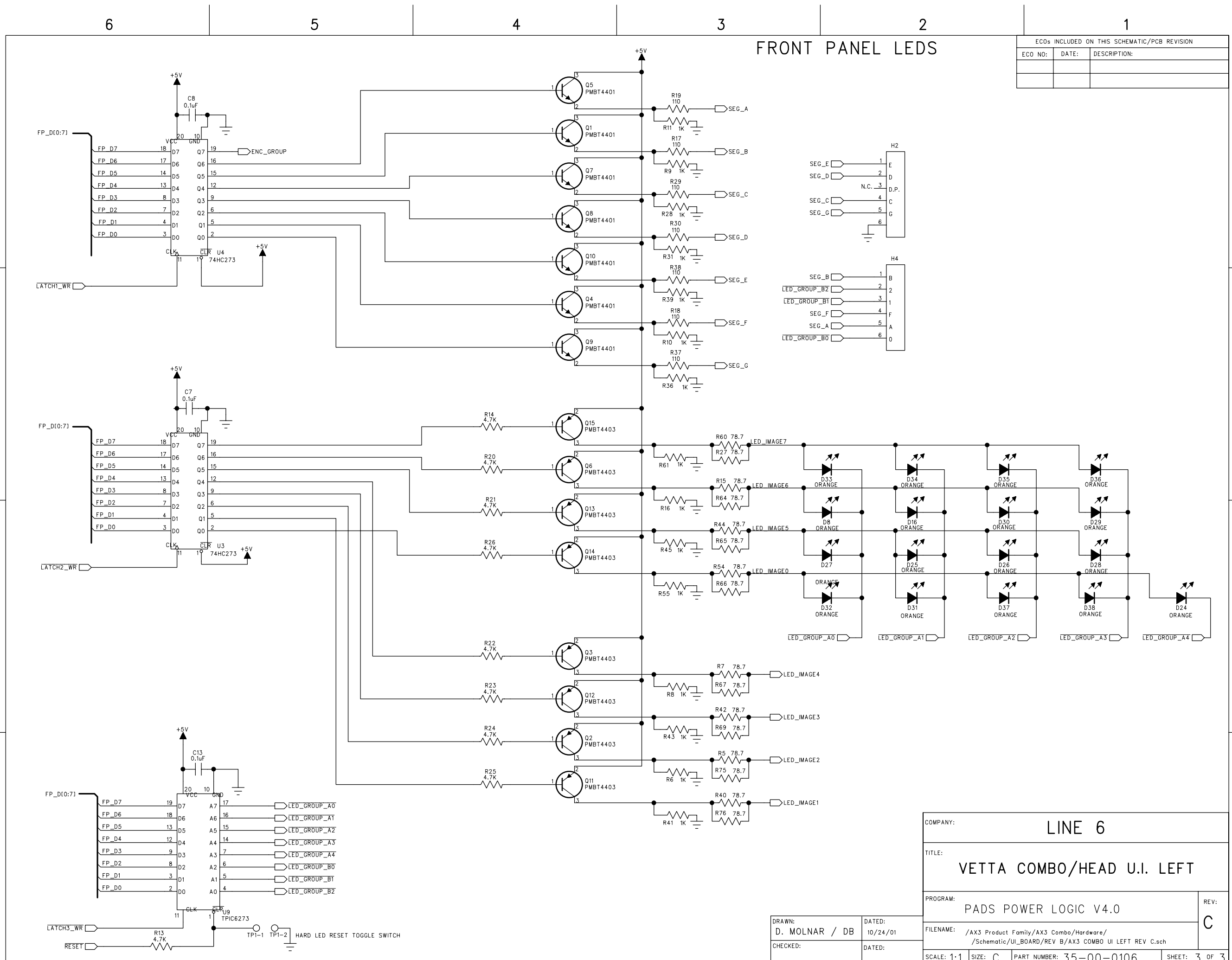
C

B

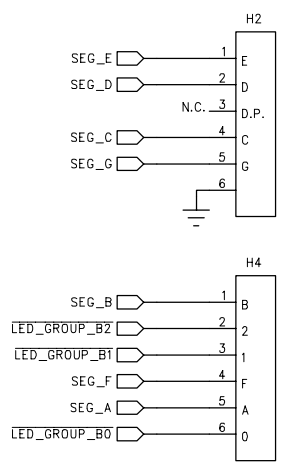
A



COMPANY:	LINE 6	
TITLE:	VETTA COMBO/HEAD U.I. LEFT	
PROGRAM:	PADS POWER LOGIC V4.0	REV: C
FILENAME:	/AX3 Product Family/AX3 Combo/Hardware/ /Schematic/UI_BOARD/REV B/AX3 COMBO UI LEFT REV C.sch	
SCALE: 1:1	SIZE: C	PART NUMBER: 35-00-0106
DRAWN: D. MOLNAR / DB		DATED: 10/24/01
CHECKED:		DATED:
SHEET: 2		OF 3



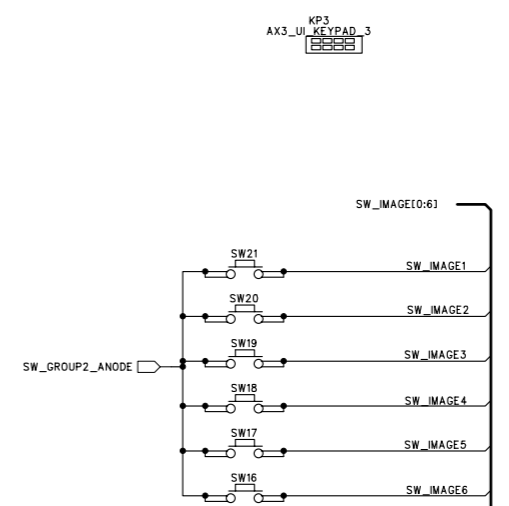
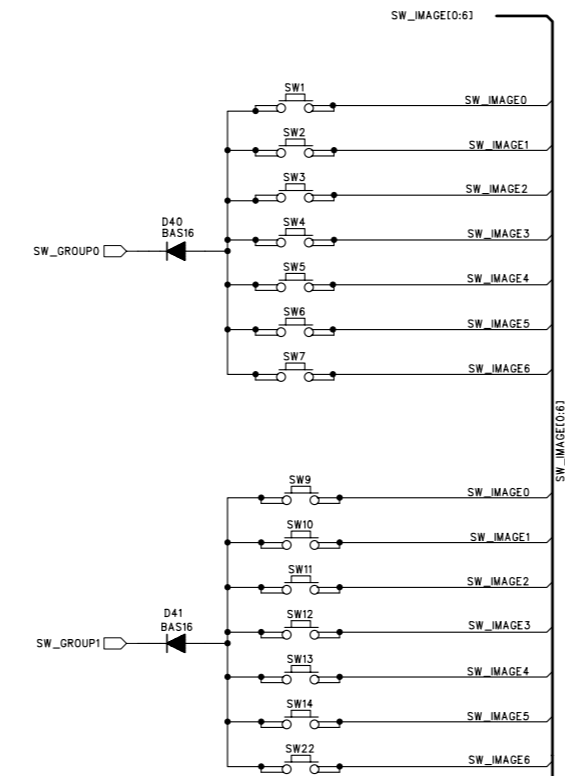
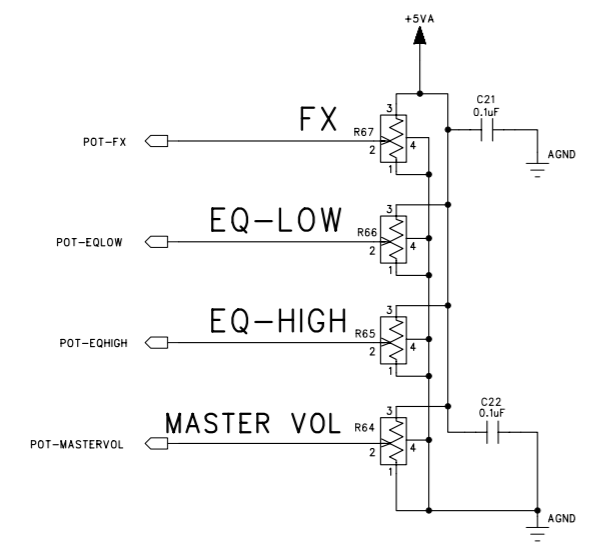
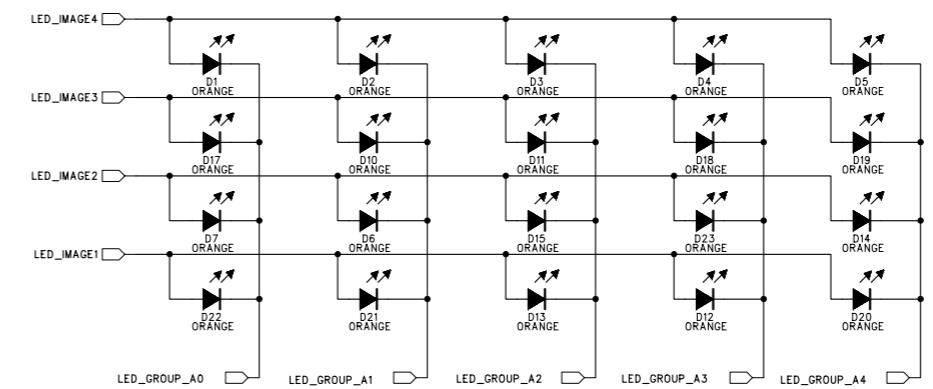
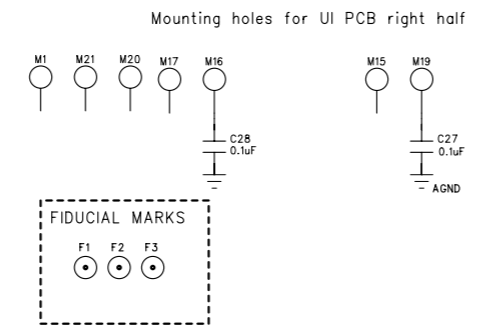
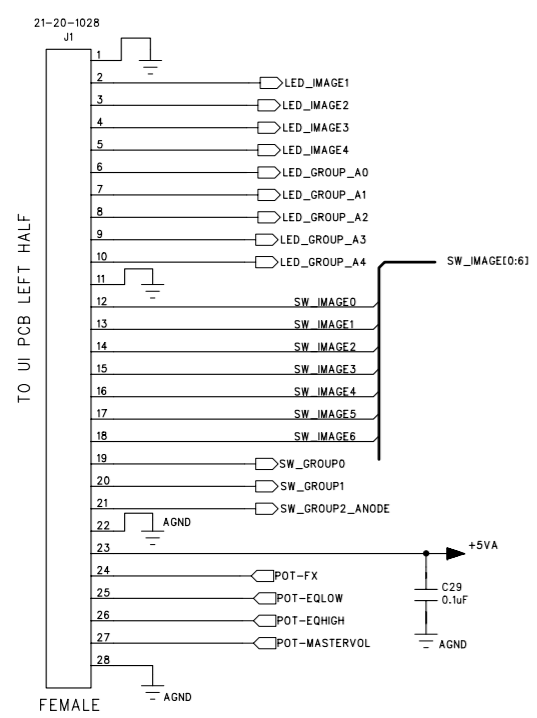
ECOs INCLUDED ON THIS SCHEMATIC/PCB REVISION		
ECO NO:	DATE:	DESCRIPTION:



COMPANY:		LINE 6	
TITLE: VETTA COMBO/HEAD U.I. LEFT			
PROGRAM: PADS POWER LOGIC V4.0		REV: C	
FILENAME: /AX3 Product Family/AX3 Combo/Hardware/ /Schematic/UI_BOARD/REV B/AX3 COMBO UI LEFT REV C.sch			
SCALE: 1:1	SIZE: C	PART NUMBER: 35-00-0106	SHEET: 3 OF 3

DRAWN: D. MOLNAR / DB	DATED: 10/24/01
CHECKED:	DATED:

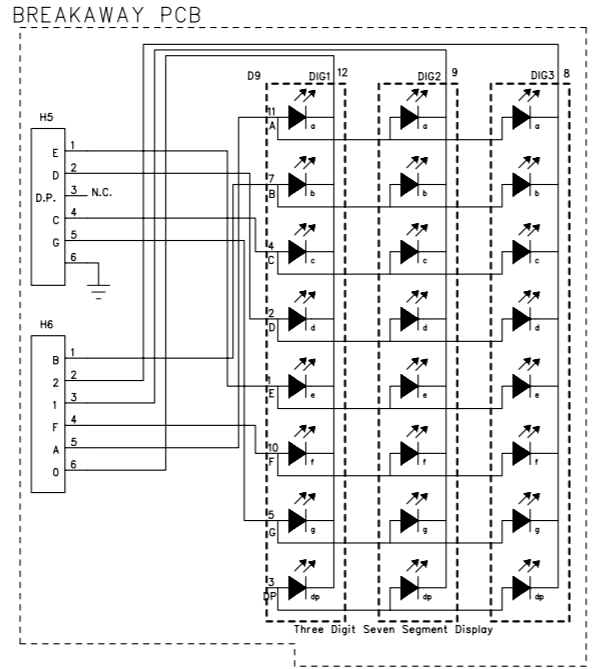
ECOs INCLUDED ON THIS SCHEMATIC/PCB REVISION		
ECO NO:	DATE:	DESCRIPTION:



COMPANY:	LINE 6	
TITLE:	AX3 COMBO/HEAD U.I. RIGHT HALF	
PROGRAM:	PADS POWER LOGIC V3.5.1	REV: A
FILENAME:	G:/CLIENTS/FFD/AX3 Product Family/AX3 Combo/Hardware/Schematic/UI_BOARD/REV A/AX3_COMBO_UI_RIGHT_REV_A.sch	
SCALE: 1:1	SIZE: C	PART NUMBER: 35-00-0107
DRAWN: D. Molnar		DATED: 05/21/2001
CHECKED:		DATED:
SHEET: 1		OF 2

6 5 4 3 2 1

ECOs INCLUDED ON THIS SCHEMATIC/PCB REVISION		
ECO NO:	DATE:	DESCRIPTION:



COMPANY:		LINE 6	
TITLE:		AX3 COMBO/HEAD U.I. RIGHT HALF	
PROGRAM:		PADS POWER LOGIC V3.5.1	REV:
DRAWN:		D. Molnar	5/21/2001
CHECKED:			
FILENAME:		G:/CLIENTS/FFD/AX3 Product Family/AX3 Combo/Hardware/Schematic/UI_BOARD/REV A/AX3_COMBO_UI_RIGHT_REV_A.sch	
SCALE: 1:1	SIZE: C	PART NUMBER: 35-00-0107	SHEET: 2 OF 2

DRAWN:	DATED:
D. Molnar	5/21/2001
CHECKED:	DATED:

D

C

B

A

D

C

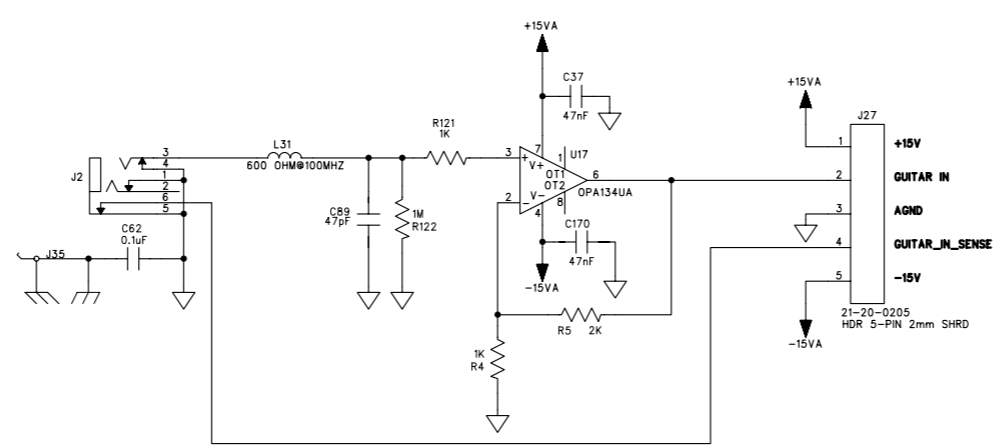
B

A

6 5 4 3 2 1

ECOs INCLUDED ON THIS SCHEMATIC/PCB REVISION		
ECO NO:	DATE:	DESCRIPTION:

GUITAR INPUT PCB



COMPANY:		LINE 6	
TITLE:			
AX3 GUITAR INPUT PCB			
PROGRAM:		PADS POWER LOGIC V3.5	REV:
DRAWN:		DATED:	A
D. Molnar		5/22/01	
CHECKED:		DATED:	
Initials		Date	
SCALE: 1;1	SIZE: C	PART NUMBER: 35-00-0099	SHEET: 1 OF 1

D

D

C

C

B

B

A

A

LINE 6  
Vetta HD Parts List

Items: 99 VETTA HD US

Level	Seq	Component-Item	Component-Description							Qty-Per-Parent
=====										
		Parent Item: 99 VETTA HD US AMP	Vetta Head 120V US							
1	10	21-30-0009-2	CAB DIL 10 PIN .100 PITCH	10	EA	.0	A	Y	N	1.000000
1	20	21-30-0026	CAB DIL RBN 26 PIN 8.0	10	EA	.0	A	Y	N	1.000000
1	30	21-34-0006	CAB SIL 2 PIN 1.95" .156" PITCH	10	EA	.0	A	Y	N	1.000000
1	40	21-34-0007-2	CAB ASSY SIL 4 PIN 2mm X 12.0 IN 26 AWG RED F-F	10	EA	.0	A	Y	N	1.000000
1	50	21-34-0008-2	CAB SIL 4 PINS .156 IN PITCH 10.0 IN LG	10	EA	.0	A	Y	N	1.000000
1	60	21-34-0014-2	CAB SIL 8 PINS .156 IN PITCH 13.0 IN LG	10	EA	.0	A	Y	N	1.000000
1	70	21-34-0015	CAB SIL 5 PIN .079 IN PITCH 5.4 IN LG	10	EA	.0	A	Y	N	1.000000
1	80	21-34-0018	CAB SIL 2 PIN .295 IN PITCH	10	EA	.0	A	Y	N	1.000000
1	90	21-34-0021-2	CAB SIL 6 PINS .156 IN PITCH 12.5 IN LG	10	EA	.0	A	Y	N	1.000000
1	100	21-34-1116	Cable, Earthing green with yellow strip	10	EA	.0	A	Y	N	1.000000
1	110	21-37-1160	CABLE PWR UL/CSA SJT 8.2ft Blk EL-302 w/GND EL70	10	EA	.0	A	Y	N	1.000000
1	120	24-06-0002	SWITCH ROCKER 2	10	EA	.0	A	Y	N	1.000000
1	130	30-00-0018	SCREW 6-32 SLFTPG x.75 FLH PHILLIPS	10	EA	.0	A	Y	N	4.000000
1	140	30-00-0025	SCREW 4-40 x.187 PNH	10	EA	.0	A	Y	N	4.000000
1	150	30-00-0375	SCR 6-32 x .375 LG PHILLIPS PN H STL BLK OXIDE	10	EA	.0	A	Y	N	6.000000
1	160	30-00-0607	SCR 6-32 x 7/16 PHIL PN HD STL w/LK WASH ZINC	10	EA	.0	A	Y	N	38.000000

LINE 6  
Vetta HD Parts List

1	170 30-00-1012	SCREW #10-32 X 1/2 PHILLIPS PAN ZINC	10 EA	.0	A	Y	N	4.000000
1	180 30-00-1124	SCR 10-32 x 1 1/2 LG OVAL CT SK PHH STL BLK	10 EA	.0	A	Y	N	4.000000
1	200 30-00-4250	SCR SHEET METAL PAN HEAD SLF TAP. 4 x.250" w/BLK OXIDE	10 EA	.0	A	Y	N	4.000000
1	210 30-00-8375	SCR SHEET METAL #8 x.375" PPH SELF TAP w/BLK OXIDE	10 EA	.0	A	Y	N	2.000000
1	220 30-03-0001	WASHER #10 EXTERNAL TOOTH LOCKWASHER ZINC	10 EA	.0	A	Y	N	4.000000
1	230 30-03-0011	WASHER FINISHING #10 CTS K BLK OXIDE	10 EA	.0	A	Y	N	4.000000
1	240 30-15-0004	SPACER .13THKx.630D NYLON MUDGE 5610-82-.125	10 EA	.0	A	Y	N	1.000000
1	250 30-24-0003	TIE CABLE 4" CLEAR	10 EA	.0	A	Y	N	6.000000
1	260 30-27-0025	KNOB SM ENCDR .55Dx.57 H IMP ABS MICROTEx	10 EA	.0	A	Y	N	5.000000
1	280 30-27-0027	KNOB LGE ENCDR .80Dx.60 H IMP ABS MICROTEx	10 EA	.0	A	Y	N	2.000000
1	290 30-27-0031	BEZEL LEFT AX3 1.5x5.8x.28 H IMP ABS BLK	10 EA	.0	A	Y	N	1.000000
1	300 30-27-0032	LENS, BEZEL, MAIN 4.3x2.2 LEXAN SMOKED - VETTA	10 EA	.0	A	Y	N	1.000000
1	310 30-27-0033	LENS, BEZEL, LEFT, 4.3x1.2 LEXAN SMOKED - VETTA	10 EA	.0	A	Y	N	1.000000
1	320 30-27-0034	BEZEL MAIN VETTA 4.6x.28 H IMP ABS BLK	10 EA	.0	A	Y	N	1.000000
1	330 30-27-0042	GROM ENCDR VETTA .50DIAx.04 NYLON WHT/SM	10 EA	.0	A	Y	N	7.000000
1	340 30-40-0001	GASKET VIB DPG 1.24x1.79 AMP SEL	10 EA	.0	A	Y	N	1.000000
1	350 30-40-0002	GASKET VIB DPG 2.0x5.7 EDIT SEL	10 EA	.0	A	Y	N	1.000000
1	360 30-40-0003	GASKET VIB DPG CHAN SEL 1.2x5.6	10 EA	.0	A	Y	N	1.000000
1	370 30-45-2000	KNOB POT PLASTIC BLACK w/WHITE INDICATOR LINE	10 EA	.0	A	Y	N	10.000000

LINE 6  
Vetta HD Parts List

1	380 30-51-0040	EXP SLOT COV 7.7x2.2 20 GA STL BLK PWD COAT	10 EA	.0	A	Y	N	1.000000
1	390 30-51-0076	COV CHAS VETTA HD 27.3x7.8 EG STL ELEC GALV	10 EA	.0	A	Y	N	1.000000
1	400 30-51-0093	CLIP MAIN BEZEL .52x.26 EG STL	10 EA	.0	A	Y	N	2.000000
1	410 30-51-0095	CHASSIS BRACE 7.7x6.7 EG STEEL	10 EA	.0	A	Y	N	2.000000
		Ref: added per EO# 0133806						
1	420 30-51-0096	CLIP WIRE SMALL BEZEL .364x.256x.150 SPR TEM CS WIRE	10 EA	.0	A	Y	N	1.000000
1	430 30-51-0102	PUSH RETAINER .45X.250	10 EA	.0	A	Y	N	1.000000
1	440 30-75-0010	PEDAL SWITCH RUBBER PAD	10 EA	.0	A	Y	N	1.000000
1	450 40-00-0000	CHART PATCH VETTA	10 EA	.0	A	Y	N	1.000000
1	460 40-00-0001	MANUAL USERS VETTA	10 EA	.0	A	Y	N	1.000000
1	470 40-00-0073	SHEET ACCESSORY DOMESTIC	10 EA	.0	A	Y	N	1.000000
1	480 40-10-0001	Foam, Corner Lam. PE 6.25*6.25*6.25 1.75 thk	10 EA	.0	A	Y	N	8.000000
1	500 40-10-0018	CARTON SHIPPING VETTA HD	10 EA	.0	A	Y	N	1.000000
1	510 40-16-0003	BROCHURE HANGING VETTA	10 EA	.0	A	Y	N	1.000000
1	520 40-20-0010	BAG PLASTIC 43"x38"x.004 CLEAR	10 EA	.0	A	Y	N	1.000000
1	530 40-20-0011	BAG PLASTIC 10 x 16 2 mil	10 EA	.0	A	Y	N	1.000000
1	540 40-25-0008	LABEL ETL AX3/HDII LINE6 2"x1"	10 EA	.0	A	Y	N	1.000000
1	550 40-25-0015	LABEL GROUND SYMBOL	10 EA	.0	A	Y	N	1.000000
1	560 40-25-0020	LABEL INSPECTION QUALITY	10 EA	.0	A	Y	N	2.000000
1	570 40-25-0100	LABEL BAR CODE SERIAL NUMBER 4-PANEL LABEL	10 EA	.0	A	Y	N	1.000000



LINE 6  
Vetta HD Parts List

1	580 40-25-0103	STICKER VERSION 1.1 VETTA	10 EA	.0 A Y N	1.000000
1	590 40-25-0150	Sticker, Vetta Disclaimer	10 EA	.0 A Y N	1.000000
1	600 40-25-0254	LABEL LOGO LINE 6 PREMIUM	10 EA	.0 A Y N	1.000000
1	610 40-25-2000	STICKER OUTPUT AX3 REV-A	10 EA	.0 A Y N	1.000000
1	620 50-00-0039	ASSY KEYCAPS AMP SEL VETTA	10 EA	.0 A Y N	1.000000
1	630 50-00-0042	ASSY KEYCAPS CHAN SEL VETTA	10 EA	.0 A Y N	1.000000
1	640 50-00-0043	ASSY KEYCAPS EDIT SEL VETTA	10 EA	.0 A Y N	1.000000
1	650 50-00-0099	PCBA INPUT GUITAR VETTA	10 EA	.0 A Y N	1.000000
2	10 01-00-0102	RES 1K 5% 0805	10 EA	.0 A Y N	2.000000
2	20 01-00-0105	Ref: r4,R121 RES 1M 5% 0805	10 EA	.0 A Y N	1.000000
2	30 01-00-0202	Ref: R122 RES 2K 5% 0805	10 EA	.0 A Y N	1.000000
2	40 03-46-0104	Ref: r5 CAP X7R 0.1uF 50V 20% 1206	10 EA	.0 A Y N	1.000000
2	50 03-50-0470	Ref: C62 CAP NPO 47pF 50V 10% 0805	10 EA	.0 A Y N	1.000000
2	60 03-52-0473	Ref: C89 CAP X7R 47nF 50V 20% 0805	10 EA	.0 A Y N	2.000000
2	70 11-10-0601	Ref: C37,C170 FERRITE BEAD 600R @100MHZ 1206	10 EA	.0 A Y N	1.000000
2	80 12-54-0134 SO-8	Ref: L31 IC OP AMP - OPA134UA SM	10 EA	.0 A Y N	1.000000
2	90 21-00-6617 HORIZ TH	Ref: U17 JACK 1/4" TRS 6-PIN PCB MT W/CHROME HRDWARE	10 EA	.0 A Y N Ref: J2	1.000000

LINE 6  
Vetta HD Parts List

2	100 21-20-0205	HDR PCB MT SIL 5-PIN x 2mm FEMALE SHRD VERT MT TH	10 EA	.0 A Y N	1.000000
		Ref: J27			
2	110 30-18-3030	CLIP GND PCB .30x.30x.07	10 EA	.0 A Y N	1.000000
		Ref: J35			
1	660 50-00-0104	PCBA OUTPUT SPEAKER	10 EA	.0 A Y N	1.000000
2	20 03-50-0102	CAP NPO 1nF 50V 5% 0805	10 EA	.0 A Y N	4.000000
		Ref: C47,C53-54,C63			
2	30 21-00-6616	JACK 1/4" TRS 6-PIN PCB MT HORIZ TH	10 EA	.0 A Y N	4.000000
		Ref: J16,J18,J28,J30			
2	40 21-20-0204	HDR PCB MT SIL 4-PIN x 2mm FEMALE SHRD VERT MT TH	10 EA	.0 A Y N	1.000000
		Ref: H3			
2	50 21-20-1564	HDR PCB MT SIL 4-PIN X .156 MALE VERT-MNT FRIC-LOCK	10 EA	.0 A Y N	1.000000
		Ref: J8			
2	60 24-09-0128	SWITCH SLIDE DPDT RA PCB MT ON-OPEN-ON SWEETA SPA-128	10 EA	.0 A Y N	1.000000
		Ref: SW1			
2	70 30-18-3030	CLIP GND PCB .30x.30x.07	10 EA	.0 A Y N	4.000000
		Ref: J42-J45			
1	670 50-00-0106	PCBA INTERFACE USER LEFT VETTA	10 EA	.0 A Y N	1.000000
2	10 01-00-0102	RES 1K 5% 0805	10 EA	.0 A Y N	15.000000
		Ref: R6,R8-11,R16,R28,R31,R36,R39,R41,R43,R45,R55,R61			
2	20 01-00-0103	RES 10K 5% 0805			23.000000
		Ref: R32-35,R47-53,R56-59,R62-63,R79-84			
2	30 01-00-0152	RES 1.5K 5% 0805			1.000000
		Ref: R4			

LINE 6  
Vetta HD Parts List

2	40 01-00-0472	RES 4.7K 5% 0805	10 EA	.0	A	Y	N	9.000000
2	50 01-00-0752	Ref: R13-14,R20-26 RES 7.5K 5% 0805	10 EA	.0	A	Y	N	1.000000
2	97 01-24-1100	Ref: R3 RES 110R 1% 0805	10 EA	.0	A	Y	N	7.000000
2	98 01-24-11R8	Ref: R17-19,R29-30,R37-38 RES 11.8R 1% 0805	10 EA	.0	A	Y	N	5.000000
2	100 01-24-3401	Ref: R12,R46,R77-78,R85 RES 3.40K 1% 0805	10 EA	.0	A	Y	N	1.000000
2	110 01-24-4321	Ref: R2 RES 4.32K 1% 0805	10 EA	.0	A	Y	N	1.000000
2	115 01-24-78R7	Ref: R1 RES 78.7R 1% 0805	10 EA	.0	A	Y	N	16.000000
2	120 01-48-0103	Ref: R5,R7,R15,R27,R40,R42,R44,R54,R60,R64-67,R69,R75-76 POT MONO 10KB LINEAR TAPER 25 mm D-SHAFT	10 EA	.0	A	Y	N	6.000000
2	130 03-18-0106	Ref: R68,R70-74 CAP ELEC 10uF 50V 20% RADIAL 5/11/5	10 EA	.0	A	Y	N	6.000000
2	150 03-52-0103	Ref: C1-2,C16-17,C23-24 CAP X7R 10nF 50V 20% 0805	10 EA	.0	A	Y	N	2.000000
2	160 03-52-0104	Ref: C3-4 CAP X7R 0.1uF 50V 20% 0805	10 EA	.0	A	Y	N	16.000000
2	170 03-52-0473	Ref: C5-15,C18-20,C25-26 CAP X7R 47nF 50V 20% 0805	10 EA	.0	A	Y	N	1.000000
2	180 06-34-0016	Ref: C21 DIODE SWITCHING 75V 200mA 6nS SOT-23 SM BAS16LT1	10 EA	.0	A	Y	N	15.000000
2	190 09-10-4401	Ref: D39,D42-55 TRANS NPN SMALL-SIGNAL MBT4401 SOT-23 SM	10 EA	.0	A	Y	N	7.000000
2	200 09-10-4403	Ref: Q1,Q4-5,Q7-10 TRANS PNP SMALL-SIGNAL MBT4403 SOT-23 SM	10 EA	.0	A	Y	N	9.000000
		Ref: Q2-3,Q6,Q11-16						

LINE 6  
Vetta HD Parts List

2	210 12-64-1543	IC ADC 10 BIT 11 CHANNEL SM TLC1543CDW	10	EA	.0	A	Y	N	1.000000
		Ref: U10							
2	220 12-72-0050	IC PRECISION TEMPERATURE SENSOR SOT-23 SM LM50CIM3	10	EA	.0	A	Y	N	1.000000
		Ref: U11							
2	230 15-62-0002	IC 74HC02 QUAD 2-INPUT NOR SO-14 SM	10	EA	.0	A	Y	N	1.000000
		Ref: U2							
2	240 15-62-0074	IC 74HC74 FLIP-FLOP DUAL D-TYPE 2-IN SO-14 SM	10	EA	.0	A	Y	N	1.000000
		Ref: U1							
2	250 15-62-0138	IC 74HC138 DECODER/DEMUX 3-8 LINE SO-16 SM	10	EA	.0	A	Y	N	1.000000
		Ref: U8							
2	260 15-62-0273	IC 74HC273 FLIP-FLOP D-TYPE 8-BIT SO-20 SM	10	EA	.0	A	Y	N	3.000000
		Ref: U3-5							
2	270 15-64-0541	IC 74HCT 541 OCTAL BUF/DRIVER 3-S 8 SM	10	EA	.0	A	Y	N	2.000000
		Ref: U6-7							
2	290 18-21-0002	LED ORANGE 3mmX2mm SM Kingbrite APK3020SEC	10	EA	.0	A	Y	N	17.000000
		Ref: D8,D16,D24-38							
2	335 21-20-1302	HDR PCB MT DIL 26-PIN 2X13-100 VERT MT TH	10	EA	.0	A	Y	N	1.000000
		Ref: h12							
2	340 21-20-2006	HDR PCB MT SIL 6-PIN 1x6x.100 MALE VRT-MNT TH	10	EA	.0	A	Y	N	2.000000
		Ref: H2,H4							
2	350 21-20-2028	HDR PCB MT DIL 28-PIN 2x14x100 MALE RT ANG TH	10	EA	.0	A	Y	N	1.000000
		Ref: J2							
2	370 24-12-0120	ENCODER ROTARY VERT MT 24 STEP INCR 20mmSH/F TH RE120-40	10	EA	.0	A	Y	N	5.000000
		Ref: E8,E10-13							
2	380 24-12-1120	ENCODER 12-STEP ALPHA RE120-40-20F-12P TH	10	EA	.0	A	Y	N	2.000000
		Ref: E9,E14							
2	390 30-12-0001	STANDOFF .343 (.710 LG) PLASTIC	10	EA	.0	A	Y	N	4.000000
2	400 30-12-0002	STANDOFF .470 LG PLASTIC	10	EA	.0	A	Y	N	4.000000

LINE 6  
Vetta HD Parts List

2	401 30-15-0044	TAPE TEFLON AND FOAM 7" x .5"	10 EA	.0	A	Y	N	1.000000
2	402 30-27-0003	BTN FR CHAN SEL UI PNL VETTA 1.058x5.484 BLK ABS NA/	10 EA	.0	A	Y	N	1.000000
2	403 30-27-0004	BUT FR AMP BTN UI PNL VETTA 1.058x1.615 BLK ABS N/A	10 EA	.0	A	Y	N	1.000000
2	405 30-65-0002	TAPE POLYESTER w/RBR ADHESIVE 6mil 19mm X 10mm	10 EA	.0	A	Y	N	1.000000
2	406 30-75-0010	PEDAL SWITCH RUBBER PAD	10 EA	.0	A	Y	N	1.000000
2	415 50-00-0007	ASSY BUTTON PAD AMP SELECT X0	10 EA	.0	A	Y	N	1.000000
2	416 50-00-0008	ASSY BUTTON PAD CHANNEL SELECT X0	10	.0	A	Y	N	1.000000
2	420 50-00-0114	PCBA DISPLAY LCD 192x48 GRAPHIC VETTA	10 EA	.0	A	Y	N	1.000000
3	10 18-30-0003	DISPLAY LCD - 192 X 48 GRAPHIC	10 EA	.0	A	Y	N	1.000000
3	20 21-20-2001	HDR PCB MT SIL 2-PIN X .100 MALE VRT-MNT TH	10 EA	.0	A	Y	N	1.000000
3	30 21-20-2003	HDR PCB MT SIL 3-PIN x .100 MALE VERT-MT TH	10 EA	.0	A	Y	N	1.000000
3	40 21-20-2216	Ref: J4 HDR PCB MT DIL 16 PIN 2x8x.100 MALE VERT MT TH	10 EA	.0	A	Y	N	1.000000
3	50 30-63-1111	Ref: J1 FOAM, 1/8" THK, 1/2" SQ, ADH O NE SD, 3M NO. 4508	10 EA	.0	A	Y	N	4.000000
2	430 50-00-0115	PCBA DISPLAY LCD 1x16 CHARACTER VETTA	10 EA	.0	A	Y	N	1.000000
3	10 18-30-0002	DISPLAY LCD - 1 X 16 CHARACTER	10 EA	.0	A	Y	N	1.000000
3	20 21-20-2016	HDR PCB MT SIL 16 PIN 1x16x100 MALE VERT MT TH	10 EA	.0	A	Y	N	1.000000
1	680 50-00-0107	PCBA INTERFACE USER RGT VETTA	10 EA	.0	A	Y	N	1.000000

LINE 6  
Vetta HD Parts List

2	10 01-48-0103	POT MONO 10KB LINEAR TAPER 25 mm D-SHAFT	10 EA	.0 A Y N	1.000000
		Ref: R64			
2	20 01-48-8103	POT MONO 10KB LINEAR TAPER CENTER DETENT 25mm D-SHFT	10 EA	.0 A Y N	3.000000
		Ref: R65-67			
2	30 03-52-0104	CAP X7R 0.1uF 50V 20% 0805	10 EA	.0 A Y N	5.000000
		Ref: C21-22,C27-29			
2	40 06-34-0016	DIODE SWITCHING 75V 200mA 6nS SOT-23 SM BAS16LT1	10 EA	.0 A Y N	2.000000
		Ref: D40-41			
2	50 18-12-0001	LED 3-DIGIT 7-SEG YEL w/DP Ledtech LM3633-11-11BWRN TH	10 EA	.0 A Y N	1.000000
		Ref: D9			
2	60 18-21-0002	LED ORANGE 3mmX2mm SM Kingbrite APK3020SEC	10 EA	.0 A Y N	20.000000
		Ref: D1-7,D10-15,D17-23			
2	70 21-20-1028	HDR PCB MT DIL 28 PIN 2x14x100 FEMALE RT ANGLE TH	10 EA	.0 A Y N	1.000000
		Ref: J1			
2	75 30-27-0001	FR ISLN EDIT SEL VETTA 5.483x1.807 BLK ABS N/A	10 EA	.0 A Y N	1.000000
2	90 50-00-0009	ASSY BUTTON PAD EDIT SELECT X0	10 EA	.0 A Y N	1.000000
1	690 50-00-0108	ASSY ARTWORK OVERLAY	10 EA	.0 A Y N	1.000000
1	700 50-00-0109	Assy, VETTA Chassis w/artwork	10 EA	.0 A Y N	1.000000
1	710 50-00-0120	PCBA MAIN VETTA HD	10 EA	.0 A Y N	1.000000
2	5 01-00-0000	RES 0R 5% 0805	10 EA	.0 A Y N	1.000000
		Ref: R161			
2	10 01-00-0101	RES 100R 5% 0805	10 EA	.0 A Y N	11.000000
		Ref: R2,r133-134,r136,r141,r162-163,r167-168,r171-172			
2	15 01-00-0103	RES 10K 5% 0805			30.000000

Ref: R18,R24,R29-30,R33,R37,R41,R53,R61,R65-69,R72,R78-79,R91,R93,R112,R114,R122-123,R128,R143-146,R178,R184

LINE 6  
Vetta HD Parts List

2	20 01-00-0104	RES 100K 5% 0805	10 EA	.0	A	Y	N	4.000000
2	25 01-00-0105	Ref: R8,R26,R175,R177 RES 1M 5% 0805	10 EA	.0	A	Y	N	2.000000
2	30 01-00-0122	Ref: R20,R38 RES 1.2K 5% 0805	10 EA	.0	A	Y	N	2.000000
2	35 01-00-0132	Ref: R107,R120 RES 1.3K 5% 0805	10 EA	.0	A	Y	N	2.000000
2	40 01-00-0150	Ref: R169-170 RES 15R 5% 0805	10 EA	.0	A	Y	N	2.000000
2	45 01-00-0152	Ref: R126,R138 RES 1.5K 5% 0805	10 EA	.0	A	Y	N	1.000000
2	50 01-00-0200	Ref: R94 RES 20R 5% 0805	10 EA	.0	A	Y	N	2.000000
2	55 01-00-0221	Ref: R165-166 RES 220R 5% 0805	10 EA	.0	A	Y	N	3.000000
2	65 01-00-0302	Ref: R3,R16-17 RES 3K 5% 0805	10 EA	.0	A	Y	N	8.000000
2	70 01-00-0332	Ref: R27,R32,R55,R57,R80-81,R111,R115 RES 3.3K 5% 0805	10 EA	.0	A	Y	N	3.000000
2	75 01-00-0362	Ref: R86,R164, R185 RES 3.6K 5% 0805	10 EA	.0	A	Y	N	2.000000
2	80 01-00-0363	Ref: R43-44 RES 36K 5% 0805	10 EA	.0	A	Y	N	4.000000
2	85 01-00-0392	Ref: R46-47,R71,R75 RES 3.9K 5% 0805	10 EA	.0	A	Y	N	4.000000
2	90 01-00-0431	Ref: R42,R50,R70,R77 RES 430R 5% 0805	10 EA	.0	A	Y	N	1.000000
		Ref: R158						

LINE 6  
Vetta HD Parts List

2	95 01-00-0470	RES 47R 5% 0805							10.000000
2	100 01-00-0471	RES 470R 5% 0805	10	EA	.0	A	Y	N	3.000000
		Ref: R89,R92,R103-105,R108-109,R113,R117,R119							
2	105 01-00-0472	RES 4.7K 5% 0805	10	EA	.0	A	Y	N	2.000000
		Ref: R9,R202-203							
2	110 01-00-0473	RES 47K 5% 0805	10	EA	.0	A	Y	N	2.000000
		Ref: R121, R180							
2	115 01-00-0511	RES 510R 5% 0805	10	EA	.0	A	Y	N	1.000000
		Ref: R85,R176							
2	120 01-00-0562	RES 5.6K 5% 0805	10	EA	.0	A	Y	N	4.000000
		Ref: R106							
2	125 01-00-0621	RES 620R 5% 0805	10	EA	.0	A	Y	N	8.000000
		Ref: R45,R56,R59,R73							
2	130 01-00-0681	RES 680R 5% 0805	10	EA	.0	A	Y	N	4.000000
		Ref: R34,R49,R54,R58,R82,R90,R95,R99							
2	135 01-04-0362	RES 3.6K 5% 1206	10	EA	.0	A	Y	N	2.000000
		Ref: R1,R45-15,R19							
2	140 01-04-0752	RES 7.5K 5% 1206	10	EA	.0	A	Y	N	1.000000
		Ref: R12-13							
2	145 01-24-1001	RES 1.00K 1% 0805	10	EA	.0	A	Y	N	18.000000
		Ref: R97							
2	150 01-24-1102	RES 11.0K 1% 0805	10	EA	.0	A	Y	N	4.000000
		Ref: R6-7,R21-23,R63-64,R88,R100,R118,R127,R129,R137,R139-140, R159-160,R179							
2	165 01-24-2001	RES 2.00K 1% 0805	10	EA	.0	A	Y	N	3.000000
		Ref: R51-52,R60,R74							
2	170 01-24-2002	RES 20.0K 1% 0805	10	EA	.0	A	Y	N	1.000000
		Ref: R96,R101-102							
		Ref: R174							



LINE 6  
Vetta HD Parts List

2	180 01-24-3401	RES 3.40K 1% 0805	10 EA	.0 A Y N	3.000000
2	185 01-24-4321	Ref: R62,R76,R25 RES 4.32K 1% 0805	10 EA	.0 A Y N	1.000000
2	190 01-24-4751	Ref: R87 RES 4.75K 1% 0805	10 EA	.0 A Y N	26.000000
2	195 01-24-4752	Ref: R4-5,R10-11,R28,R39,R98,R124-125,R130-131,R135,R142,R147-154 R192-196 RES 47.5K 1% 0805	10 EA	.0 A Y N	1.000000
2	200 01-60-0472	Ref: R31 RES NETWORK 4.7K BUSSED 1/8W 5% SM	10 EA	.0 A Y N	4.000000
2	205 03-18-0105	Ref: R156-157,R197-198 CAP ELEC 1uF 50V 20% RADIAL 5/11/5	10 EA	.0 A Y N	8.000000
2	210 03-18-0106	Ref: C6-8,C14-16,C42,C46 CAP ELEC 10uF 50V 20% RADIAL 5/11/5	10 EA	.0 A Y N	35.000000
2	220 03-46-0104	Ref: C1,C3-5,C9,C11,C13,C18-21,C23-24,C26-27,C29-31,C33-36, C38-41,C44-45,C49-52,C61,C178,C193 CAP X7R 0.1uF 50V 20% 1206	10 EA	.0 A Y N	4.000000
2	225 03-50-0101	Ref: C55-57,C59 CAP NPO 100pF 50V 10% 0805	10 EA	.0 A Y N	2.000000
2	230 03-50-0102	Ref: c94,c105 CAP NPO 1nF 50V 5% 0805	10 EA	.0 A Y N	33.000000
2	245 03-50-0222	Ref: c28,c43,c47,c53-54,c58,c60,c65,c67-74,c76-79,c98-99,c107-108 c111,c114,c118,c121,c139,c144,c153,c158,C10 CAP NPO 2.2nF 50V 20% 0805			8.000000
2	250 03-50-0470	Ref: C100,C110,C115-117,C132,C155-156 CAP NPO 47pF 50V 10% 0805	10 EA	.0 A Y N	4.000000
2	255 03-52-0473	Ref: C106,C112,C122-123 Ref: 2,12,17,22,25,32,37,48,62,63,66,75,83,86,90,92,95,96,101/3/4,113,119/20,124-126,128,129,131,133/38 140-143,146,148,149/51, 152,154,159-161,166-169,171-175,177,179-182,184,192,194-219	10 EA	.0 A Y N	92.000000

LINE 6  
Vetta HD Parts List

2	270 03-52-0102	CAP X7R 1nF 50V 20% 0805	10 EA	.0 A Y N	4.000000
2	272 03-52-0103	Ref: C84,C89,C91,C93 CAP X7R 10nF 50V 20% 0805	10 EA	.0 A Y N	1.000000
2	275 03-52-0104	Ref: c176 CAP X7R 0.1uF 50V 20% 0805	10 EA	.0 A Y N	6.000000
2	280 03-52-0224	Ref: C64,C82,C85,C87-88,C164 CAP X7R 0.22uf 25V 20% 0805	10 EA	.0 A Y N	2.000000
2	285 03-52-0473	Ref: C145,C147 CAP X7R 47nF 50V 20% 0805	10 EA	.0 A Y N	88.000000
2	287 03-52-0562	Ref: 2,12,17,22,25,32,37,48,62,63,66,75,83,86,90,92,95,101,103, 119,120,124-126,128,129,131,133-138,140-143,146,148,149,151, 152,154,159-161,166-169,171-175,179-182,184,192,194-219 CAP X7R 5.6nF 50V 10% 0805	10 EA	.0 A Y N	2.000000
2	288 03-52-0822	Ref: c109,c127 CAP X7R 8.2nF 50V 20% 0805	10 EA	.0 A Y N	4.000000
2	290 03-52-1471	Ref: c97,c102,c130,c162 CAP X7R 470pF 100V 20% 0805	10 EA	.0 A Y N	2.000000
2	295 06-34-0016	Ref: C80-81 DIODE SWITCHING 75V 200mA 6nS SOT-23 SM BAS16LT1	10 EA	.0 A Y N	10.000000
2	300 09-10-4401	Ref: D1-6,D11,D14-16 TRANS NPN SMALL-SIGNAL MBT4401 SOT-23 SM	10 EA	.0 A Y N	8.000000
2	305 09-10-4403	Ref: Q2-3,Q6-7,Q9-12 TRANS PNP SMALL-SIGNAL MBT4403 SOT-23 SM	10 EA	.0 A Y N	4.000000
2	310 11-00-3000	Ref: Q1,Q4-5,Q8 CRYSTAL OSCILLATOR 30MHz 3.3V DIP4 TH	10 EA	.0 A Y N	1.000000
2	315 11-00-4000	Ref: Y3 CRYSTAL 40.00MHZ DIP8 TH EH13HS	10 EA	.0 A Y N	1.000000
		Ref: Y1			

LINE 6  
Vetta HD Parts List

2	320 11-10-0601	FERRITE BEAD 600R @100MHZ 1206	10 EA	.0	A	Y	N	29.000000
2	325 11-40-2430	Ref: L1-25,L27-30 BATTERY 3V LITHIUM COSMOS	10 EA	.0	A	Y	N	1.000000
	CR2430	3P-TH						
2	330 12-02-1086	Ref: BAT2 IC REG +3.3V T0-220 TH	10 EA	.0	A	Y	N	1.000000
	LM1086							
2	335 12-02-7805	Ref: U8 IC REG +5v 1.5 Amp TH	10 EA	.0	A	Y	N	2.000000
2	340 12-02-7815	Ref: U6,U25 IC REG +15V 1AMP T0-220 TH	10 EA	.0	A	Y	N	1.000000
2	345 12-02-7915	Ref: U7 IC REG -15V 1AMP T0-220 TH	10 EA	.0	A	Y	N	1.000000
	7915							
2	350 12-54-0074	Ref: U5 IC OP-AMP TL074 SM	10 EA	.0	A	Y	N	1.000000
2	355 12-54-0084	Ref: U14 IC OP AMP QUAD TL084CD SM	10 EA	.0	A	Y	N	2.000000
2	360 12-54-4393	Ref: U23-24 IC DAC 96KHZ SM AK4393VF	10 EA	.0	A	Y	N	2.000000
2	365 12-54-5538	Ref: U20-21 IC OP-AMP DUAL LO NOISE	10 EA	.0	A	Y	N	6.000000
	NE5532AD8	SM SO-8						
2	370 12-62-4053	Ref: U4,U10-11,U13,U18,U22 IC SWITCH-ANALOG TRIPLE 2-CHAN	10 EA	.0	A	Y	N	1.000000
	TSSOP-16	SM CD4053BPW						
2	375 12-64-4223	Ref: U15 IC CONVERTER CODEC 24--BIT	10 EA	.0	A	Y	N	1.000000
	CS4223	SM						
2	380 12-64-5383	Ref: U16 IC ADC 24 Bit, 96KHz SM 28 SOP	10 EA	.0	A	Y	N	1.000000
	mfg p/n#	AK5383						
2	385 15-40-6138	Ref: U19 IC 6N138 OPTO-ISOLATOR	10 EA	.0	A	Y	N	1.000000
	DIP-8	TH						
2	390 15-64-0014	Ref: U1 IC 74HCT14 HEX INVERTER	10 EA	.0	A	Y	N	1.000000
	6 SM	Ref: U33						

LINE 6  
Vetta HD Parts List

2	395 15-64-0245	IC 74HCT245 OCTAL BUF LINE DRIVER 3-S 8 SM	10 EA	.0	A	Y	N	1.000000
		Ref: U30						
2	400 15-64-0541	IC 74HCT 541 OCTAL BUF/DRIVER 3-S 8 SM	10 EA	.0	A	Y	N	1.000000
		Ref: U31						
2	405 15-65-0000	IC 74LCX00 LOW VOLTAGE CMOS QUAD 2 INPUT NAND SO-14 SM	10 EA	.0	A	Y	N	1.000000
		Ref: U17						
2	410 15-65-0014	IC 74LCX14 LOW VOLTAGE CMOS INV HEX SCHMITT TRIGGER SM	10 EA	.0	A	Y	N	3.000000
		Ref: U3,U12,U34						
2	415 15-65-0074	IC 74LCX74M LOW VOLT CMOS DUAL D-FLIP FLOP SM	10 EA	.0	A	Y	N	1.000000
		Ref: U32						
2	420 15-65-0244	IC 74LCX16244MTD LOW VOLT CMOS OCTAL BUS BUFFER 3-S SM	10 EA	.0	A	Y	N	1.000000
		Ref: U41						
2	425 15-65-0245	IC 74LCX16245MEA LOW VOLT CMOS OCTAL BUS TRANSCEIVER SM	10 EA	.0	A	Y	N	1.000000
		Ref: U42						
2	430 15-67-0488	IC RS-485/422 TRANSCEIVER MAX488ECSA SO-8 SM	10 EA	.0	A	Y	N	1.000000
		Ref: U9						
2	435 15-70-1610	IC DRAM 1M X 16 SDRAM HY57V161610DTC-7 SM	10 EA	.0	A	Y	N	2.000000
		Ref: U37-38						
2	440 15-72-1021	IC SRAM 64K X 16 CY7C1021V33-15ZC SM	10 EA	.0	A	Y	N	1.000000
		Ref: U29						
2	445 15-84-5206	IC MPU COLDFIRE MCU MCF5206EFT QFP160 SM	10 EA	.0	A	Y	N	1.000000
		Ref: U27						
2	450 15-86-1065	IC DSP SHARC ADSP-21065LKS-240 MQFP208 SM	10 EA	.0	A	Y	N	2.000000
		Ref: U35-36						
2	455 15-92-1817	IC RESET 3.3V 5% ACTIVE-HI SM SOT-23 DS1817R-5/T&R	10 EA	.0	A	Y	N	1.000000
		Ref: U2						
2	460 21-00-6616	JACK 1/4" TRS 6-PIN PCB MT HORIZ TH	10 EA	.0	A	Y	N	4.000000

Ref: J8,J10,J12,J14

LINE 6  
Vetta HD Parts List

2	465 21-04-5075	JACK DIN 5-PIN FEMALE MIDI PCB-MNT RT-ANG LN 05075	10 EA	.0 A Y N	2.000000
		Ref: P1-2			
2	470 21-08-0013	JACK XLR MALE PCB MNT RT ANG TH NEUTRIK-NC3MAH	10 EA	.0 A Y N	2.000000
		Ref: J20-21			
2	475 21-16-0045	JACK RJ-45 8-PIN FEMALE PCB-MNT RT-ANG	10 EA	.0 A Y N	1.000000
		Ref: J19			
2	480 21-20-0030	HDR PCB MT DIL 30-PIN 2x15x .100 MALE SHRD VERT MT TH	10 EA	.0 A Y N	1.000000
		Ref: H7			
2	485 21-20-0204	HDR PCB MT SIL 4-PIN x 2mm FEMALE SHRD VERT MT TH	10 EA	.0 A Y N	1.000000
		Ref: H3			
2	490 21-20-0205	HDR PCB MT SIL 5-PIN x 2mm FEMALE SHRD VERT MT TH	10 EA	.0 A Y N	1.000000
		Ref: J26			
2	495 21-20-0206	HDR PCB MT SIL 6-PIN x 2mm FEMALE SHRD VERT MT TH	10 EA	.0 A Y N	1.000000
		Ref: H2			
2	500 21-20-1010	HDR PCB MT DIL 10-PIN 2x5x.100 MALE SHRD VERT MT TH	10 EA	.0 A Y N	1.000000
		Ref: H12			
2	505 21-20-1302	HDR PCB MT DIL 26-PIN 2X13-100 VERT MT TH	10 EA	.0 A Y N	1.000000
		Ref: H9			
2	510 21-20-1568	HDR PCB MT SIL 8-PIN X .156 MALE VERT-MNT FRIC-LOCK	10 EA	.0 A Y N	1.000000
		Ref: J49			
2	520 21-34-1116	Cable, Earthing green with yellow strip	10 EA	.0 A Y N	1.000000
2	525 24-09-0222	SWITCH SLIDE DPDT	10 EA	.0 A Y N	1.000000
		Ref: SW1			
2	530 30-00-0607	SCR 6-32 x 7/16 PHIL PN HD STL w/LK WASH ZINC	10 EA	.0 A Y N	3.000000
2	540 30-06-0006	NUT HEX NO.4 STL ZINC	10 EA	.0 A Y N	2.000000
2	550 30-18-3030	CLIP GND PCB .30x.30x.07	10 EA	.0 A Y N	7.000000
		Ref: J1,J38-40,J46-48			
2	555 30-51-0029	HEATSINK AL BLK ANODIZED	Ref: P4		1.000000

LINE 6  
Vetta HD Parts List

---

2	560 30-51-0057	HEAT SINK, BLACK ANODIZED AL, WAKEFIELD #287-1AB	10 EA	.0	A	Y	N	1.000000
		Ref: P5						
2	570 45-02-0001	IC PROGRAMMED FLASH v1.10 AX3 HEAD	10 EA	.0	A	Y	N	1.000000
2	575 45-06-0000	IC PROGRAMMED PLD REV B AX3	10 EA	.0	A	Y	N	1.000000
3	10 15-96-3232	IC PLD 32 CELL/32I/O LATTICE (AMD)M4A3-32/32-10VC TQFP44 SM	10 EA	.0	A	Y	N	1.000000
1	720 50-00-0152	ASSY FINAL CABINET VETTA HD	10 EA	.0	A	Y	N	1.000000
2	10 30-00-0007	SCREW No.10-12 FL HD PHILLIPS WOOD x.75	10 EA	.0	A	Y	N	1.000000
2	20 30-00-0008	SCREW 10-12 OVAL HD PHILLIPS x.75	10 EA	.0	A	Y	N	2.000000
2	30 30-00-1032	SCR 10-32 x 1 1/4 OVAL CT SK PHH NICKEL	10 EA	.0	A	Y	N	2.000000
2	34 30-51-0074	HDL BRKT TOP VETTA 11x3.7 AL ALY	10 EA	.0	A	Y	N	1.000000
2	35 30-51-0075	HDL BRKT VETTA 11.0x3.0 AL AL	10 EA	.0	A	Y	N	1.000000
2	40 30-57-0580	HANDLE/STRAP HEAVY DUTY BLACK	10 EA	.0	A	Y	N	1.000000
2	50 30-60-0002	LOGO LINE 6 FLAT BLACK 7.8x1.9 OVAL	10 EA	.0	A	Y	N	1.000000
2	55 30-63-0010	INSULATION, VOLARAPOLYOLEFIN F OAM, 26.5 x 1/4 x 1/16	10 EA	.0	A	Y	N	1.000000
2	70 50-00-0151	ASSY CABINET VETTA HD	10 EA	.0	A	Y	N	1.000000
3	20 30-00-6839	SCR WD 10-12 x 7/8" PHIL PN STEEL	10 EA	.0	A	Y	N	4.000000
3	22 30-00-9812	SCR NO.8 x 3/4 LG PHH TRUSS NICKEL	10 EA	.0	A	Y	N	16.000000
3	25 30-06-0010	NUT-T 10-32 STL	10 EA	.0	A	Y	N	2.000000

LINE 6  
Vetta HD Parts List

3	30 30-30-0002	CORNER, PRTCTR STL PWD CT MATTE SIL MFR:C1824PCS	10 EA	.0 A Y N	8.000000
3	55 30-36-0003	COVER VINYL BLACK 23oz. TAURUS/BLACK SHEETING	10 YD	.0 A Y N	.750000
3	70 30-75-0008	FOOT RUBBER 1.50" I.D. x .75"H BLACK	10 EA	.0 A Y N	4.000000
1	730 50-00-1102	ASSY FINAL POWER SUPPLY AX3 HD	10 EA	.0 A Y N	1.000000
2	10 30-00-0440	SCREW #4-40 X 3/8 Socket CAP ALLOY	10 EA	.0 A Y N	11.000000
2	20 30-00-0607	SCR 6-32 x 7/16 PHIL PN HD STL w/LK WASH ZINC	10 EA	.0 A Y N	4.000000
2	30 30-00-1632	SCR 6-32x3/8 PNH PHH TAP TITE STL BLK	10 EA	.0 A Y N	2.000000
2	40 30-00-2632	SCR 6-32 x .500 LG SHCS BLK	10 EA	.0 A Y N	3.000000
2	50 30-03-0400	WASHER #4 SPLIT LOCKWASHER ZINC	10 EA	.0 A Y N	11.000000
2	55 30-03-0425	WASHER,#4,0.125" ID,.233" OD, .018 HEIGHT,ZINC PLATE	10 EA	.0 A Y N	5.000000
2	60 30-03-0600	WASHER #6 SPLIT LOCKWASHER ZINC	10 EA	.0 A Y N	3.000000
2	70 30-03-0606	WASHER #6 FLAT ZINC	10 EA	.0 A Y N	3.000000
2	80 30-15-0404	SHOULDER BUSHING TO-220 VALPAK NY04-040-140-012TWG	10 EA	.0 A Y N	4.000000
2	90 30-51-0158	BRACKET MOUNTING FHD 2 P/S	10 EA	.0 A Y N	1.000000
2	100 30-51-6001	Heat sink, HD 2 P/S#1	10 EA	.0 A Y N	1.000000
2	110 30-51-6002	Ref: H4 Heat sink, HD 2 P/S#2	10 EA	.0 A Y N	1.000000
2	120 30-63-4002	Ref: H5 INSULATOR, THERMAL, MFG PN# K6-AC-104 TO-247	10 EA	.0 A Y N	2.000000
2	130 30-63-4005	PAD THERMAL TO-220 BERG-400-7-54	10 EA	.0 A Y N	4.000000
2	135 30-63-5050	GAP-PAD VO-SOFT .125"THK x .50 " x .50"			3.000000

LINE 6  
Vetta HD Parts List

---

2	140 50-00-0102	PCBA POWER SUPPLY VETTA HD	10 EA	.0	A	Y	N	1.000000
3	10 01-00-0100	RES 10R 5% 0805	10 EA	.0	A	Y	N	2.000000
3	20 01-00-0101	Ref: R51-52 RES 100R 5% 0805	10 EA	.0	A	Y	N	5.000000
		Ref: R22-23,R38,R53,R59						
3	30 01-00-0200	RES 20R 5% 0805	10 EA	.0	A	Y	N	2.000000
3	40 01-00-0684	Ref: R7-8 RES 680K 5% 0805	10 EA	.0	A	Y	N	4.000000
		Ref: R5,R37,R46,R54						
3	50 01-20-0102	RES METAL OXIDE 1K 2W 5% TH S/B 01-22-0102	10 EA	.0	A	Y	N	2.000000
3	60 01-20-0390	Ref: R49-50 RES METAL OXIDE 39R 2W 5% TH S/B 01-22-0390	10 EA	.0	A	Y	N	2.000000
3	70 01-20-0473	Ref: R33,R36 RES METAL OXIDE 47K 2W 5% TH S/B 01-22-0473	10 EA	.0	A	Y	N	2.000000
3	80 01-20-0623	Ref: R1-2 RES METAL OXIDE 62K 1W 5% TH S/B 01-21-0623	10 EA	.0	A	Y	N	1.000000
3	90 01-20-0750	Ref: R60 RES METAL OXIDE 75R 2W 5% TH S/B 01-22-0750	10 EA	.0	A	Y	N	2.000000
3	100 01-24-1001	Ref: R34-35 RES 1.00K 1% 0805	10 EA	.0	A	Y	N	3.000000
		Ref: R4,R6,R42						
3	110 01-24-1002	RES 10.0K 1% 0805	10 EA	.0	A	Y	N	3.000000
3	120 01-24-1003	Ref: R27,R44,R56 RES 100K 1% 0805	10 EA	.0	A	Y	N	3.000000
		Ref: R3, R32,R43						



LINE 6  
Vetta HD Parts List

3	122 01-24-1241	RES 1.24K 1% 0805	10 EA	.0	A	Y	N	1.000000
		Ref: R40 added on ECO# 130403						
3	130 01-24-1503	RES 150K 1% 0805	10 EA	.0	A	Y	N	3.000000
		Ref: R10,R18-19,R37 Deleted R37 on ECO# 130403						
3	150 01-24-2210	RES 221R 1% 0805	10 EA	.0	A	Y	N	1.000000
3	165 01-24-2322	RES 23.2K 1% 0805	10 EA	.0	A	Y	N	1.000000
		Ref: R28						
3	170 01-24-2742	RES 27.4K 1% 0805	10 EA	.0	A	Y	N	3.000000
		Ref: R31						
		Ref: R16-17,R20						
3	172 01-24-3652	RES 36.5K 1% 0805	10 EA	.0	A	Y	N	1.000000
		Ref: R12						
3	180 01-24-4751	RES 4.75K 1% 0805	10 EA	.0	A	Y	N	4.000000
		Ref: R13,R24,R26,R30						
3	190 01-24-4752	RES 47.5K 1% 0805	10 EA	.0	A	Y	N	4.000000
3	200 01-24-47R5	RES 47.5R 1% 0805	10 EA	.0	A	Y	N	1.000000
		Ref: R9,R11,R25,R39						
3	210 01-24-6191	RES 6.19K 1% 0805	10 EA	.0	A	Y	N	3.000000
		Ref: R29						
3	215 01-24-6813	RES 681K 1% 0805	10 EA	.0	A	Y	N	1.000000
		Ref: R14-15,R41						
		Ref: R37						

LINE 6  
Vetta HD Parts List

3	220 01-70-0009	THERMISTOR PTC 16V .1A TH	10 EA	.0 A Y N	1.000000
		Ref: PTC1			
3	230 03-00-0331	CAP CER DISC 330pF 1000V 10% TH 6/4.5/5	10 EA	.0 A Y N	2.000000
		Ref: C30-31			
3	240 03-00-0471	CAP CER DISC 470pF 1000V 10% TH 6/4.5/5	10 EA	.0 A Y N	2.000000
		Ref: C29,C32			
3	260 03-10-0228	CAP ELEC 2200uF 10V 20% 105C LowZ 0.04R RADIAL 12.5/25/5	10 EA	.0 A Y N	1.000000
		Ref: C35			
3	270 03-14-0476	CAP ELEC 47uF 25V 20% RADIAL 6.3/7/5	10 EA	.0 A Y N	3.000000
		Ref: C16,C19,C41			
3	280 03-14-1227	CAP ELEC 220uF 25V 20% RADIAL LowZ 0.15R RADIAL 8/15/5	10 EA	.0 A Y N	2.000000
		Ref: C33-34			
3	290 03-16-1108	CAP ELEC 1000uF 35V 20% 105C LowZ 0.04R RADIAL 12.5/31.5/5	10 EA	.0 A Y N	2.000000
		Ref: C3,C6			
3	300 03-20-0227	CAP ELEC 220uF 63V 20% 105C LowZ 0.07R RADIAL 12.5/20/5	10 EA	.0 A Y N	2.000000
		Ref: C4-5			
3	310 03-22-0108	CAP ELEC 1000uF 200V 20% SNAP-IN RADIAL 25/50/10	10 EA	.0 A Y N	2.000000
		Ref: C1-2			
3	320 03-24-0223	CAP MET-POLY 22nF 250V 10% TH 10.3/4.4/7.5/7.5	10 EA	.0 A Y N	1.000000
		Ref: C56			
3	330 03-41-0224	CAP X-CAP 0.22uF 275VAC 20% POLYPROPYLENE 18/9.5/17.5/15	10 EA	.0 A Y N	1.000000
		Ref: C42			
3	335 03-42-0471	CAP Y-CAP 470pF 250VAC 20% TH CER DISC 8D/7/7.5	10 EA	.0 A Y N	3.000000
		Ref: c43-c45			
3	340 03-50-0102	CAP NPO 1nF 50V 5% 0805	10 EA	.0 A Y N	1.000000
		Ref: C39			
3	350 03-52-0101	CAP X7R 100pF 50V 20% 0805	10 EA	.0 A Y N	1.000000
		Ref: C37			

LINE 6  
Vetta HD Parts List

3	360 03-52-0103	CAP X7R 10nF 50V 20% 0805	10 EA	.0 A Y N	1.000000
3	365 03-52-0104	Ref: C13 CAP X7R 0.1uF 50V 20% 0805	10 EA	.0 A Y N	3.000000
3	370 03-52-0221	Ref: C23-24,C54 CAP X7R 220pF 50V 20% 0805	10 EA	.0 A Y N	1.000000
3	380 03-52-0471	Ref: C12 CAP X7R 470pF 50V 20% 0805	10 EA	.0 A Y N	2.000000
3	390 03-52-0473	Ref: C17,C38 CAP X7R 47nF 50V 20% 0805	10 EA	.0 A Y N	6.000000
3	400 03-52-1103	Ref: C18,C40,C46-48,C53 CAP X7R 10nF 100V 10% 0805	10 EA	.0 A Y N	9.000000
3	410 03-52-1471	Ref: C7-11,C20-21,C22,C49, CAP X7R 470pF 100V 20% 0805	10 EA	.0 A Y N	3.000000
3	420 06-08-0068	Ref: C28,C36,C52 DIODE ZENER 6.8V 5% 1W DO-41 TH 1N4736A	10 EA	.0 A Y N	1.000000
3	430 06-16-0008	Ref: D26 DIODE BRIDGE-RECT 8A 600V 4-PIN SIL TH KBU8J	10 EA	.0 A Y N	1.000000
3	450 06-24-0460	Ref: D1 DIODE ULTRAFast 4A 600V TH MUR460	10 EA	.0 A Y N	2.000000
3	460 06-24-1660	Ref: D5,D10 DIODE ULTRAFast DUAL 8A 600V COM CATHODE MUR1660CT	10 EA	.0 A Y N	4.000000
3	470 06-28-8418	Ref: D6-9 DIODE ZENER 18V 5% 350mW SOT-23 SM BZX84C18 Ref: D14,D24,D40	10 EA	.0 A Y N	3.000000

LINE 6  
Vetta HD Parts List

3	480 06-32-0160	DIODE ULTRAFAST 600V 1A DO-214A SM MURS160	10 EA	.0	A	Y	N	3.000000
		Ref: D4,D13,D16						
3	482 06-32-1045	DIODE SCHOTTKY 45V 10A D2PAK SM MBRB1045	10 EA	.0	A	Y	N	1.000000
		Ref: D11						
3	490 06-34-0016	DIODE SWITCHING 75V 200mA 6nS SOT-23 SM BAS16LT1	10 EA	.0	A	Y	N	9.000000
		Ref: D3,D17-19,D21-23,D35,D37						
3	500 09-06-0460	TRANS MOSFET N-CHAN PWR 500V 0.27R TO-247AC TH IRFP460	10 EA	.0	A	Y	N	2.000000
		Ref: Q1-2						
3	510 09-06-7002	TRANS MOSFET N-CHAN 60V 7R5 SOT-23 SM 2N7002	10 EA	.0	A	Y	N	6.000000
		Ref: Q8,Q12-15,Q17						
3	520 09-10-4401	TRANS NPN SMALL-SIGNAL MBT4401 SOT-23 SM	10 EA	.0	A	Y	N	1.000000
		Ref: Q10						
3	530 09-10-4403	TRANS PNP SMALL-SIGNAL MBT4403 SOT-23 SM	10 EA	.0	A	Y	N	7.000000
		Ref: Q3-7,Q9,Q16						
3	540 11-10-0002	INDUCTOR CUR-SENSING TH PREMIER MAGNETICS PM-CI02	10 EA	.0	A	Y	N	1.000000
		Ref: T2						
3	550 11-10-0584	XFMR OFFLINE GATE DR TH PULSE P0584	10 EA	.0	A	Y	N	1.000000
		Ref: T3						
3	565 11-10-0831	INDUCTOR POWER FORWARD CONVERTER ICE ICA-0831	10 EA	.0	A	Y	N	1.000000
		Ref: L2						
3	570 11-30-0617	XFMR VERT BOBBIN 49/v20/-1rtg ICE ICA-0617	10 EA	.0	A	Y	N	1.000000
		Ref: T1						
3	580 11-30-0633	XFMR HOUSE-KEEPING ICE ICA-0633	10 EA	.0	A	Y	N	1.000000
		Ref: T4						
3	590 12-62-0234	IC CONTROLLER PWM POWER-INTERGRATIONS TOP234G SM	10 EA	.0	A	Y	N	1.000000
		Ref: U1						
3	600 15-68-3844	IC CONTROLLER PWM SO-8 UC3844D8	10 EA	.0	A	Y	N	1.000000
		Ref: U2						

LINE 6  
Vetta HD Parts List

3	610 21-20-0006	HDR PCB-MT SIL 6-PIN x.100 MALE FRIC-LCK VERT-MT TH	10 EA	.0 A Y N	2.000000
		Ref: H1-2			
3	620 21-20-1566	HDR PCB MT SIL 6-PIN X .156 MALE VERT-MNT FRIC-LOCK	10 EA	.0 A Y N	1.000000
		Ref: H6			
3	630 21-20-1568	HDR PCB MT SIL 8-PIN X .156 MALE VERT-MNT FRIC-LOCK	10 EA	.0 A Y N	1.000000
		Ref: H7			
3	640 21-20-2010	HDR PCB MT DIL 10-PIN 2x5x100 MALE SHRD VERT	10 EA	.0 A Y N	1.000000
		Ref: H3			
3	660 21-20-4002	HDR PCB MT SIL 2-PIN x .312 MALE RT ANG FRICT LOCK TH	10 EA	.0 A Y N	1.000000
		Ref: J2			
3	670 21-20-5002	HDR PCB MT SIL 2-PIN x .312 MALE VRT MNT FRIC LOCK TH	10 EA	.0 A Y N	1.000000
		Ref: J1			
3	675 21-29-0000	WIRE 20AWG 48.00mm INSUL SOLID STRIP-TINNED ENDS	10 EA	.0 A Y N	1.000000
		Ref: T2			
1	740 50-00-4001	PCBA LINE FILTER	10 EA	.0 A Y N	1.000000
2	10 01-12-0154	RES CARBON FILM 150K 1/4W 5% TH	10 EA	.0 A Y N	2.000000
		Ref: R1-R2.			
2	20 01-70-0516	THERMISTOR INRUSH 0.5R@16A 5/22/7.8 TH	10 EA	.0 A Y N	1.000000
		Ref: RT1.			
2	30 03-00-1102	CAP Y-CAP 1nF 250VAC 20% CER DISC 8D/7/7.5	10 EA	.0 A Y N	2.000000
		Ref: C3-C4.			
2	40 03-41-0224	CAP X-CAP 0.22uF 275VAC 20% POLYPROPYLENE 18/9.5/17.5/15	10 EA	.0 A Y N	1.000000
		Ref: C1.			
2	50 11-10-3501	INDUCTOR COMMON MODE LINE FILTER ICE LF-35040-0044	10 EA	.0 A Y N	2.000000
		Ref: L1-2			

LINE 6  
Vetta HD Parts List

2	60 21-14-8301	CON IEC ANGLED 10A IEC320 POWER-COMPONENTS 83011172	10 EA	.0	A	Y	N	1.000000
		Ref: J1.						
2	70 21-20-5002	HDR PCB MT SIL 2-PIN x .312 MALE VRT MNT FRIC LOCK TH	10 EA	.0	A	Y	N	1.000000
		Ref: J2.						
2	90 21-34-1806	CABLE EARTHING w/EYELET 18AWG 126MM	10 EA	.0	A	Y	N	1.000000
		Ref: Solder to through hole clip on pn# 21-14-8301 at M4						
2	100 21-48-9521	CLIP FUSE HOLDER	10 EA	.0	A	Y	N	2.000000
		Ref: F,F1.						
2	105 24-19-8250	FUSE 8 AMP 250V 5X20mm FAST ACTING Littlefuse 217 or equiv	10 EA	.0	A	Y	N	1.000000
		Ref: f,f1(install into fuse clip holders,pn# 21-48-9521).						
1	750 50-00-9101	ASSY FINAL POWER AMP VETTA HD	10 EA	.0	A	Y	N	1.000000
2	10 30-00-0010	SCREW 8-32 x.562 SCH CAP SCR	10 EA	.0	A	Y	N	10.000000
2	20 30-03-0002	WASHER #8 .293 x.174x .040 STEEL	10 EA	.0	A	Y	N	12.000000
2	30 30-06-0007	NUT .344 HEX 8-32 STEEL ZINC	10 EA	.0	A	Y	N	10.000000
2	40 30-51-0059-2	HEATSINK 6.0 IN LG AL ALY	10 EA	.0	A	Y	N	1.000000
2	50 30-51-0073	CLAMP HEATSINK TO-220 1.3x.45x.35" CR STEEL 1018	10 EA	.0	A	Y	N	10.000000
2	60 30-63-4001	PAD THERMAL TO-247 BERG-400AC-7-102	10 EA	.0	A	Y	N	8.000000
2	70 30-63-4005	PAD THERMAL TO-220 BERG-400-7-54	10 EA	.0	A	Y	N	4.000000
2	80 30-63-5050	GAP-PAD VO-SOFT .125"THK x .50 " x .50"	10 EA	.0	A	Y	N	1.000000
3	10 01-00-0000	RES 0R 5% 0805	10 EA	.0	A	Y	N	1.000000
		Ref: R166						
3	50 01-00-0334	RES 330K 5% 0805	Ref: R7,R78,R84					3.000000

LINE 6  
Vetta HD Parts List

---

3	60 01-00-0393	RES 39K 5% 0805	10 EA	.0 A Y N	4.000000
3	70 01-00-05R1	RES 5.1R 5% 0805	10 EA	.0 A Y N	8.000000
		Ref: R2,R25,R145-146			
3	90 01-20-02R2	RES METAL OXIDE 2.2R 2W 5% TH	10 EA	.0 A Y N	2.000000
	S/B 01-22-02R2				
		Ref: R23,R69			
3	100 01-20-0R22	RES METAL OXIDE 0.22R 2W 5% TH	10 EA	.0 A Y N	8.000000
	S/B 01-22-0R22				
		Ref: R19,R21,R30,R54,R94,R104,R106,R138			
3	110 01-24-1001	RES 1.00K 1% 0805	10 EA	.0 A Y N	4.000000
		Ref: R36,R109,R119,R128			
3	120 01-24-1002	RES 10.0K 1% 0805	10 EA	.0 A Y N	19.000000
		Ref: R49,R51-52,R62,R64,R67,R70,R73,R86-87,R97,R101,R108,R111, R142,R144,R147,R150-151,			
3	130 01-24-1003	RES 100K 1% 0805			18.000000
		Ref: R8,R13,R15,R26,R33,R35,R50,R55,R76-77,R79,R85,R130,R134, R143,R159-161			
3	140 01-24-1004	RES 1.00M 1% 0805			9.000000
		Ref: R31,R34,R74,R99,R121,R129,R149,R153,R155			
3	150 01-24-1102	RES 11.0K 1% 0805	10 EA	.0 A Y N	2.000000
		Ref: R6,R83			
3	160 01-24-1242	RES 12.4K 1% 0805	10 EA	.0 A Y N	4.000000
		Ref: R22,R24,R88,R152			
3	170 01-24-1500	RES 150R 1% 0805	10 EA	.0 A Y N	15.000000
		Ref: R3,R5,R12,R16,R18,R38,R44,R46,R96,R103,R105,R116-117,R123 R127			
3	180 01-24-1502	RES 15.0K 1% 0805			2.000000
		Ref: R39,R118			
3	190 01-24-2001	RES 2.00K 1% 0805		Ref: R60,R65,R148,R154	4.000000

LINE 6  
Vetta HD Parts List

3	210 01-24-2492	RES 24.9K 1% 0805	10 EA	.0	A	Y	N	2.000000
3	211 01-24-2493	Ref: R57,R114 RES 249K 1% 0805	10 EA	.0	A	Y	N	1.000000
3	215 01-24-2742	Ref: R63 RES 27.4K 1% 0805	10 EA	.0	A	Y	N	8.000000
3	225 01-24-3161	Ref: R9,R17,R20,R53,R75,R93,R110,R139 RES 3.16K 1% 0805	10 EA	.0	A	Y	N	2.000000
3	227 01-24-3482	Ref: R40,R126 RES 34.8K 1% 0805	10 EA	.0	A	Y	N	2.000000
3	260 01-24-4750	Ref: R89,R141 RES 475R 1% 0805	10 EA	.0	A	Y	N	15.000000
3	270 01-24-4751	Ref: R1,R4,R10-11,R41-42,R58,R61,R92,R102,R107,R112,R137,R157-158 RES 4.75K 1% 0805	10 EA	.0	A	Y	N	12.000000
3	280 01-24-4752	Ref: R37,R71,R81,R98,R100,R120,R122,R124-125,R132-133,R135 RES 47.5K 1% 0805	10 EA	.0	A	Y	N	2.000000
3	290 01-24-4753	Ref: R32,R131 RES 475K 1% 0805	10 EA	.0	A	Y	N	1.000000
3	295 01-24-4992	Ref: R56 RES 49.9K 1% 0805	10 EA	.0	A	Y	N	2.000000
3	300 01-24-6041	Ref: R43,R90 RES 6.04K 1% 0805	10 EA	.0	A	Y	N	3.000000
3	310 01-24-6492	Ref: R14,R72,R91 RES 64.9K 1% 0805	10 EA	.0	A	Y	N	1.000000
3	320 01-24-8251	Ref: R66 RES 8.25K 1% 0805	10 EA	.0	A	Y	N	1.000000
3	325 01-24-8871	Ref: R80 RES 8.87K 1% 0805 Ref: R113,R140	10 EA	.0	A	Y	N	2.000000



LINE 6  
Vetta HD Parts List

3	330 01-24-9092	RES 90.9K 1% 0805	10 EA	.0 A Y N	4.000000
3	340 01-70-0080	Ref: R29,R45,R68,R82 THERMISTOR 80C PTC TH 100/300/200	10 EA	.0 A Y N	1.000000
3	350 03-12-0107	Ref: RT1 CAP ELEC 100uF 16V 20% RADIAL 6.3/11/5	10 EA	.0 A Y N	3.000000
3	360 03-18-0105	Ref: C18,C22,C25 CAP ELEC 1uF 50V 20% RADIAL 5/11/5	10 EA	.0 A Y N	4.000000
3	375 03-18-0227	Ref: C54-57 CAP ELEC 220uF 50V 20% RADIAL 10/12.5/5	10 EA	.0 A Y N	1.000000
3	380 03-18-0336	Ref: C8 CAP ELEC 33uF 50V 20% RADIAL 5/11/5	10 EA	.0 A Y N	2.000000
3	390 03-18-0474	Ref: C1,C3 CAP ELEC 0.47uF 50V 20% RADIAL 5/11/5	10 EA	.0 A Y N	1.000000
3	400 03-22-0476	Ref: C9 CAP ELEC 47uF 100V 20% RADIAL 10/15/5	10 EA	.0 A Y N	4.000000
3	410 03-24-0334	Ref: C38-41 CAP 0.33uF 250V 5% FILM-POLY TH 12.5/6.5/11.5/7.5	10 EA	.0 A Y N	2.000000
3	420 03-32-0473	Ref: C6,C11 CAP POLYESTER 47nF 250V 10% TH 7.9/4.5/7.4/5	10 EA	.0 A Y N	2.000000
3	430 03-52-0101	Ref: C42-43 CAP X7R 100pF 50V 20% 0805	10 EA	.0 A Y N	2.000000
3	450 03-52-0222	Ref: C2,C7 CAP X7R 2.2nF 50V 20% 0805	10 EA	.0 A Y N	1.000000
3	460 03-52-0223	Ref: C16 CAP X7R 22nF 50V 10% 0805 SM	10 EA	.0 A Y N	4.000000
3	470 03-52-0470	Ref: C19,C36,C45-46 CAP X7R 47pF 50V 20% 0805	10 EA	.0 A Y N	8.000000
3	480 03-52-0473	Ref: C4-5,C14-15,C47-50 CAP X7R 47nF 50V 20% 0805	Ref: C10,C17,C20-21,C24,C27-28,C32-35,C37,C44,C51-53	16.000000	

LINE 6  
Vetta HD Parts List

3	482 03-52-1220	CAP X7R 22pF 200V 20% 0805	10 EA	.0	A	Y	N	2.000000
3	490 06-12-1045	Ref: C13,c26 DIODE SCHOTTKY 45V 10A TO-220AC TH MBR1045	10 EA	.0	A	Y	N	2.000000
3	500 06-28-8412	Ref: D8,D12 DIODE ZENER 12V 5% 350mW SOT-23 SM BZX84C12	10 EA	.0	A	Y	N	3.000000
3	510 06-28-8418	Ref: D6-7,D17 DIODE ZENER 18V 5% 350mW SOT-23 SM BZX84C18	10 EA	.0	A	Y	N	1.000000
3	520 06-28-8439	Ref: D21 DIODE ZENER 3.9V 5% 350mW SOT-23 SM BZX84C3V9	10 EA	.0	A	Y	N	1.000000
3	530 06-28-8468	Ref: D10 DIODE ZENER 6.8V 5% 350mW SOT-23 SM BZX84C6V8	10 EA	.0	A	Y	N	8.000000
3	540 06-34-0016	Ref: D1,D13-14,D16,D19-20,D22-23 DIODE SWITCHING 75V 200mA 6nS SOT-23 SM BAS16LT1	10 EA	.0	A	Y	N	11.000000
3	550 09-00-4403	Ref: D2-5,D9,D11,D15,D18,D24-25,D34 TRANS PNP SMALL-SIGNAL 2N4403 TH	10 EA	.0	A	Y	N	1.000000
3	560 09-00-5551	Ref: Q35 TRANS NPN SMALL-SIGNAL 2N5551 TH	10 EA	.0	A	Y	N	6.000000
3	570 09-06-0006	Ref: Q21,Q23,Q34,Q38,Q50-51 TRANS POWER-MOSFET N-CHAN MTP50N06V TH TO-220	10 EA	.0	A	Y	N	2.000000
3	585 09-06-0251	Ref: Q2,Q12 TRANS MOSFET N-CHAN 200V .075R TO-247 TH IRFP250N	10 EA	.0	A	Y	N	8.000000
3	590 09-10-0042	Ref: Q9,Q10,Q13-14,Q46-49 TRANS NPN POWER 300V 200mA SOT-23 SM MMBTA42	10 EA	.0	A	Y	N	3.000000
3	600 09-10-0092	Ref: Q3,Q37,Q42 TRANS SMALL-SIGNAL PMBTA92 SOT-23 SMD	10 EA	.0	A	Y	N	5.000000
3	610 09-10-4401	Ref: Q1,Q24,Q27,Q41,Q43 TRANS NPN SMALL-SIGNAL MBT4401 SOT-23 SM	10 EA	.0	A	Y	N	12.000000
		Ref: Q4-5,Q11,Q16,Q18,Q26,Q28-29,Q32,Q39-40,Q45						

LINE 6  
Vetta HD Parts List

3	620 09-10-4403	TRANS PNP SMALL-SIGNAL MBT4403 SOT-23 SM	10 EA	.0	A	Y	N	13.000000
		Ref: Q6-8,Q15,Q17,Q19-20,Q22,Q25,Q33,Q36,Q44,Q52						
3	630 09-10-4416	TRANS SMALL-SIGNAL SST4416 N-CHANNEL J-FET	10 EA	.0	A	Y	N	2.000000
		Ref: Q30-31						
3	640 12-54-0084	IC OP AMP QUAD TL084CD SM	10 EA	.0	A	Y	N	1.000000
		Ref: U10						
3	650 12-54-1082	IC OP-AMP DUAL TLC082CD SINGLE-SUPPLY SM	10 EA	.0	A	Y	N	3.000000
		Ref: U2,U6,U9						
3	660 12-54-1084	IC OP-AMP QUAD TLC084CD SINGLE-SUPPLY SM	10 EA	.0	A	Y	N	3.000000
		Ref: U3-5						
3	670 12-58-0339	IC COMPARATOR QUAD LM339D SM	10 EA	.0	A	Y	N	1.000000
		Ref: U7						
3	680 12-62-4066	IC SWITCH QUAD BI 14-PIN SM TI CD4066BM	10 EA	.0	A	Y	N	2.000000
		Ref: U1,U8						
3	690 21-20-0204	HDR PCB MT SIL 4-PIN x 2mm FEMALE SHRD VERT MT TH	10 EA	.0	A	Y	N	1.000000
		Ref: P4						
3	700 21-20-1564	HDR PCB MT SIL 4-PIN X .156 MALE VERT-MNT FRIC-LOCK	10 EA	.0	A	Y	N	1.000000
		Ref: P2						
3	710 21-20-1566	HDR PCB MT SIL 6-PIN X .156 MALE VERT-MNT FRIC-LOCK	10 EA	.0	A	Y	N	1.000000
		Ref: P3						
3	720 21-20-2010	HDR PCB MT DIL 10-PIN 2x5x100 MALE SHRD VERT	10 EA	.0	A	Y	N	1.000000

Ref: P1



**CONFIDENTIAL**

**VETTA Theory of Operation**

**M.D. / G.S**

**December 20, 2001**

- The \* sign next to a control signal name indicates that this control is active low

The Vetta Combo electronic circuitry is distributed across 8 PCBs:

- Vetta Power supply PCB
- Vetta Main PCB
- Vetta Power amplifier PCB
- Vetta U.I. (User Interface) Left PCB
- Vetta U.I. Right PCB
- Vetta Guitar Input PCB
- Vetta Headphone Output PCB
- Vetta Speaker Output PCB

**Power supply system:**

**On the Power Supply PCB:**

The main components of the power supply system are located on the power supply PCB. This is a switch mode power supply. Directly connected to the AC input is the line filter. The line filter limits the noise that the power supply injects into the AC line. L1 and L2 are common mode inductors, which work with “Y-caps” C6, 7, 43, 44, 45 to filter common mode noise. Common mode noise is on both the line and neutral. A Y-cap is connected from line or neutral to the chassis. The chassis should be connected to earth ground. There are two X-caps - C3, 43 which are connected from line to neutral and they filter differential noise. **Service note:** Both X and Y caps go through special testing from the safety agencies and should only be replaced with approved parts.

The fuse F1 provides protection in case of a failure in the primary circuit. **Service note:** It is very unlikely that this fuse will blow without a catastrophic failure. Never replace the fuse and apply power before repairing any failed components.

The negative temperature coefficient (NTC) thermistor RT1 limits inrush current when the unit is cold.

D1, C1, and C2 comprise a full-wave, or voltage doubler rectifier circuit. If a jumper is installed across J5, the unit is in voltage doubler mode and the nominal AC input range will be 100 to 120VAC. If no jumper is present the range is 200 to 240VAC. When the jumper is set properly for the available AC, the DC voltage across C1, C2 is a roughly constant 350VDC. **Service note:** If no jumper is installed (240VAC mode), and the unit is operated at 120VAC, it will function but it will not be able to output full power. If the opposite condition is present (jumper in 240VAC) the unit will get damaged (350V across 200V caps). Obviously, great care should be taken to avoid this condition.

The power converter is a flyback topology (The correct term for the magnetic element in a flyback converter is a coupled inductor but it is commonly referred to as a flyback transformer.

An inductor can store energy while an ideal transformer transfers energy but does not store it. We won't buck tradition so we'll call it a flyback transformer).

The basic operation is to apply the input voltage across T2-A by turning on Q3, 15. Energy is stored in T2 and all of the secondary diodes are reverse biased. When Q3, 15 turn off, the stored energy is transferred to the outputs. As the voltage fly's back, the secondary diodes are forward biased. Voltage clamp D17, C22, R17, 18, 20 limits the voltage across Q3, 15 by providing a path for primary current flow while the energy is being transferred from primary to secondary. The secondary voltages will track each other quite well as long as a nominal load is applied: **Service note:** This supply is not designed to be operated with no load, and this condition may over stressed the output caps. Constructing a test fixture with the following resistors will allow test bench operation: 390Ω 10W from J6.2 – J6.3; 390Ω 10W from J6.4 – J6.5; 10Ω 2W from J6.5 – J6.6; 330Ω 2W from J2.1 – J2.2; 330Ω 2W from J2.3 – J2.2; 10Ω 10W from J2.4 – J2.5

A buck regulator consisting of IC U3 Inductor L6 and Capacitor C59 regulates the voltage generated by winding T2\_B. This generates an 8V regulated output. Also, the voltages generated by the T2\_D winding are stepped down to ±18 V by the linear regulators U8 and U9.

The Voltage Feedback circuit monitors secondary voltages (+8Pre, +45Pre, -45Pre and PS\_Valid). The PS\_VALID signal is AC coupled into the feedback and does not play a part in determining the DC output voltages. Transistors Q1, 4, 5, 8, 9, 10, 12 comprise a circuit that does level shifting, voting and output voltage switching. The regulation scheme looks at +8Pre, +45Pre, and -45Pre and decides which is at, or below, their nominal regulation point and regulates this output. The other outputs are ignored and allowed to exceed their regulation points.

This circuit controls the duty cycle of the primary switching through the opto-isolator U1 and shunt regulator U4 on the secondary side. On the primary side, controller IC U2 (U2 is itself supplied by the T2\_E secondary winding) drives the gates of the main MOSFETs through buffer transistors Q2, 11. This provides the voltage regulation feed back loop. A thermal protection circuits monitors the temperature of the primary components through the thermistor NTC2, and shut down the controller IC U2 if necessary.

The sequence of events at application of power is as follows: C1, 2 are charged and current flows through R1, 2. The PWM chip U2 is in a low power mode and the main MOSFETs are not being switched. When the voltage at +HK (house keeping) reaches about 17V, the PWM chip starts running and the main MOSFETs start switching. The current supplied by R, 1 is not sufficient to allow continued operation so the voltage at +HK drops. If the secondary voltages ramp up properly, then winding T2-E will power +HK before it drops to the lower cut off point of about 10V. If there is a short on the output or one of several other failures, the PWM will shutoff at +HK=10V and +HK will start to charge again. This charge and discharge cycle will continue at a rate of several Hz. **Service note: Do not attempt to monitor primary voltages with an oscilloscope. The safest method is to use an isolation transformer. Removing the 'scope ground connection or "floating" the scope is potentially lethal for the technician or others that may come in contact with the 'scope.**

In addition the Z\_SELECT signal controls the voltage feedback circuit and allows to select one of two sets for DC output values:

	On connector J6 to the Power Amp			On connector J2 to the Main PCB			
	+ LO	- LO	-HI	+20V	-20V	PS_Valid	+8V
If Z_SELECT is set at +15V	+32	-32	-36	+18	-18	+20	+8
If Z_SELECT is set at 0V (or floating)	+45	-45	-50	+18	-18	+30	+8

This feature is used to adjust the voltage rail of the power amps (+LO and – LO) in function of the speaker impedance that they currently drive. For 8 Ohm load the Z-select line will be left floating and the supply will provide  $\pm 45$  Volts. For 4 Ohm load the Z-select line will be pulled to 15V and the supply will provide only  $\pm 32$  Volts. This will result in the same maximum audio power on each load setup.

The PS\_VALID validate the other supplies. A high level indicates that all the supplies are within a valid range. This line will also go low before any of the supply start to drop significantly.

Note that the ground references for the voltages on J6 (to power amp) and J2 (to main PCB) are not connected together on the supply. The same is true of the AGND and DGND signal on J2. They will be connector together only through the Main PCB and Power Amp PCB.

**On the Main PCB:**

The  $\pm 18V$  (labeled  $\pm 20V$  on the connector J49) are further stepped down and regulated  $\pm 15V$  by the linear regulators U7 and U8. These  $\pm 15V$  supplies directly drive a number of Op amps on the main board and on the power amp PCB. The  $\pm 15V$  are both further filtered by an RC network (R165 and R166) to create the  $\pm 15V\_IN$  supplies, which are used by the op amps of the guitar input circuitry. This extra filtering removed any possibility of supply induced audio feedback between the audio output and input stages. Finally, the  $\pm 15V$  are also delayed and slowly ramped up over a two seconds period after the main power is turned on (detected by the state of PS\_VALID) by the circuitry around Q2 and Q1. The resulting  $\pm 15V\_DEL$  supplies are used by the op amp U14 which drives the Direct output connectors. This setup limits the audio thump, which would otherwise appear on the direct outputs when the main power is turned ON or OFF.

The +8V is stepped down and regulated to +5VA (A= Analog) by U25, +5V by U6 and +3.3V by U8.

The +5VA is used only for the Audio converters U19, U20, U18, and U16.

The +5V supplies the logic on the Main PCB and the U.I. PCBs.

The 3.3V supplies the logic on the main PCB including the microprocessor (Coldfire) U27 and the two Sharc DSPs U35 and U36.

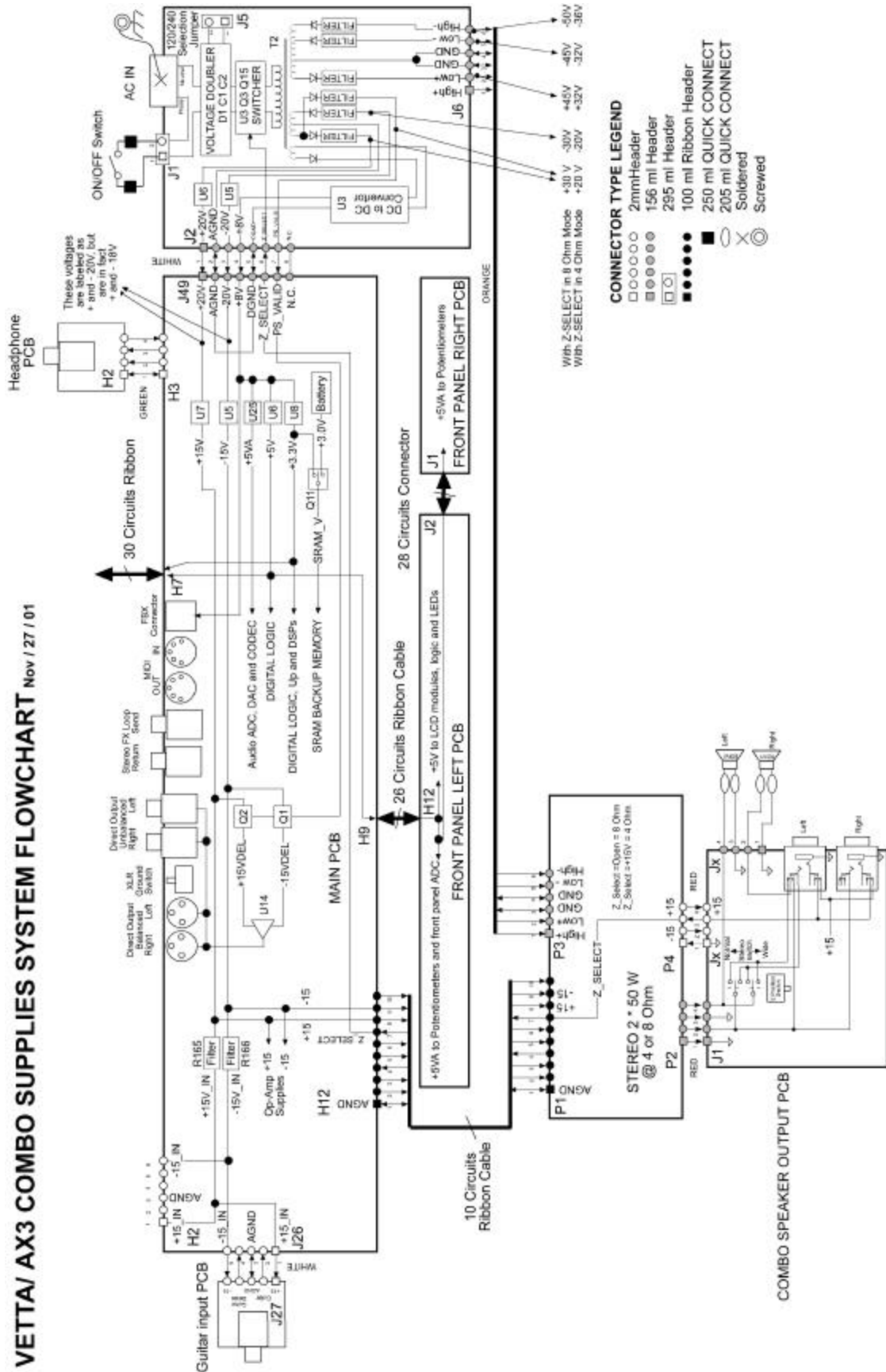
The +8V also directly supplies the FBX (Foot Controller Option) where it will be regulated down to 5V.

While the main power is turned ON, the 3.3V supply the SRAM U29. When the main power is OFF the SRAM supply is maintained (to avoid memory lost) by the battery BAT2 voltage. The battery voltage should be above 2.7V. If it drops below the battery should be replaced. The current draw on the battery, while the main power is OFF, should be less than 3.7 micro amps. This will correspond to a maximum voltage of 100mV across R185. With this maximum current, and a fresh battery, the battery life should be a minimum of six years.

**On the U.I. PCBs:**

After arriving on the U.I. Left PCB, the +5V and its ground (GND) are separated into two local signal pairs +5V/ GND and +5VA/AGND. The separation between these pairs is only achieved through the U.I. PCB layout. The +5VA/AGND drives the 10 potentiometers and the front panel ADC U10. The +5V/ GND drives all other circuits on the front panel PCBs. This setup improves the potentiometer jitters immunity.

# VETTA/ AX3 COMBO SUPPLIES SYSTEM FLOWCHART Nov / 27 / 01





## **Audio system:**

### **On the Main PCB:**

There are four independent audio circuits on the main PCB. The only audio connection between them is through the DSP signal path.

### **Guitar input (Page 7 of 8 of Main PCB schematics):**

The guitar input is first buffered and amplified on the Guitar Input PCB before it reaches the Main PCB at connector J26 (15Vpp @ 5Vpp at the guitar jack). An analog switch made of U15 and U22 allows for selecting the input signal either from J26, or from an optional I/O PCB connected to the main PCB at connector H2. This option board is currently not available, and until then this switch will not be used and is permanently switched to the J26 input (= The Guitar/Line\_Select control signal should be at 3.3V). After the switch, the signal is spliced into two branches. R96 and R23 divide by 3 the upper branch to +/-2.5 VPP (@ 5Vpp at guitar input). C40 allows this signal to be DC biased at +2.5V by the ADC input. Q7 and Q8 clip the signal to a maximum range of 0/5V. The signal then enters the right channel of the ADC U19. In the lower branch, U22-B adds a gain of 5.3 to the signal. C39 allows this signal to be DC biased at +2.5V by the ADC input. D14 and D15 limit the maximum signal swing to a -0.6V /+5.6V range before entering the left channel of ADC U19. The net result is that the ADC left channel is feed by a signal 16 times larger than the one on the right channel. Once these signals are converted and moved into the DSP#1, the DSP code will monitor the amplitude of the signals and use the one of the two versions most appropriate for the current input level. This scheme allows for significantly improving the signal noise and low-level distortion performance of the ADC.

### **Direct output (Page 5 of 8 of Main PCB schematics):**

The direct output audio circuit supplies the audio signals to the Direct 1/4' jacks and XLR Outputs. The digital signal from DSP#2 feeds DAC U21. The left and right differential outputs of the DAC are amplified and Low Pass filtered (FC = 31KHz) by U18\_A and B. U18 outputs directly feed the headphone amplifier made of U24 and U23. They also feed a differential buffer made of U14 which drives the XLR balanced outputs, and, through a divider made of R12/R6 R13/R7, the 1/4' unbalanced outputs. Notice that U14 is supplied by ±15VDEL supplies (see Main PCB power supply operation for the justification).

### **Power Amp output (Page 6 of 8 of Main PCB schematics):**

The power amp output audio circuit supplies the audio signals to the power amp differential inputs. The digital signal from DSP#2 feeds DAC U20. The left and right differential outputs of the DAC are amplified and Low Pass filtered (FC = 31KHz) by U13\_A and U4\_A. Their outputs directly feed the left and right positive inputs of the power amp through connector H12. (U39 shown on schematic version C was removed and bypassed by an ECO prior to FCS). U13\_B and U4\_B invert the signal and feed the left and right negative inputs of the power amp.

### **Effect loop (Page 6 of 8 of Main PCB schematics):**

The effect loop audio circuit provides a path to bring the analog FX Return signals into the DSP#2 and to bring DSP#2 digital audio output to the analog FX Send.

FX Return:

Diodes D3/D4 and D5/D11 protect the op amp U10 from overdriving and electrostatic discharges. R44/R170 and R43/R169 attenuate the FX Return signal from the maximum specified 20Vpp to 5Vpp. R44 and R43 also protect the input of the CODEC ADC in case the voltage would exceed +/-2.5V. C14 and C15 allow the signal to be DC biased at +2.5V by the ADC input. D8/D7 and D10/D9 are not installed on the PCB. The ADC output of CODEC U16 feed DSP#2.

**FX Send:**

The differential outputs of CODEC U16 DAC are amplified and low pass filtered (31KHz) by U11\_A and B. U11 outputs feed the FX Loop ¼' jack (20Vpp max)

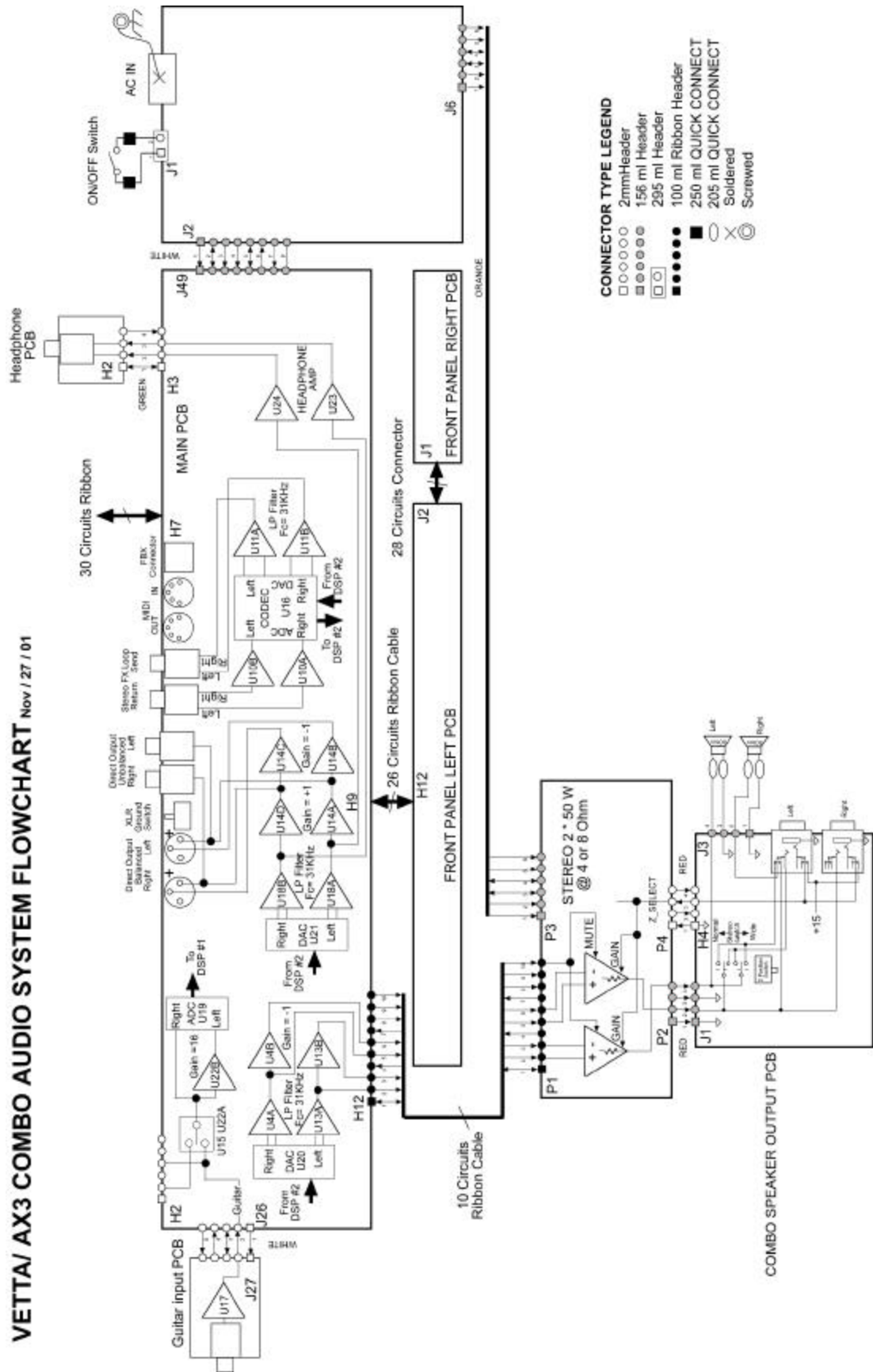
**On the Power Amp PCB:**

The differential inputs at connector P1 feeds the two power amps. Notice that the gain of the power amp is conditioned by the status of the Z-Select line. This allows for setting the maximum power amp output swing, and power, in function of the current load impedance (4 or 8 Ohm). Notice also that the power amp can be muted by the POWERAMP\_MUTE\* signal (0V = muted, above 3V = un-muted)

**On the Speaker Output PCB:**

The function of SPLIT switch on the Speaker Output PCB is described in the VETTA User Manual. The wiring of the ¼' jack J9 is such that if no jack is plugged into it, the split switch SW2 default to the Split OFF position. This was designed so that if no external speaker is plugged in the LEFT speaker output jack the split switch will have no effect on the speaker signals routing.

**NETTA/ AX3 COMBO AUDIO SYSTEM FLOWCHART** Nov / 27 / 01



## **Clock system:**

Except when the digital I/O option board is used (currently not available), all the clocks are contained within the Main PCB.

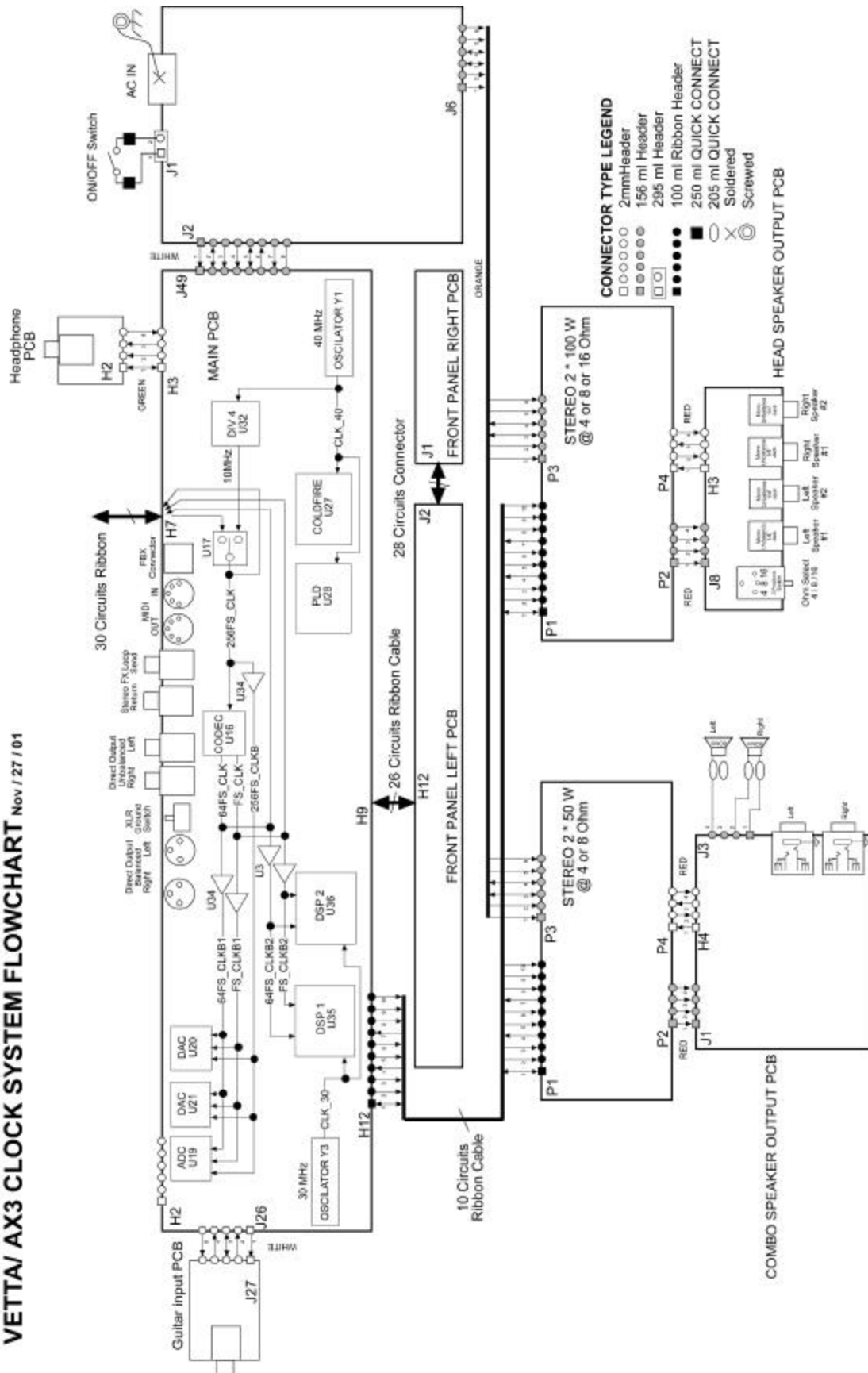
There are two master clocks: CLK\_30 (30MHz) and CLK\_40 (40MHz).

The crystal oscillator Y3 generates the CLK\_30 clock. Its only purpose is to set the execution speed of the two Sharc DSP U35 and U36.

The crystal oscillator Y1 generates the CLK\_40 clock. It has a number of distinct functions:

- 1). It sets the execution speed of the microprocessor U27 and drives all its peripheral access timing through the PLD U28.
- 2) It provides the run rate for the MIDI and FBX interface (internally generated in U27).
- 3) After being divider by four by the flip-flop U32 it becomes the 256FS\_CLK (10MHz) which is the master clock for the audio sample rate. U17 implements a two-way switch, which allows for using an alternate clock generated on a future digital I/O option card. This card is not currently available and the switch should always be set to the U32 divider branch (= the SEL\_LOCAL/OPTION\* control signal should remain high). The 256FS\_CLK drives the CODEC U16, which generates the FS-CLK ( $256FS\_CLK/256= 39.0625KHz$ ) and the 64FS\_CLK ( $FS\_CLK * 64 = 2.5MHz$ ) signals. After buffering by U34 the 256FS\_CLKB, 64FS\_CLKB1, and FS\_CLKB1 clocks drive the guitar input ADC U19 and the direct and power amp output ADC U21 and U20. Also, after buffering by U3, the 64FS\_CLKB2, and FS\_CLKB2 drive the DSP #1 and #2 to synchronize the DSP processing with the converters sample rate.

# VETTA/ AX3 CLOCK SYSTEM FLOWCHART Nov / 27 / 01



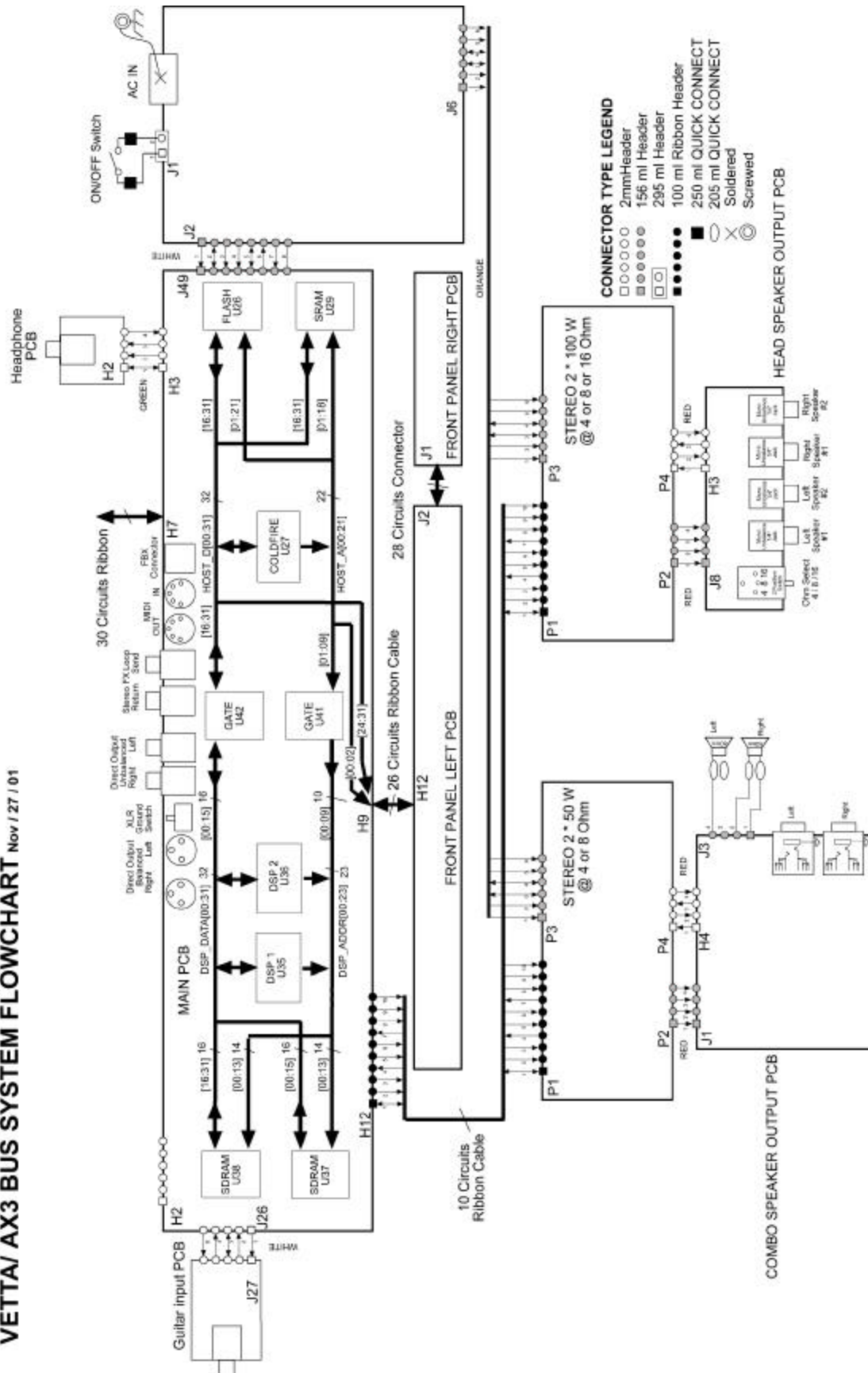
## **Bus system:**

DSP #1 U35 and #2 U36 share a common 32 bit wide data bus named DSP\_DATA[00:31] and a 24 bit wide address bus named DSP\_ADDR[00:23]. These buses allow for communication between the DSPs and with the SDRAM. The SDRAM can be configured either with two 1Meg. by 16 ICs (U37 and U38) or two 4 Meg. by 16 ICs (U39 and U40). The current Main board is stuffed with U37 and U38 (1Meg.) (U39 and U40 are not installed on the PCB). Since each SDRAM IC is only 16 bit data wide they each carry only half of the DSP data bus. U37 and U38 are accessed together as a single 1 Meg by 32 bit wide SDRAM with U37 carrying the 16 less significant bits and U38 carrying the 16 most significant bits. These two busses also permit communication between the DSPs and the microprocessor U27. The address bus lower 10 bits [00:09] can be driven by the microprocessor through the tri-state gate U41. The lower 16 bit of the data bus [00:15] can be bidirectionally connected to the microprocessor address bus through the bidirectional buffer U42. This interface permits to move the DSP code from the microprocessor flash memory U26 into the DSP memory upon power on initialization. It also permits to send new parameters to the DSP when a new patch is recalled or a U.I. control is changed. This interface must be working for the DSP to run valid code after power on.

On the microprocessor side, the 32-bit data bus is called HOST\_D[00:31], and the 24-bit address bus is HOST\_A[00:21] (bit 22 and 23 are not used). Through these buses the microprocessor can access the FLASH memory U26 that holds the microprocessor and DSP code. The data to the FLASH is bidirectional allowing the microprocessor to transfer new code from MIDI to the FLASH thus allowing reprogramming the VETTA software operations from the outside. These buses also connect to the SRAM U29, which is permanently supplied by a battery, and hold the user defined data setups.

Finally, to allow bidirectional communication with the U.I. PCB, bit 24 to 32 of the data bus are bidirectionally buffered by U30 to the U.I. bus FB\_D[00:07]. U31 buffers the 3 less significant bits of the address bus.

**NETTA/ AX3 BUS SYSTEM FLOWCHART** Nov / 27 / 01



## **I/O system:**

The following Input and Output (I/O) signals control the VETTA operations

### **GUITAR\_IN\_SENSE**

This input signal is generated on the Guitar Input PCB and read on the Main PCB by an I/O pin of DSP #1. It is high when a jack is plugged in the guitar input and low otherwise.

When this signal is read low (= no jack plugged in), the DSP mutes the audio signal path in order to keep the noise on the audio outputs at a minimum

### **On the Option Board (not available yet):**

#### **LINE\_IN\_SENSE (USED ONLY WITH OPTION BOARD PRESENT)**

This input signal is generated on the option board (when present) and read on the Main PCB by an I/O pin It is high when a jack is plugged in the Line input of the option board and low otherwise. As with the GUITAR INPUT, muting is applied to the DSP if the LINE input is selected and no jack is present (=Low).

#### **Option card ID reading (USED ONLY WITH OPTION BOARD PRESENT)**

If an option card is installed, the firmware can read from it an eight-bit serial ID code unique to that type of card. If no card is installed the ID read will be 0FFh

The IDs currently assigned are:

000h	=	Digital OUT only card
001h	=	Digital IN and OUT card
...		Unused
0FFh	=	No card

### **Hardware version reading**

The three lines BDM\_DDDATA0 = bit 0, BDM\_DDDATA1 = bit 1, and BDM\_DDDATA2 = bit 2 can be read at anytime by the microprocessor U27 to determine what hardware revision of the Main PCB hardware is being used. The code read is determined by the set up of the three resistors R125, R130, and R131 that can be installed to be either pull down or pull up.

This allows for future version of the firmware to automatically adapt to older Main PCB hardware version. The first board version released in the market had code 0 (= all three resistors are wired to be pull down). If necessary, following version code will increment by 1. Seven hardware IDs from 0 to 06h are allowed. The hardware differences of relevance to the firmware between the Main PCB versions will be documented in ECOs. Code 07h is reserved for test mode.

### **Test mode reading**

When, while during the firmware initialization, the three lines BDM\_DDDATA0 = bit 0, BDM\_DDDATA1 = bit 1, and BDM\_DDDATA2 = bit 2 are read all high (07h) by the microprocessor U27, it signals that the MAIN BOARD is being tested (likely on a bed of nail fixture), and that the test firmware should be executed instead of the regular firmware. Those three lines can be forced high by the tester's bed of nail by forcing the right side of R125, R130, and R131 to 5 volts.



**Z-SELECT status reading (CURRENTLY UNUSED)**

The status of the Z\_SELECT signal can be read by the microprocessor U27 through the circuit made of Q6 and Q9 (page 8 of 8 of the Main PCB). The reading is done in two paths.

- First the BDN-DDATA3 line is read while the Option\_Sel\_3\* line is held **low**. This first reading brings bit 0 of the Z\_Select status.
- The BDN-DDATA3 line is read again while the Option\_Sel\_3\* line is held **high**. This second reading brings bit 1 of the Z\_Select status.
- The status of the Z\_Select is then determined as follows

	<u>Bit 0</u>	<u>Bit 1</u>	
4 Ohm (+15V)0	1		
8 Ohm (open)	1	1	
16 Ohm (-15V)	1	0	(used only on VETTA Head)

**GUITAR/LINE\*\_SELECT (USED ONLY WITH OPTION BOARD PRESENT)**

This output control line, generated by an I/O pin of DSP #1, controls the analog switch made of U15 and U22 (page 7 of 8 in Main PCB) and selects which one of the GUITAR or LINE jack (on the option board) is active. A high level (3.3V) selects the GUITAR jack and a low level selects the LINE jack. Due to the possible presence of different DC offset level on each input an audio click could appears on the output when this signal is switched. To avoid this the following switching sequence is used:

- 1) Ramp the amplitude of the DSP audio path to 0 over approximately 20ms second
- 2) Switch the GUITAR/LINE\_SELECT Line.
- 3) Ramp the amplitude of the DSP audio path back to its original level over approximately 20ms second

NOTES:

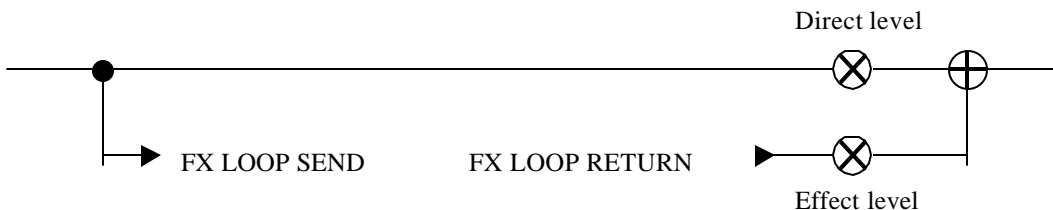
- On all three VETTA versions the LINE INPUT is available only if a DIG I/O card is installed. Therefore if a DIG I/O card is not installed the GUITAR / LINE selection page is not available on the menu.

**RESET-IO\***

This output line, generated by an I/O pin of DSP #1, resets the main ADC, both DACs, the effect loop CODEC, and the option card (when present). It is pulsed low for a few microseconds as soon as the firmware starts to run.

**FX\_RET\_SENSE**

This input signal, generated by effect return ¼' jack J10 (page 6 of 8 of the Main PCB), is read by an I/O pin of the DSP #1. It is high when a jack is plugged in the FX LOOP RETURN jack and low otherwise. When no jack is sensed on this input (= low), the DSP Direct Level on the diagram below is set a 1 and the Effect Level at zero.



### **POWERAMP\_MUTE \***

This output signal is generated by an I/O pin of DSP #1. When low it mutes the power amps. It is kept low from the start up of the firmware until all DSP code is downloaded and running, all memory is cleared, and the +/- 15DEL (delayed +/- 15 V supplies) are up. This last item takes about 2 seconds from the time the AC power is turned ON. The POWERAMP\_MUTE\* signal is combined with the PS\_VALID signal (see power supply PCB) by D16, R175 and R174 (page 6 of 8 of the Main PCB). This arrangement helps muting the power amp as soon as the power supply starts to fall, and therefore limits the amount of audio thump when the power is turned OFF.

### **MONO/STEREO\***

This input signal is generated on the Speaker Output PCB, and is read by an I/O pin of DSP #1. Since the VETTA Combo always runs in stereo, it is grounded and will always read low. This signal will be used in the VETTA Head.

When the unit is running in VETTA COMBO mode (as determined by a flag stored in the flash memory) the MONO/STEREO\* input is ignored and the unit defaults to stereo.

### **Z\_SELECT**

The Z\_Select line is an analog signal generated on the Speaker Output PCB. Its level indicates the current setting of the Power Amp output impedance. Its analog voltage level versus speaker's impedance setting is as follows:

4 Ohm	= +15V
8 Ohm	= 0V (or open)
16 Ohm	= -15V (Used only on VETTA Head)

The status of the Z\_SELECT line affects two parameters in the VETTA

- 1) It changes the gain of the power amp (see Audio System)
- 2) It changes the rail voltages of the power amp (see Power Supply System)

### **HEADPHONE\_SENSE**

This input signal is generated on the Headphone Output PCB, and is read by an I/O pin of DSP #1. It is high when a jack is connected to the headphone output jack and low otherwise. When a jack is connected into the Headphone Output (presumably a headphone), the DSP signal going to the power amp DAC (U20) is muted.

When the unit is running in VETTA HEAD mode (as determined by a flag stored in the flash memory) the status of this line is ignored and the mode default to “no headphone plugged in” (= do not turn off the power amp).

### **LCD Temperature compensation:**

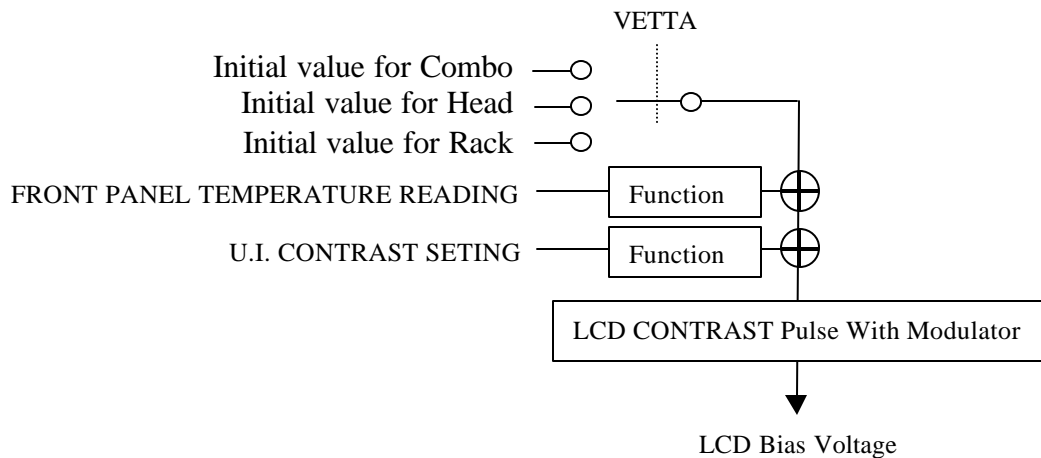
Because a fair amount of heat is generated in the Vetta chassis, and because the contrast of the U.I. LCDs is significantly affected by this heat, the VETTA implement a compensation scheme to automatically adjust the LCD contrast setting in function of the chassis internal temperature. To this effect, the temperature under the large graphic LCD is sensed on the U.I. Left PCB by U11 (page 1 of 3 of U.I. left half). This IC generates a DC voltage proportional to the sensed

temperature (GRAPHICLCD\_TEMP line). This voltage is digitized by the U.I. ADC U10 (page 2 of 3) and read by the main PCB microprocessor. The microprocessor code uses this temperature reading, plus two other parameters, to determine the required LCD contrast through the following process:

- 1) According to the VETTA version an initial value is selected which optimize the viewing angle as follows:
  - Bottom for VETTA Combo
  - Front for VETTA Rack (not available)
  - Top for VETTA Head
- 2) The front panel temperature reading is scaled by a function and added to this initial value. This automatically corrects for the LCD contrast change with temperature.
- 3) The U.I. user adjustable LCD contrast setting is scaled by a function and added

The scaling functions, initial values and contrast values are different for the graphic and alphanumeric LCD, but the temperature reading is common to both.

The following diagram represents the firmware flowchart for one of the LCD



The result of this computation is used to control the duty cycle of two 100Hz pulse generators implemented by the main PCB microprocessor U27 and the two U.I. PCB flip-flops U1-4 and U1-B. Each of these flip-flops output is then rectified by Q18, R4 and C24 for the graphic LCD and R1, R3 and C23 for the character LCD. This produces two negative voltages proportional to the generator's duty cycle. These voltages are then sent to the LCDs contrast adjustment pin.

While the Vetta is in test mode (power the unit with the REVERB switch depressed), the software does not perform the temperature compensation algorithm. For this reason, when the Vetta is running in test mode, and the unit had had a chance to significantly warm up, the contrast of the LCD will be significantly off.

**U.I. potentiometers:**

The 10 U.I. potentiometers (6 on the left side, and 4 on the right side) provide a voltage from 0 to 5V. These voltages are digitized by the U.I. ADC U10. The resulting serial stream is read by the Main PCB microprocessor U27.

**U.I. LEDs:**

All of the U.I. LEDs (except the LCD's backlight LEDs) are multiplexed in a 15 row by 5-column matrix. The rows of the matrix are driven by U4, U3 and the associated 16 buffer transistors. The columns of the matrix are directly driven by U9. The multiplexing cycle is about 10ms long. The matrix driver circuit resides on the Left U.I. PCB (page 3 of 3 of left U.I. PCB).

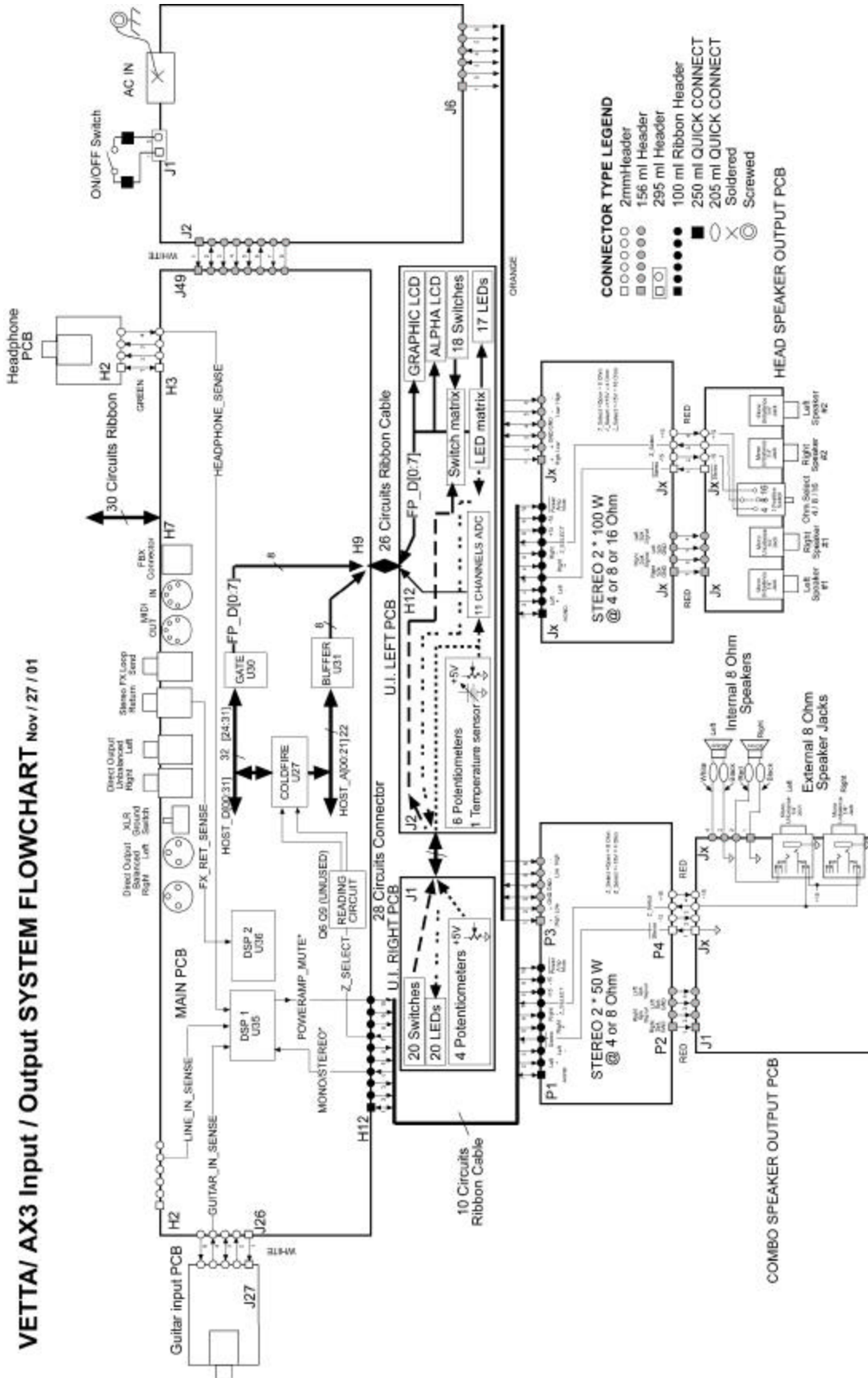
**U.I. Switches and encoders:**

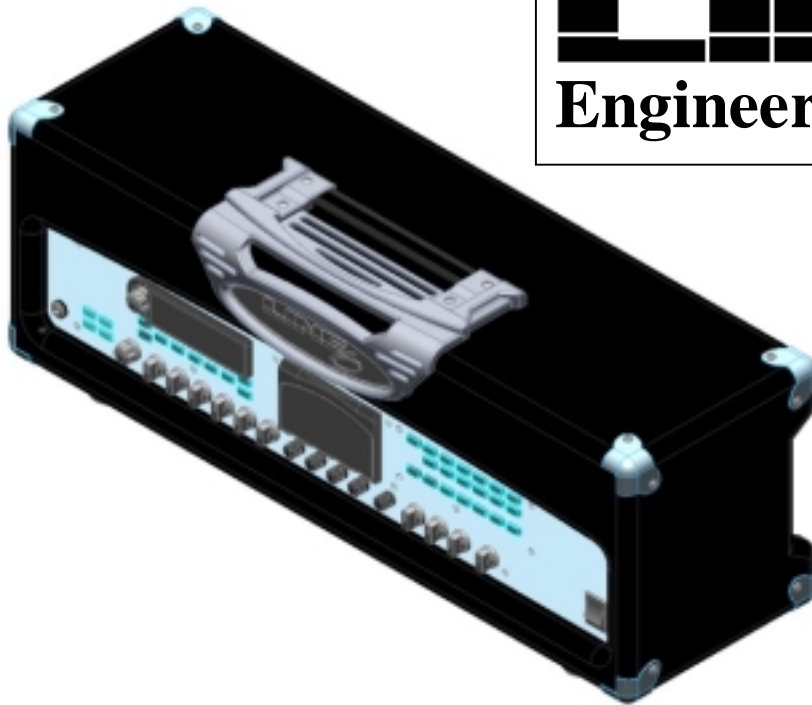
All of the U.I. switches are read in a 5 by 7 matrix. One side of the matrix is driven by U5, and the other by U7 (page 2 of 3 of left U.I. PCB). The encoders, except E8 (program select), are read in a 12 by 2 matrix driven by U6 and U4. E8 is read directly by U6. Notice that the encoders are 24 positions except for E9 (amp select) and E14 (Page).

**U.I. LCDs:**

Both LCD modules are written to and read from through the U.I. PCB parallel bus FP\_D[0:7]. Their electronic is supplied with the +5V. Their backlight LED are also supplied from the 5V through current limiting resistors, R46 for the graphic LCD and R12 for the Character LCD.

# VETTA/ AX3 Input / Output SYSTEM FLOWCHART Nov / 27 / 01





## Forward and Notes

The information in this booklet applies the Vetta Head.

This booklet deals with the assembling the major sub-assemblies, the final product, and quality/inspection considerations. See also the Related Electrical assembly documentation, for major considerations in assembling the electrical components of the PCBs (through the soldering process and preparation of the board for addition of custom components).

*A note on the text: the illustrations in this book are for reference only. In some cases, color and geometry of illustrations may not accurately reflect the color or exact geometry of actual parts.*

- Unless otherwise noted, all dimensions are in inches.
- Part identifying notes are in this format: Description (Part Number)
- Drawings are not to scale.
- Torque value tolerance +/- .5 in.-lbs. Do not over tighten any components.
- For clarity, not all component details are shown. This is especially true with respect to cable assemblies. They are often omitted from views to provide a clearer picture of the material discussed. Do not be confused by the absence (or unexpected presence) of any component in the illustrations in this book.

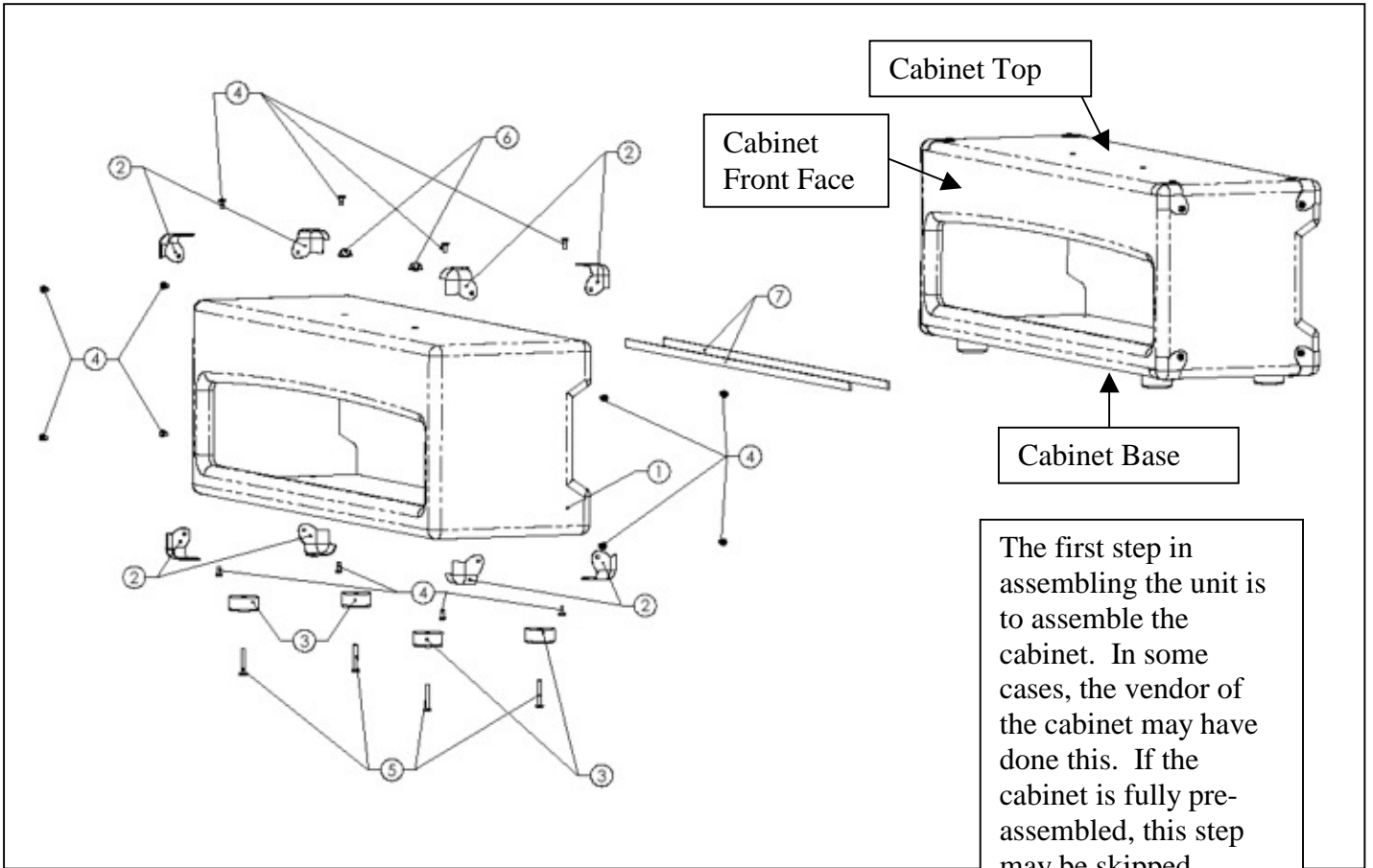
# *Vetta Head Mechanical Assembly Instructions*

## *Table of Contents*

<b>Forward and Notes .....</b>	<b>1</b>
<b>Cabinet Assembly .....</b>	<b>3</b>
a) Attach the Corners and Rubber Feet.....	4
b) Attach foam strips to cabinet.....	5
c) Test and inspect the Cabinet Assembly .....	5
<b>Power Amp Assembly.....</b>	<b>6</b>
a) Bend Power Components.....	6
b) Attach power components and pads .....	7
c) Attach the Power Amp PCB to the Heat Sink.....	9
d) Secure PCB Assy with the device clamps. ....	9
<b>The Power Supply Assembly .....</b>	<b>11</b>
a) PCB Assembly Notes (See Figure 1): .....	12
b) Assemble Power Components to Heat Sink (See Figure 2):.....	13
c) Attach Heat Sink / Power Device assembly to PCB.....	14
d) Assemble PCBA & Heat Sink Assembly to Power Supply Bracket:.....	15
<b>The Chassis Assembly .....</b>	<b>16</b>
a) Attach the Expansion Slot Cover Plate.....	17
b) Insert the Line Filter board .....	17
c) Insert the Power Supply PCB .....	18
d) Attach the Speaker Output PCB .....	18
e) Insert the Power Amp Assembly .....	19
f) Attach Foam Block to the chassis and the Main Board PCB .....	20
g) Inspect the Completed Sub-Assembly.....	22
<b>The User Interface (UI) PCBs.....</b>	<b>23</b>
a) Place Standoffs and Displays .....	24
b) Pre-assemble Button Assemblies .....	25
c) Place Button Assemblies.....	26
d) Inspect the UI PCBs.....	27
<b>The Chassis Cover Assembly .....</b>	<b>28</b>
a) Attach the Overlay, foam pads & shoulder washers .....	29
b) Attach the Bezels.....	31
c) Position Keycaps .....	32
d) Attach the UI PCBs and Guitar Input Jack to the Chassis Cover .....	33
e) Inspect the Completed UI Panel Sub-Assembly.....	34
<b>Cable Assemblies .....</b>	<b>35</b>
a) Connect the Cable Assemblies & tie wrap positioning.....	36
b) Set the voltage jumpers .....	40
<b>Completing the Electrical Chassis.....</b>	<b>41</b>
a) Attach the Chassis Cover Assembly to the Sub-Chassis w/braces .....	42
<b>Completing the Unit .....</b>	<b>44</b>
a) Assemble the Handle Bracket.....	45
b) Attach the Line 6 Logo .....	46
c) Insert the Chassis into the Cabinet. ....	46
d) Place the Bezel Lenses .....	47
e) Attach the Knobs .....	48
d) Set shipping configuration .....	49
<b>Test and Inspect the Completed Unit . .....</b>	<b>50</b>
<b>Pack-out List.....</b>	<b>51</b>

# Cabinet Assembly

Refer to this graphic throughout the following section for aid in locating the parts discussed.

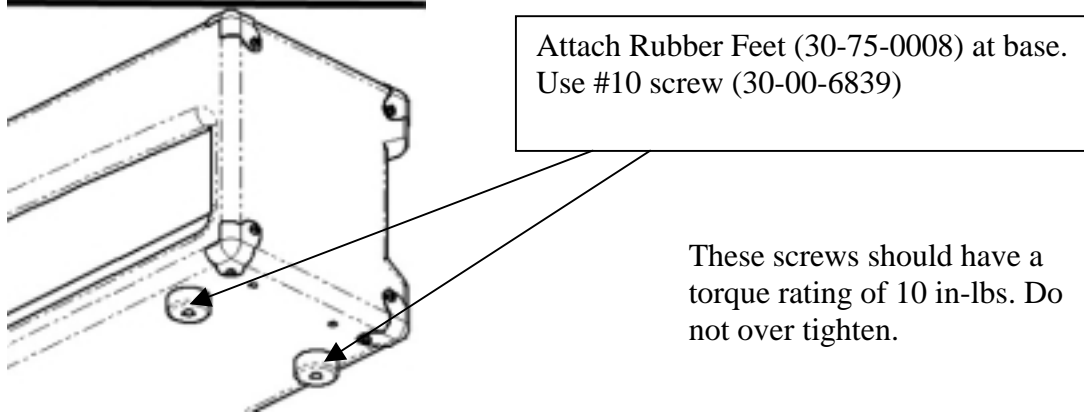
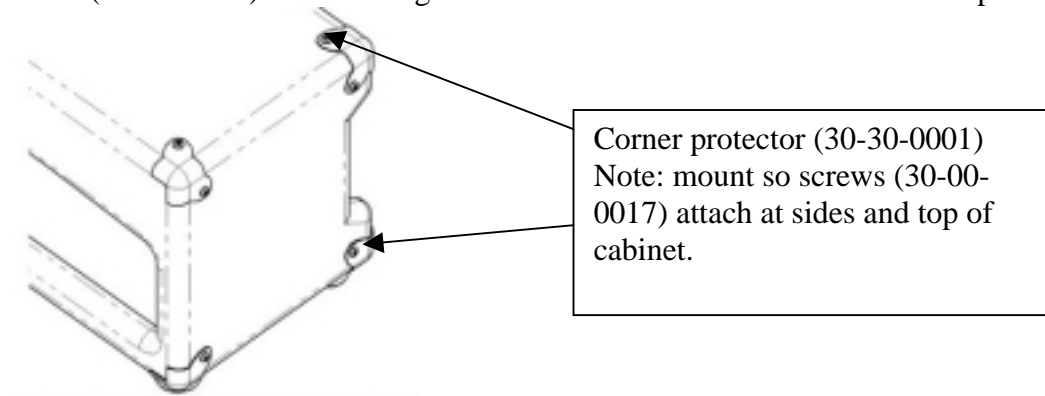


ITEM	QTY	LINE6 PART NO	DESCRIPTION
1	1	30-33-0002	CABINET, Vetta HD
2	8	30-30-0001	CORNER PROTECTOR STEEL PWD COAT MATTE SIL
3	4	30-75-0008	RUBBER FOOT, 1.5 x .75, BLACK
4	16	30-00-9812	SCR, #8, TRUSS HD, PH, ZN
5	4	30-00-6839	SCR, #10 X 1.25 , WOOD (RUBBER FOOT)
6	2	30-00-0017	NUT, TEE, 10-32
7	2	30-63-0010	INSULATING FOAM STRIP

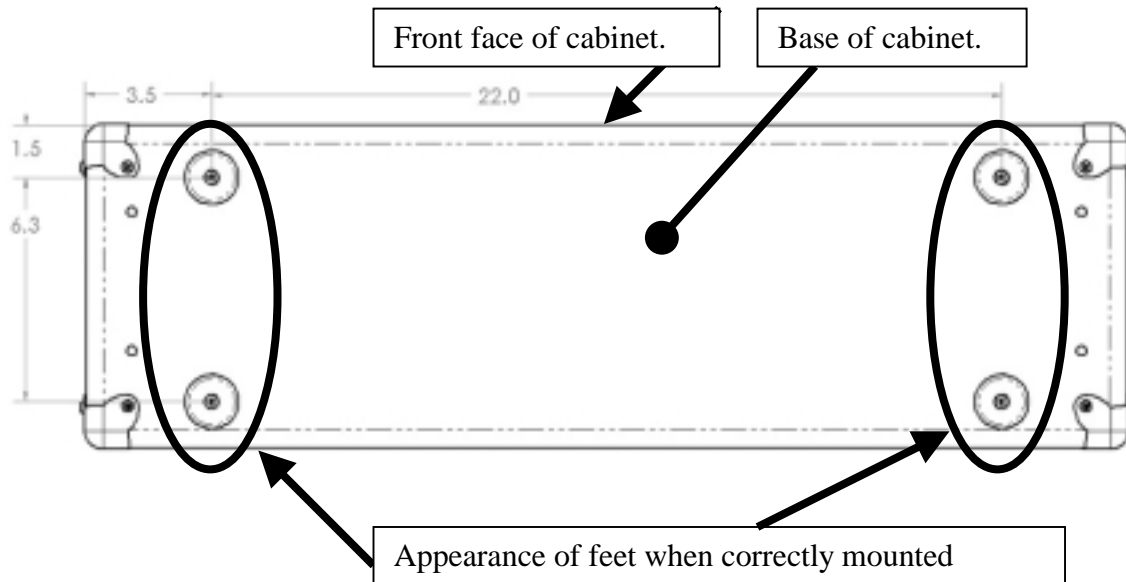


**a) Attach the Corners and Rubber Feet**

Attach the eight corner protectors to the cabinet (30-30-0001) using 16 - #8 truss head Phillips screw (30-00-0017). Refer to figure below for correct orientation of corner parts.

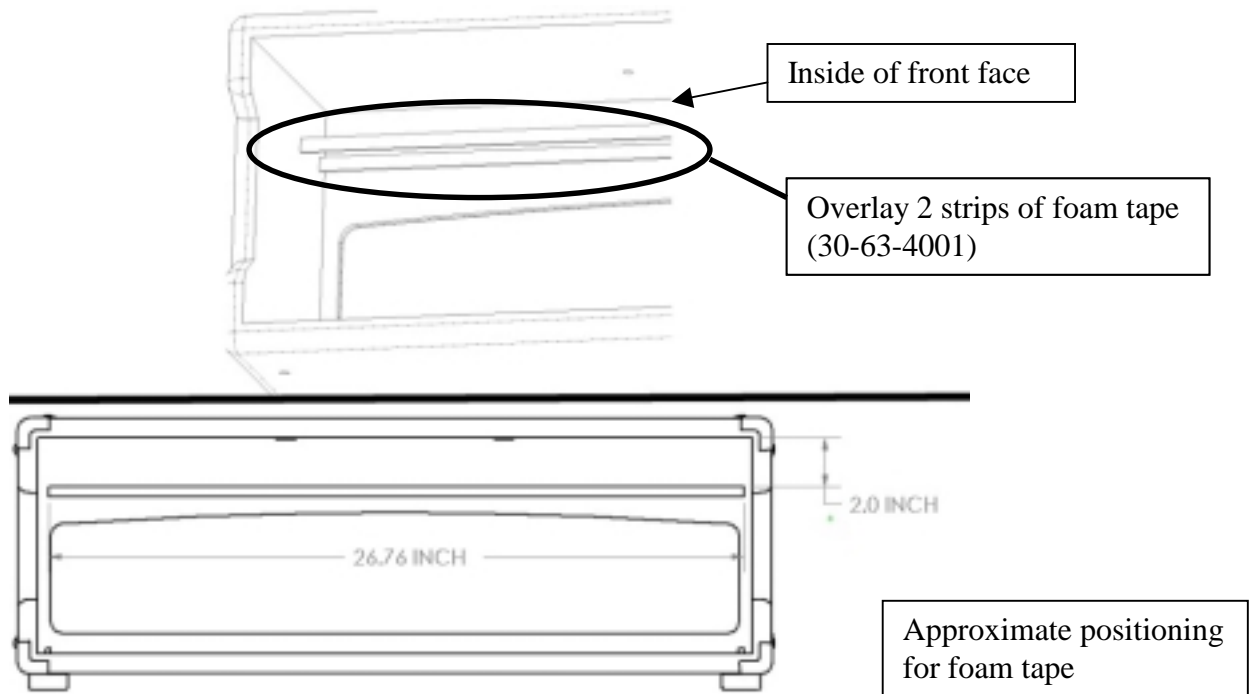


Attach the rubber feet to the base of the cabinet following the dimensions specified below. Attach 4 rubber feet (30-48-1686) to the base of the cabinet using 4 #10 wood screws (30-00-6839). ENSURE THAT THE FEET ARE MOUNTED TO THE CORRECT DIMENSION – SEE FIGURE AT BASE OF PAGE.



***b) Attach foam strips to cabinet.***

Attach foam stripping (30-63-4001) to the full length of the inside surface of the cabinet. Apply 2 stacked layers to the inside of front face as shown in the figure below.

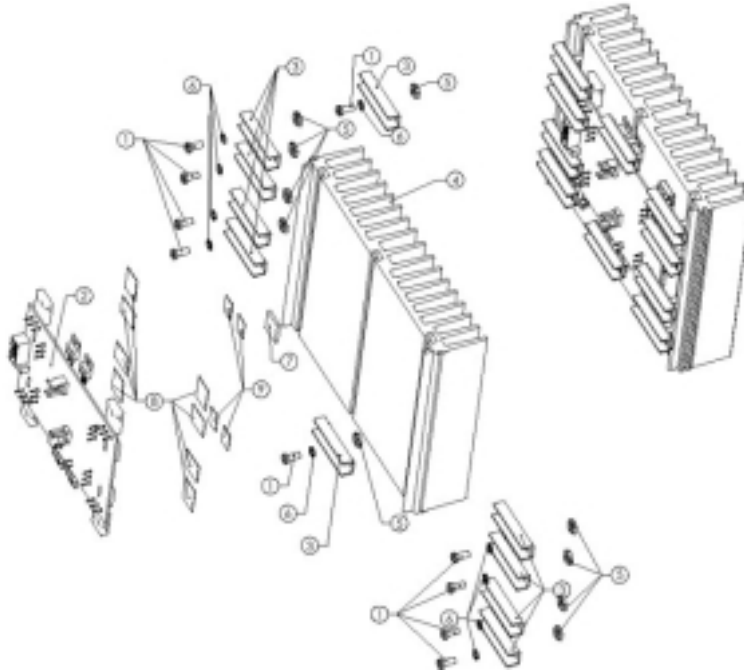


***c) Test and inspect the Cabinet Assembly***

When the cabinet assembly is complete, check it for any defects in craftsmanship. Things to pay attention to include but are not limited to:

- Tearing or damage to the vinyl covering.
- Flush insertion of all corner guards and screws.

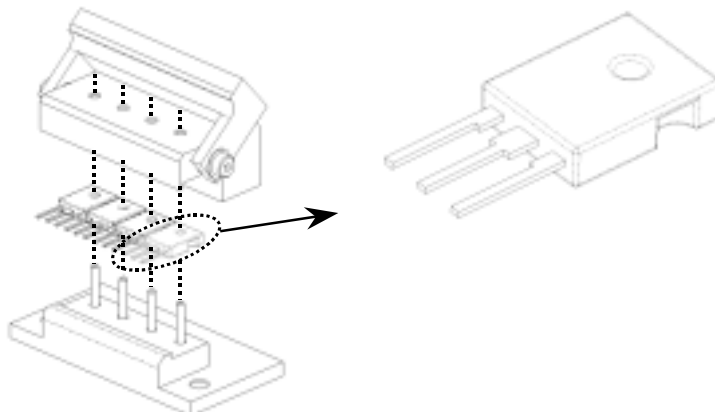
# Power Amp Assembly



ITEM	QTY	LINE6 PART NO	DESCRIPTION
1	10	30-00-0010	SCREW, 8-32, x562 SCH CAP SCR
2	1	50-00-0101	PCBA AMP 2x100 WATT HEAD AX3
3	10	30-51-0073	CLAMP, DEVICE,
4	1	30-51-0059-2	HEAT SINK
5	10	30-06-0007	NUT, HEX, 8-32, .344
6	12	30-03-0002	WASHER, .293 x .174 x .040
7	1	30-63-5050	GAP-PAD VO-SOFT .125"THK x.5 x.5
8	8	30-63-4001	THERMAL PAD, TO - 247
9	4	30-63-4005	THERMAL PAD, TO-220

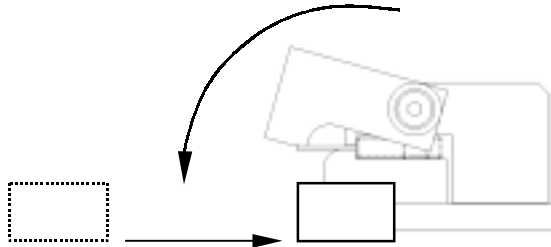
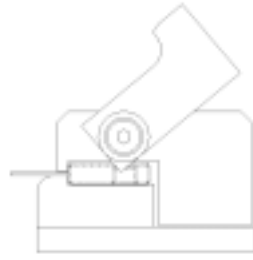
## a) Bend Power Components

Bend Power Component leads using the Line 6 supplied Bend Tool as shown. **Do not trim the leads.**

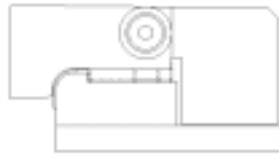


Power Transistor (4)  
P/N 09-06-0251

Position Power  
Component with  
marking side DOWN

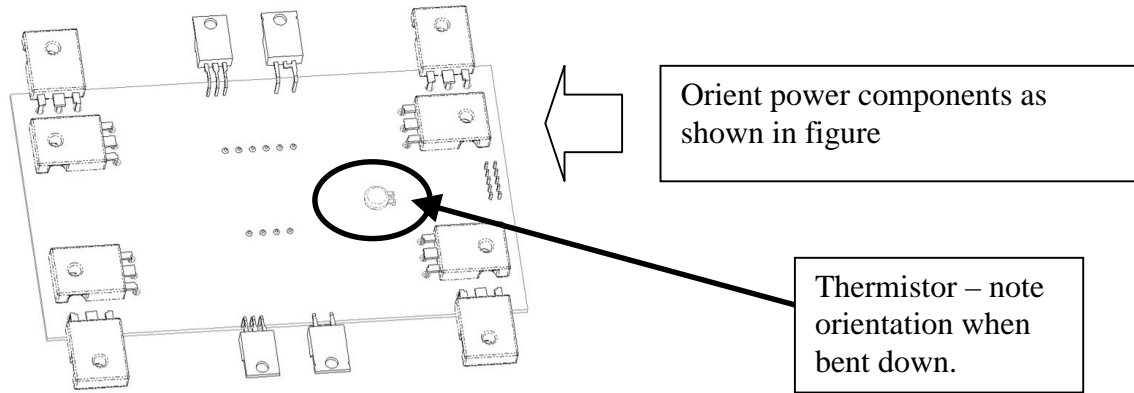


To completely bend leads, push a flat edge against lead tips. Completed

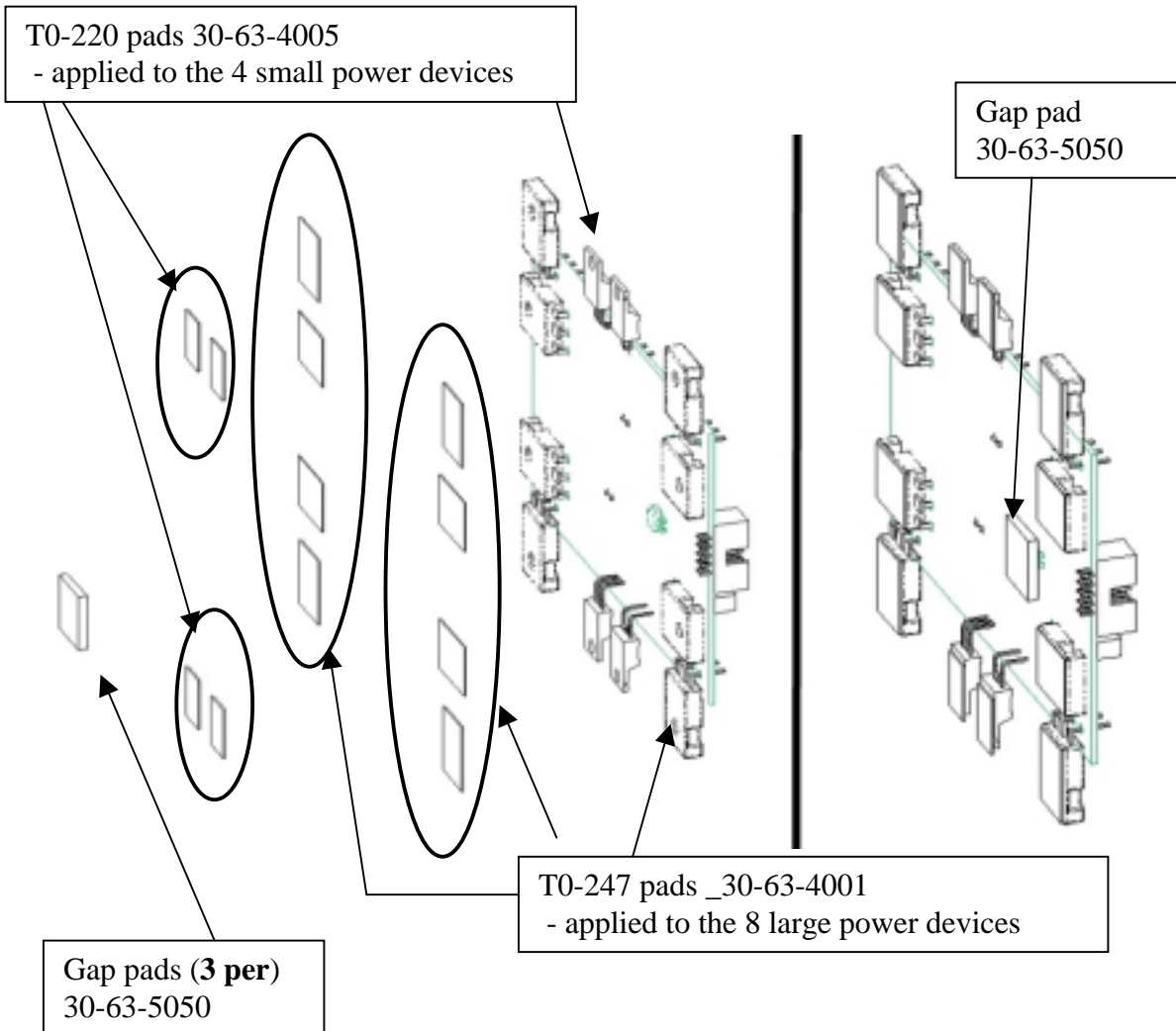


### ***b) Attach power components and pads***

Install Power Components (09-06-0250) on bottom side of PCB. Orient the component so that the terminal edge points towards the center of the board, while the opposite face points out toward the edge of the PCB. When properly installed the edge of the Power Component should meet the edge of the PCB. Insure that the components are lying flush against PCB (see figure below).

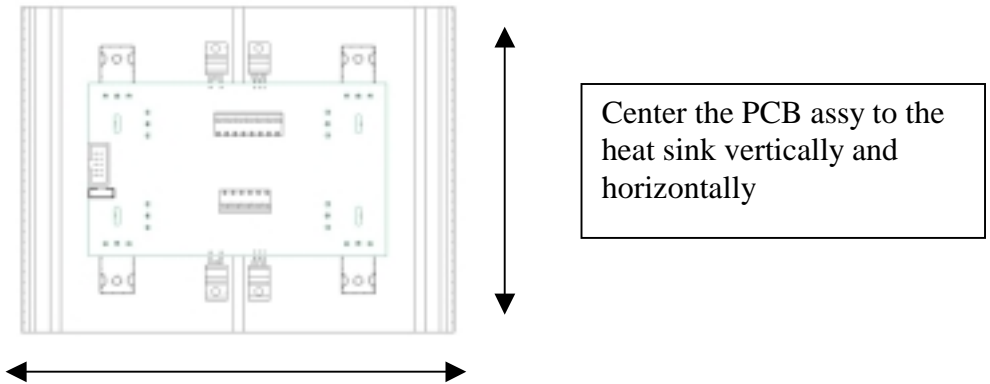


Install thermistor on bottom side of PCB. Solder down with minimum lead length then bend down toward the center of the PCB (see figure above). Apply the thermal pads flat against the power components and thermistor as shown in the figure below. Be sure to fully cover the device with the pads.



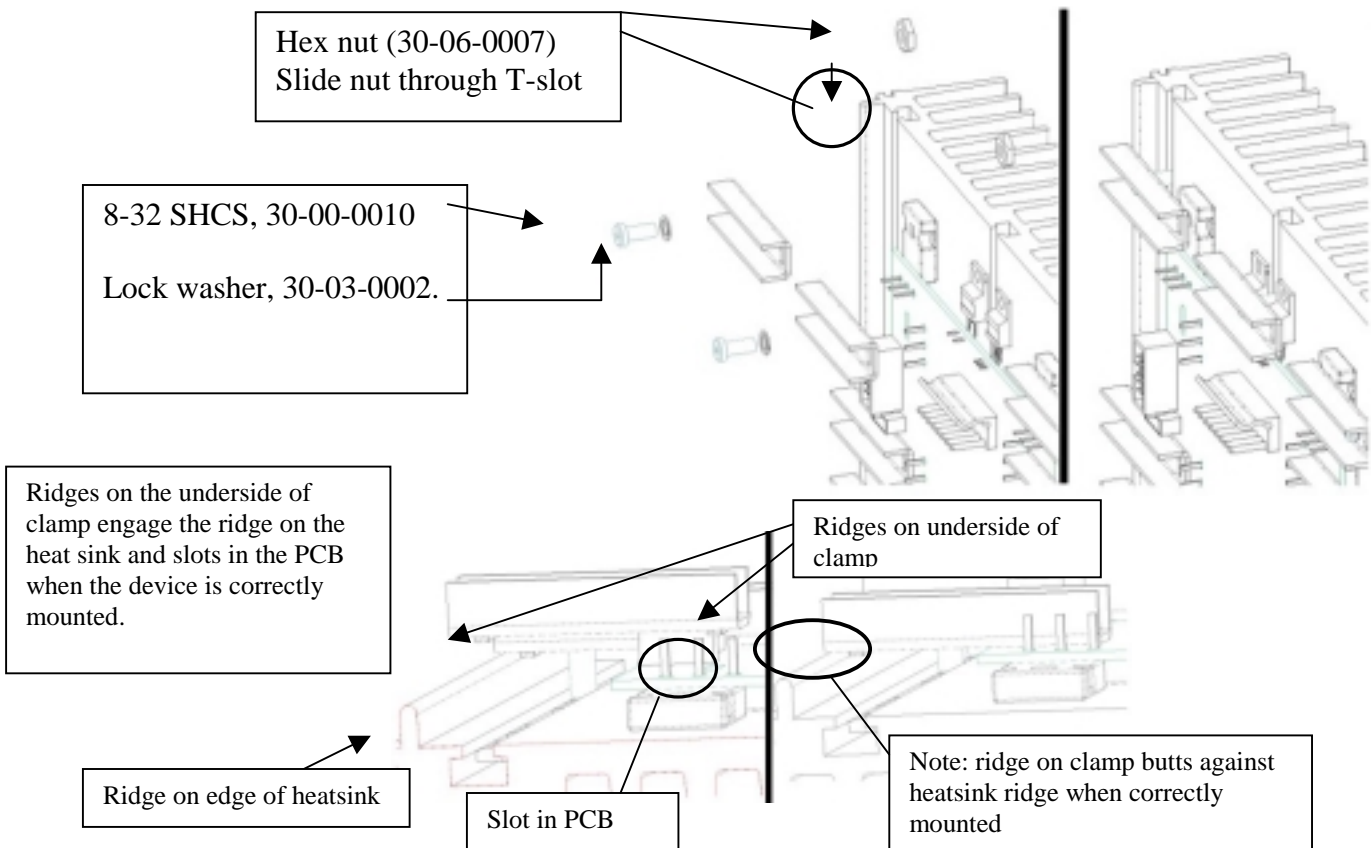
**c) Attach the Power Amp PCB to the Heat Sink**

Remove the adhesive backing from the thermal pads attached to the power devices in the previous step. Attach the PCB onto the surface of the heat sink centering it vertically and horizontally as shown below.



**d) Secure PCB Assy with the device clamps.**

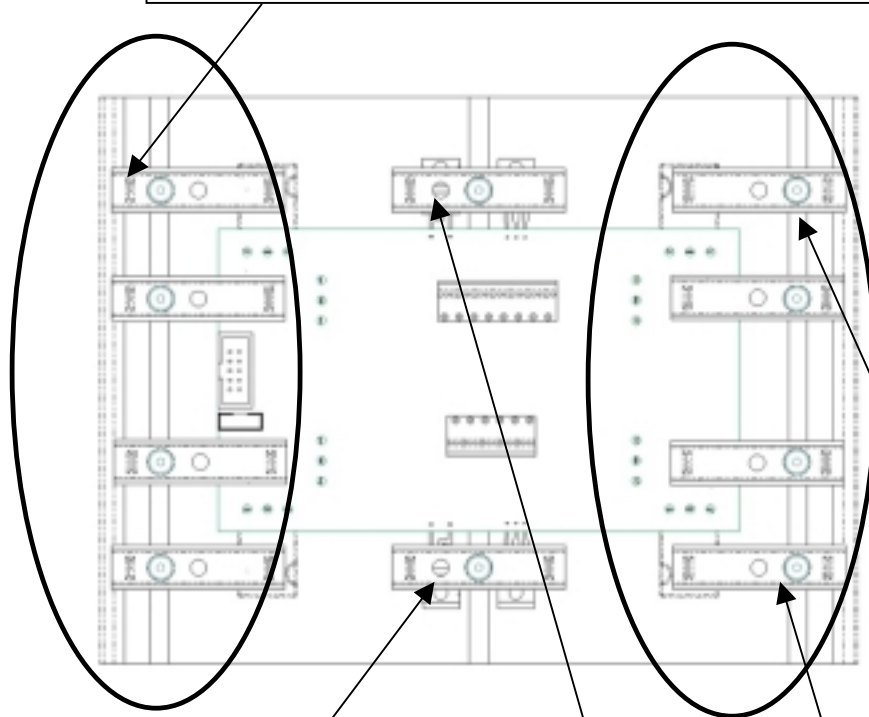
Finish securing the PCB assy to the heat sink using the device clamps. 10 clamps (30-51-0073) will be used to secure the board. Each clamp is secured using a #8 Socket head cap screw (“SHCS”) (30-00-0010), lock washer (30-03-0002) and hex nut (30-06-0007). Tighten to a torque of 10-12 in/lbs.



View when fully secured:

To secure each device clamp follow the figure below. Note the 8 edge clamps bolt through the side hole on the clamp while the 2 central clamps bolt through the central hole in the clamp.

**NOTE 1:** for these 8 clamps, the SHCS passes through the edge hole in the device clamp when securing to the heat sink



**NOTE 2:** for these 2 clamps, the SHCS passes through the center hole in the clamp. **These also use 2 Washers (# 30-03-0002) per, otherwise the screw will bottom out on the heatsink.**

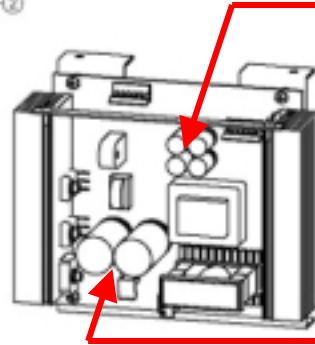
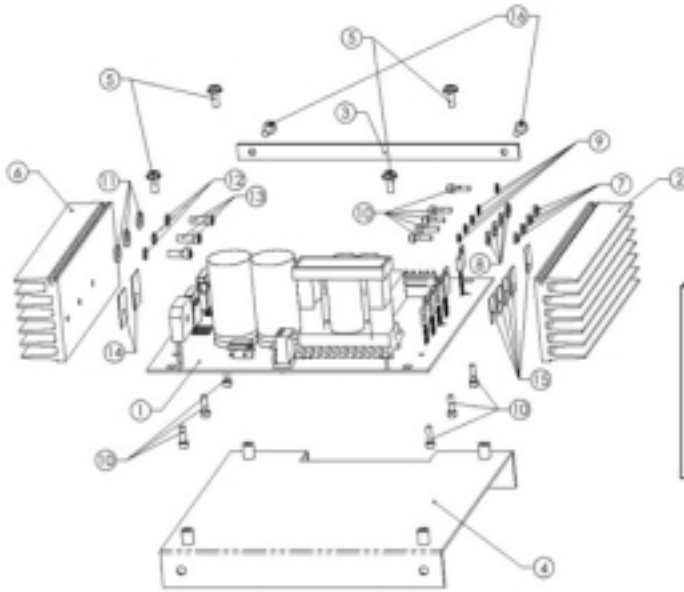
**NOTE 3:** The corner clamps on both sides secure only to the power device and not to the PCB. Keep the clamps close to PCB side of the device.

When the device clamps are secured the Power Amp assembly is complete

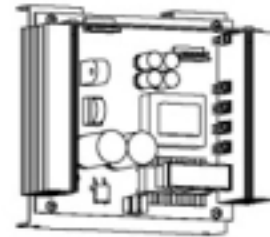
---

*Remainder of this page intentionally left blank.*

# The Power Supply Assembly



Apply RTV at base & sides, of large caps.



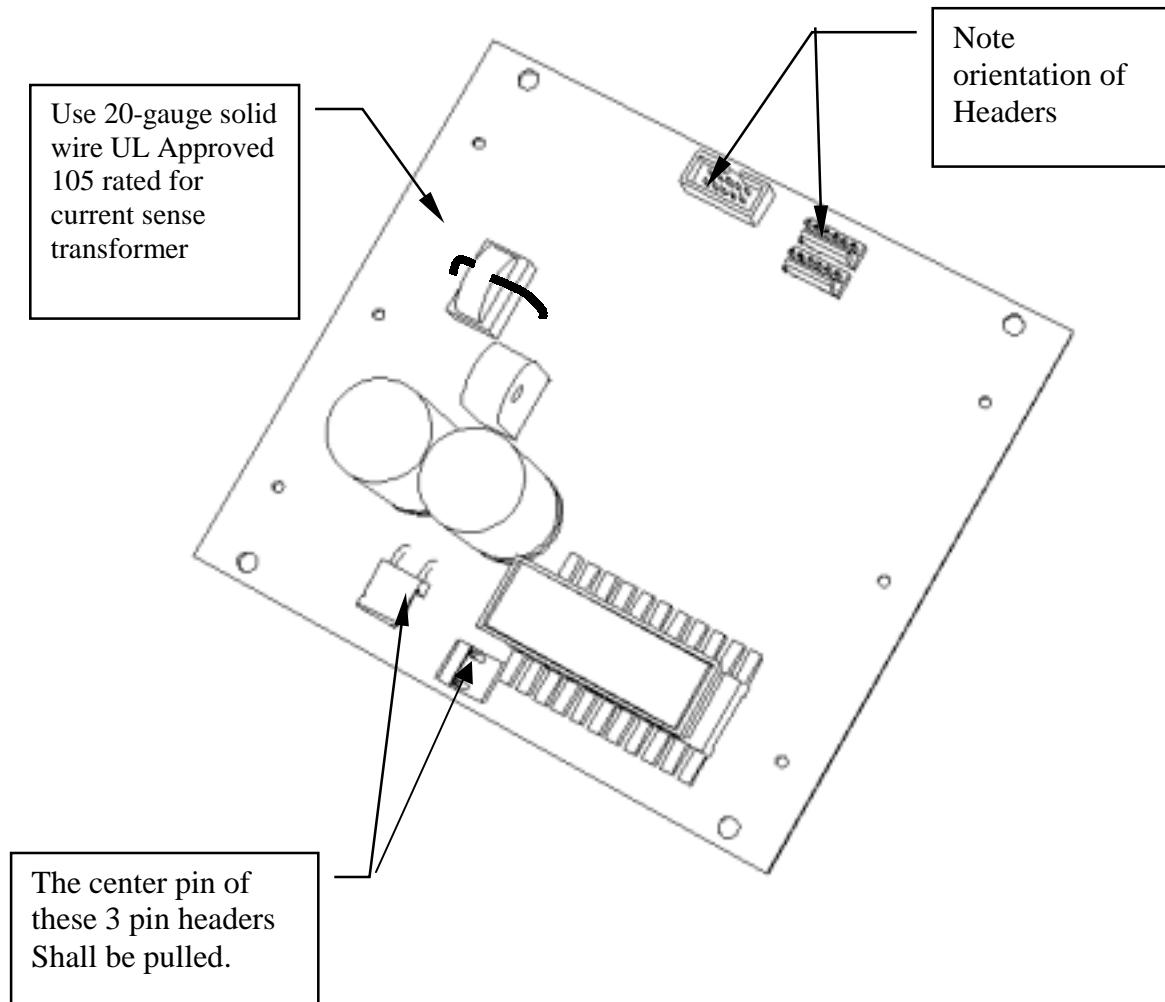
ITEM	QTY	LINE# PART NO	DESCRIPTION
1	1	50-00-0102	PCBA POWER SUPPLY Vetta HD
2	1	30-51-6002	HEAT SINK, HD P/S#2
3	1	N/A (BREAKAWAY)	BRACE, POWER SUPPLY
4	1	30-51-0158	BRACKET, MOUNTING POWER SUPPLY
5	4	30-00-0607	SCR 6-32 x 7/16 LG PHILLIPS PN
6	1	30-51-6001	HEAT SINK, HD 2 P/2#1
7	4	30-15-0404	SHOULDER BUSHING TO-220 VALPAK
8	5	30-03-0425	FLAT WASHER, #4.
9	11	30-03-0400	WASHER #4 SPLIT LOCKWASHER
10	11	30-00-0440	SCREW #4-40 X 3/8 Socket CAP
11	3	30-03-0606	WASHER #6 FLAT ZINC
12	3	30-03-0606	WASHER #6 SPLIT LOCKWASHER
13	3	30-00-2632	SCR 6-32 x .500 LG SHCS BLK
14	2	30-63-4001	THERMAL PAD, TO - 247
15	5	30-63-4005	THERMAL PAD, TO-220
16	2	30-00-1632	SCR, 6-32 x 3/8 LG, PH, SELF TAPPING



### *a) PCB Assembly*

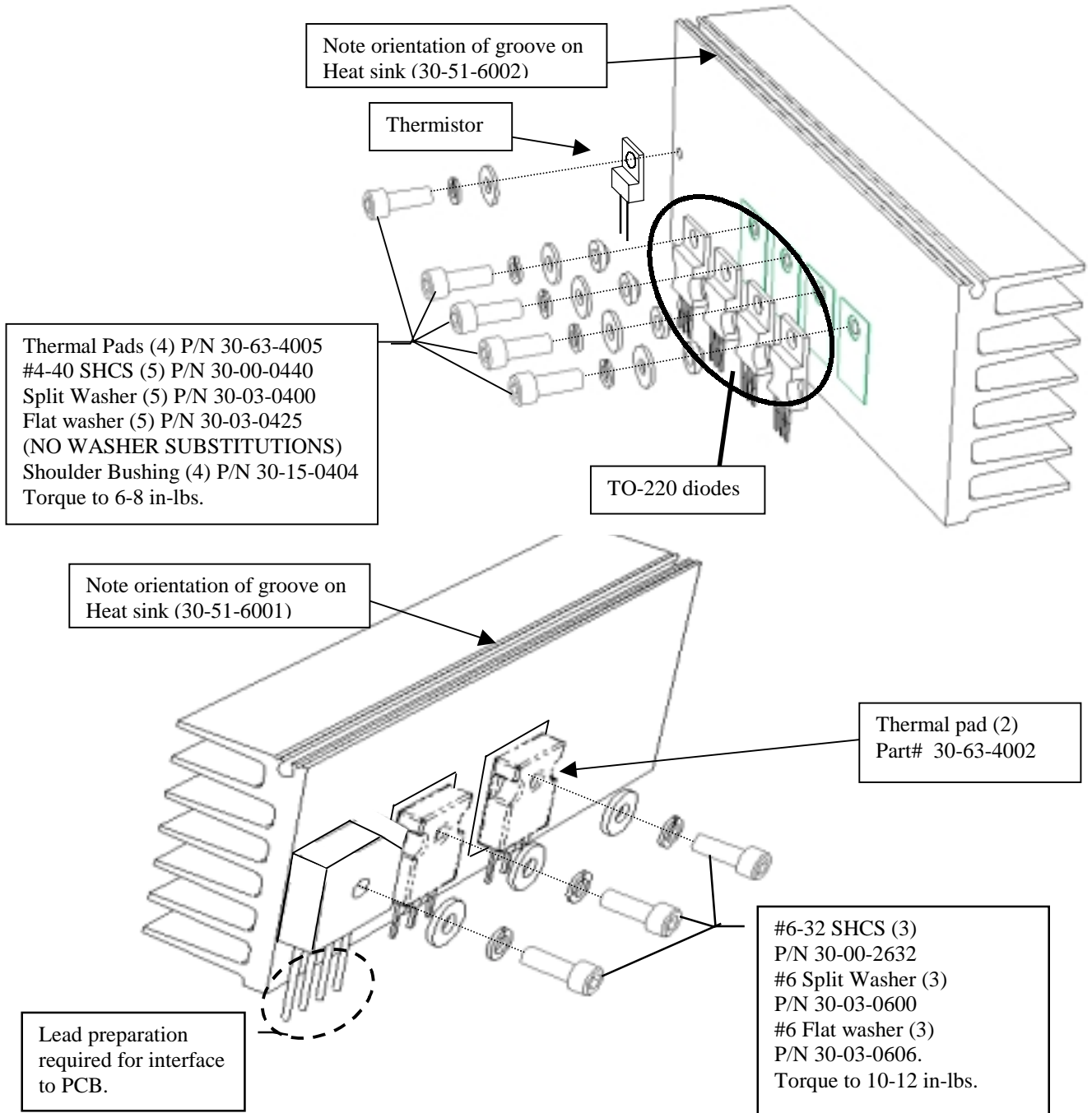
#### **Power Supply Board: (35-00-4000)**

- a) Check orientation of all headers. All headers must be mounted flush to PCB.
- b) Check orientation of all electrolytic capacitors.
- c) Check for solder bridges between pins of all through-hole components.
- d) Verify that the correct parts were installed for all through-hole transistors.
- e) Install D5 & D10 with vertical lead preparation.



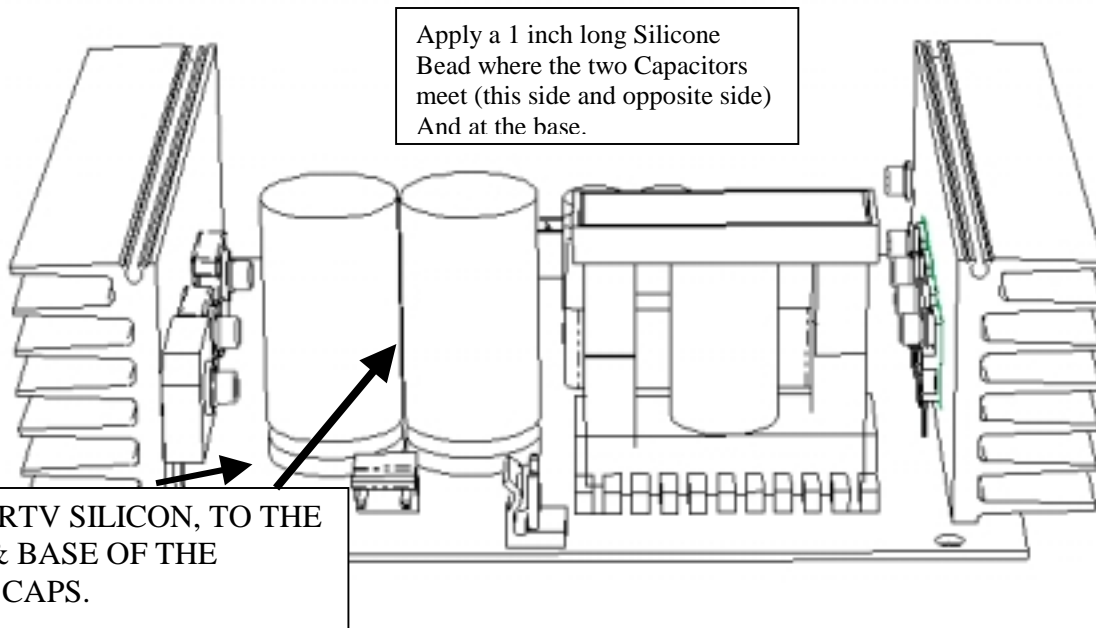
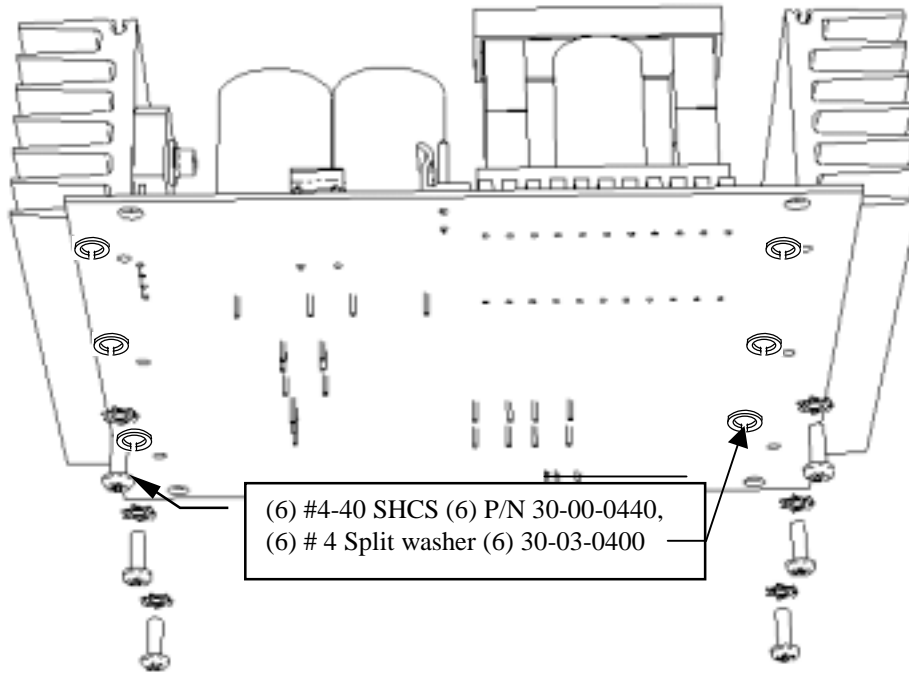
***b) Assemble Power Components to Heat Sink (See Figure 2):***

- Clean the Heat Sink installation area by wiping with a clean, lint-free cloth.
- Install components onto Heat Sinks as shown. Properly locate (4) TO-220 diodes and (1) thermistor device. Properly locate (2) TO-247 devices and (1) bridge rectifier.
- These devices shall be parallel to two edges of the Heat Sink as shown.
- The four Thermal Pads should lie flat between the Heat Sink and the TO-220 diodes and TO-247 devices.
- With a DMM, check for NULL continuity (**no shorting**) between the Heat Sink and the tabs of the four TO-220 diodes.



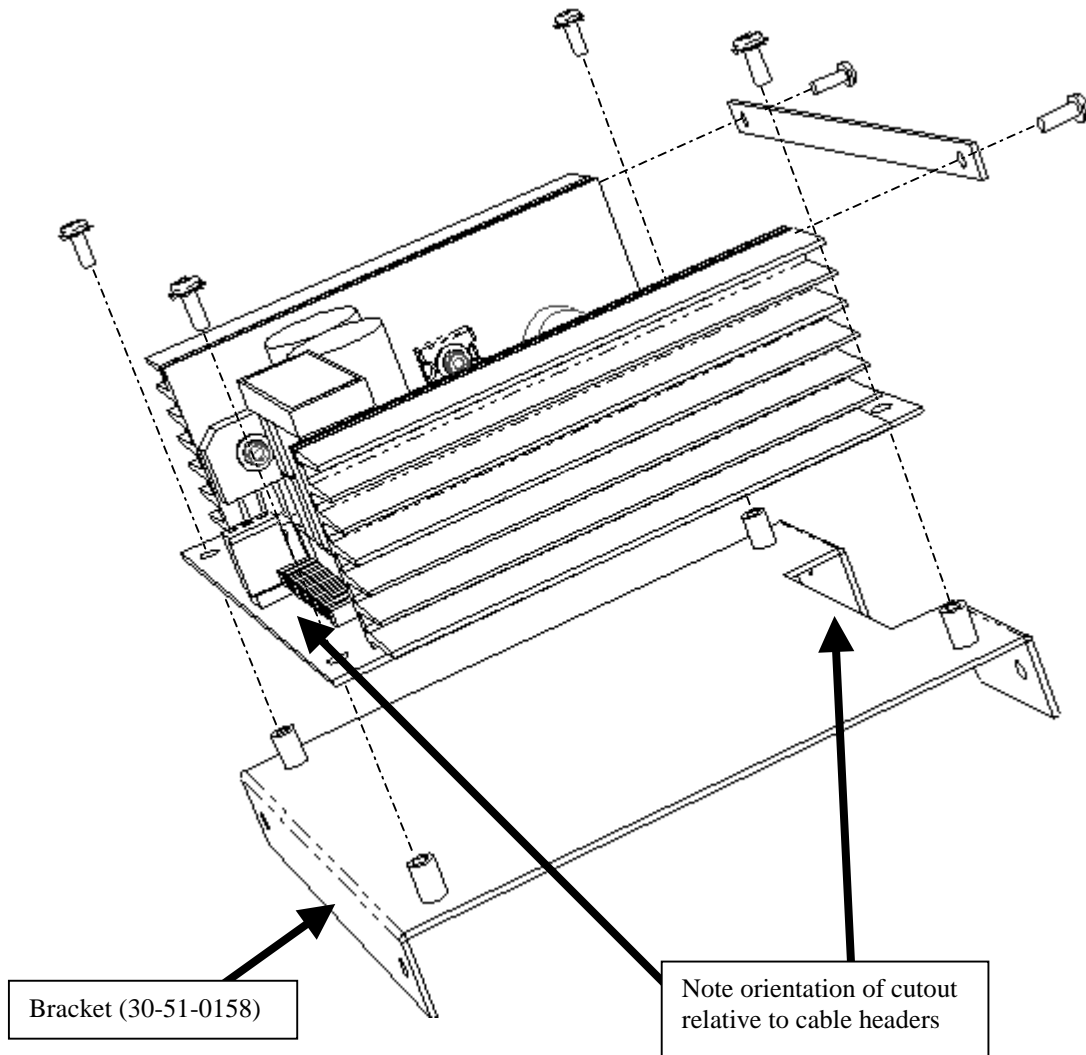
### *c) Attach Heat Sink / Power Device assembly to PCB*

- a) Secure Heat Sink assemblies with 6 to 8 in-lbs. of torque then solder the device leads.
- b) Apply RTV to large Capacitors (Dow or GE NovaSil or Novagard.) as shown below & in initial assembly breakdown dwg.

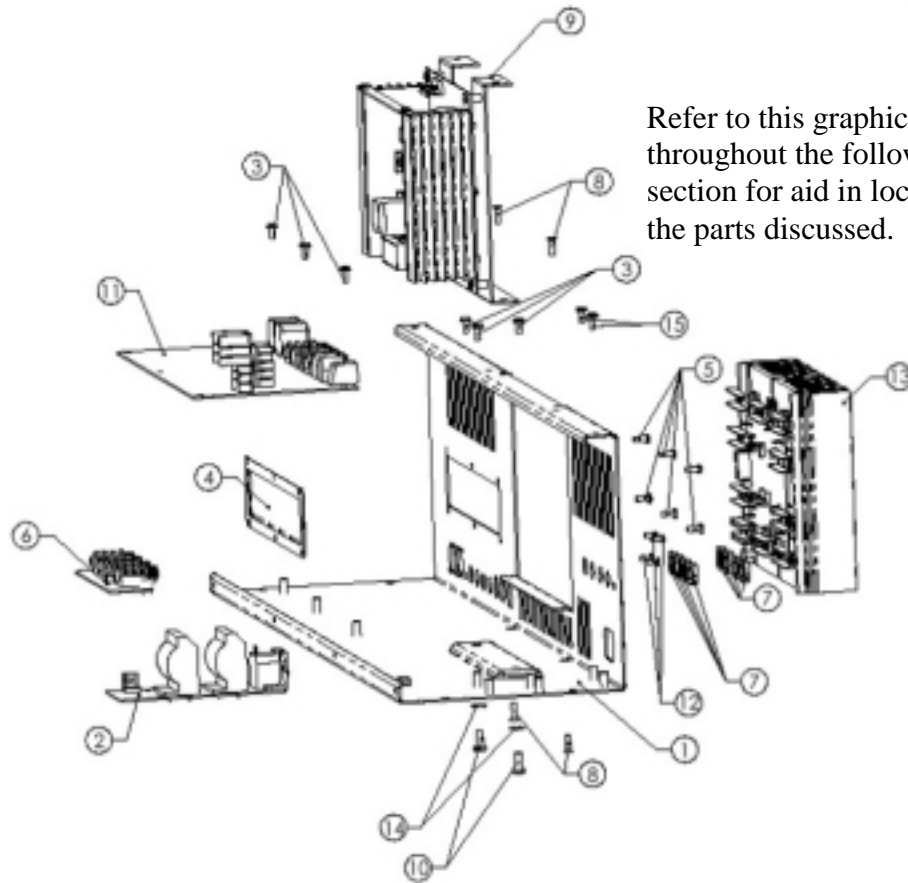


***d) Assemble PCBA & Heat Sink Assembly to Power Supply Bracket:***

- a. Assemble the PCBA to the mounting bracket using (4) #6-32 x7/16 (P/N 30-00-0607). Torque the screws to 10-12 in-lbs.
- b. Attach the Power Supply Brace with (2) self-tapping 6-32 Pan Head screws (P/N 30-00-1632) as shown. Screw heads shall be fully seated against the Brace.



## The Chassis Assembly

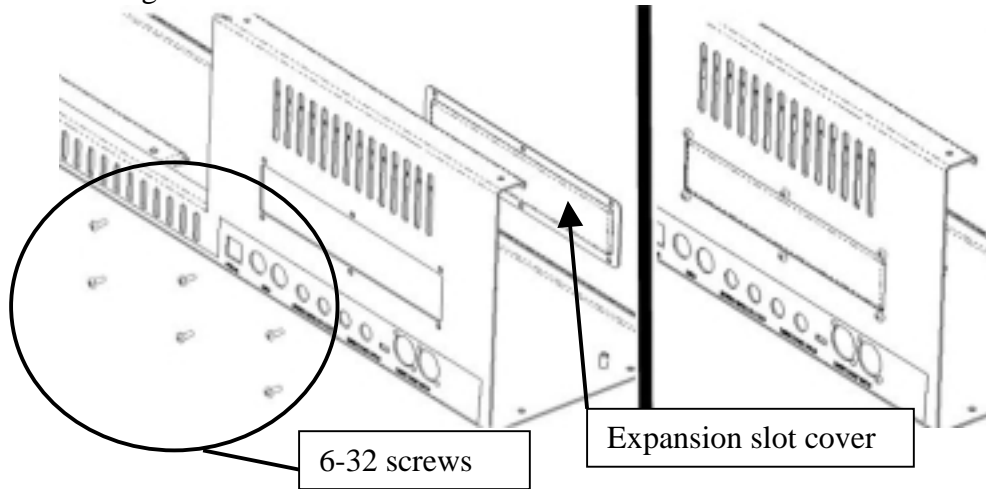


Refer to this graphic throughout the following section for aid in locating the parts discussed.

ITEM	QTY	LINE6 PART NO	REV	DESCRIPTION
1	1	50-00-0109	B	ASSY, ARTWORK, CHASSIS
2	1	50-00-4001	N/A	PCBA, FHD 2, LINE FILTER
3	6	30-00-0607	N/A	SCR 6-32 x 7/16 LG PHILLIPS PN
4	1	30-51-0040	B	COVER PLATE, EXPANSION SLOT
5	6	30-00-0375	N/A	SCR 6-32 x .375 LG PHI PN HD, BL OXIDE
6	1	50-00-0104	X3	PCBA, OUTPUT SPEAKER, Vetta HD
7	8	N/A [INCL ASSY]	N/A	NUT, JACK
8	4	30-00-0018	N/A	SCR, 6-32 x 3/4 LG, PHILLIPS FH, STL
9	1	N/A (REF ONLY)	N/A	ASSY, PWER SUPPLY
10	2	30-00-1012	N/A	SCREW #10-32 X 1/2 PHILLIPS PAN ZINC
11	1	50-00-0094	B	PCBA, MAIN, AX3
12	4	30-00-4250	N/A	SCR, #4-32 x .25, SH METAL, PN HD, BL OXIDE
13	1	50-00-9101	N/A	ASSY, POWER AMP HEAD VETTA
14	2	30-03-0001	N/A	WASHER #10 EXTERNAL TOOTH LOCKWASHER ZINC
15	2	30-00-0610	N/A	#6-32 x .437 CAPTIVE STAR WASHER

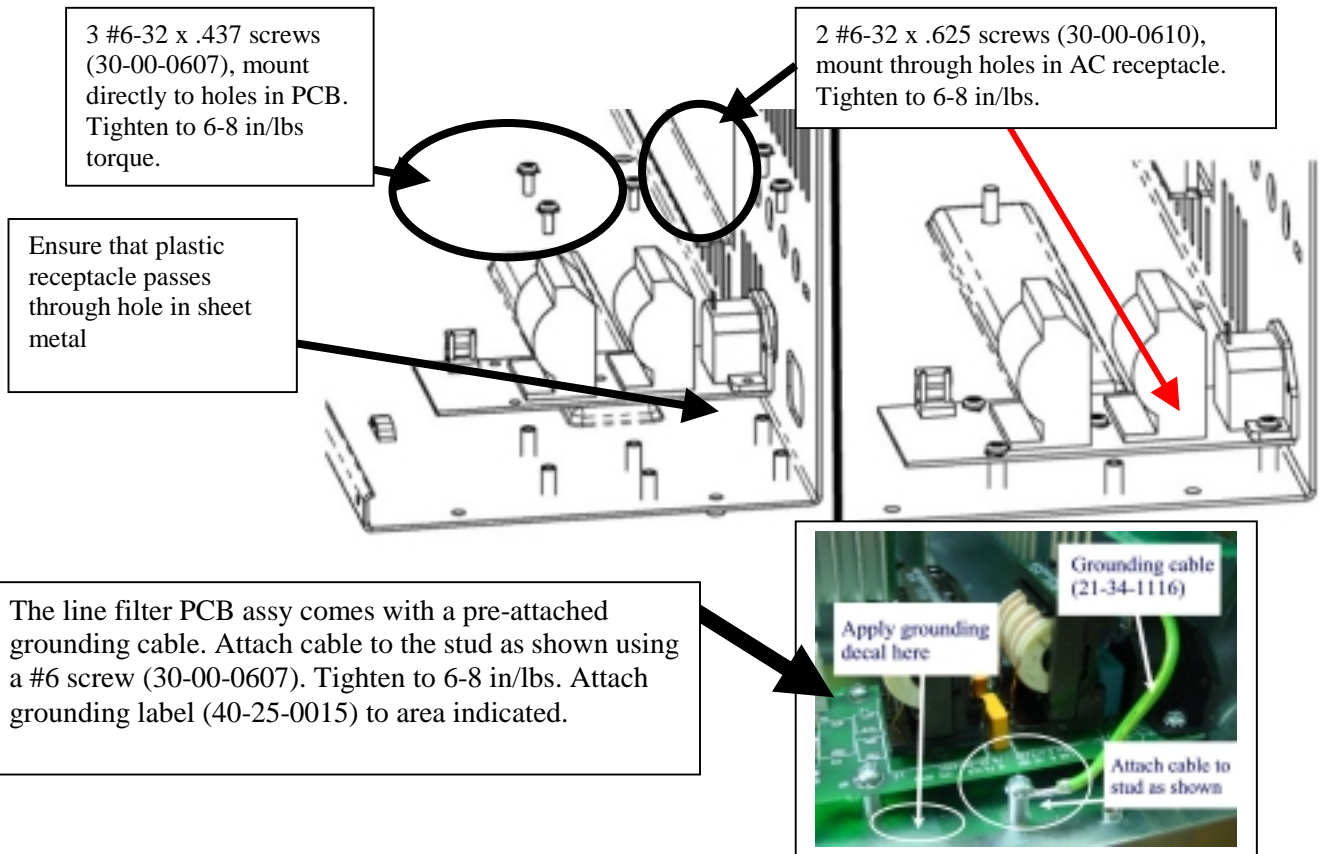
**a. Attach the Expansion Slot Cover Plate**

Attach the expansion slot cover (30-51-0040) to the chassis using 6 #6-32x.375 black oxide screws (30-00-0375) These screws are to be tightened to a torque setting of 6 in-lbs. Do not over tighten.



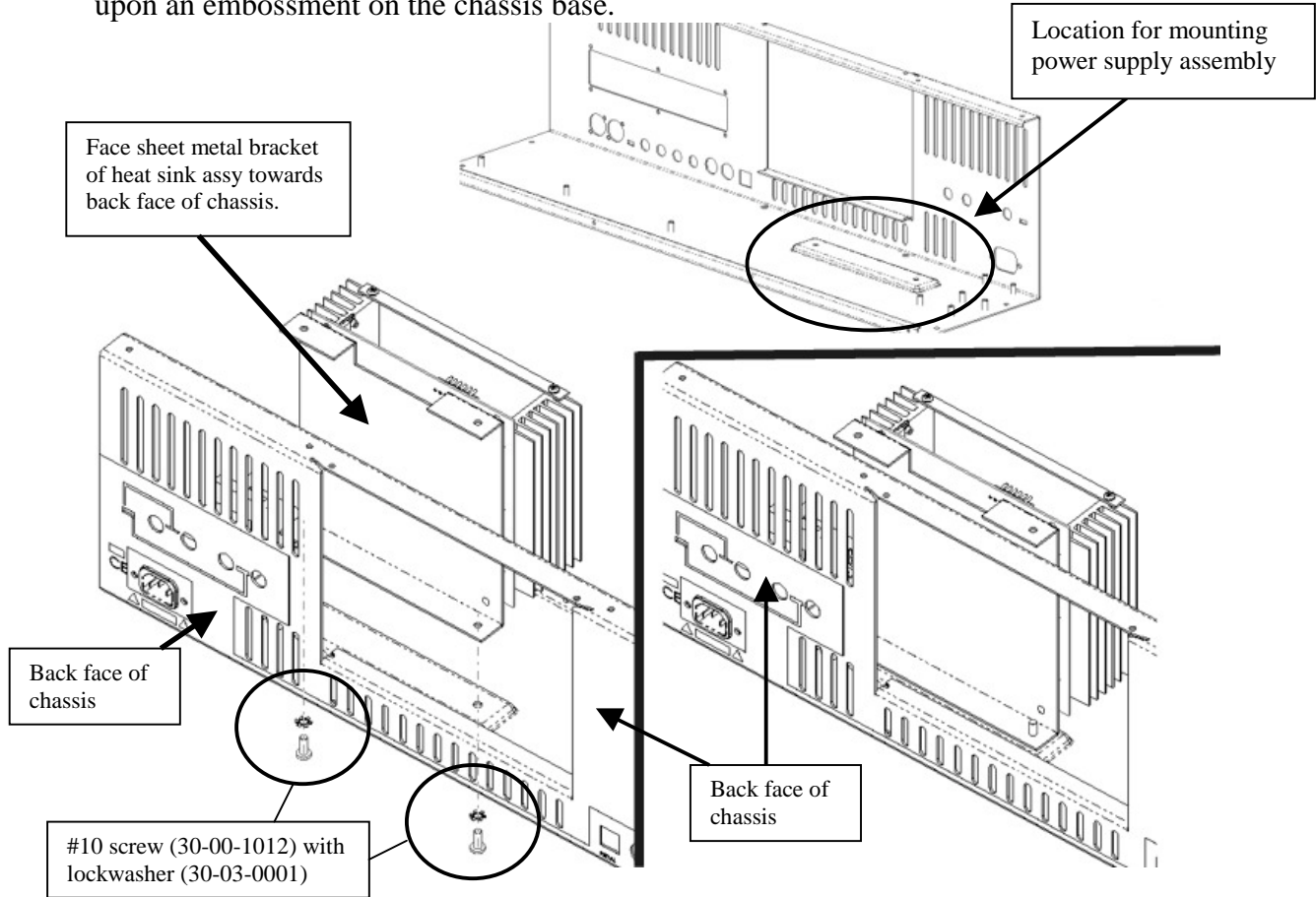
**b. Insert the Line Filter board and Secure Ground**

Mount the AC receptacle PCB assy (50-00-4001) to the chassis. Ensure that the plastic receptacle passes through the hole in the sheet metal (see figure below). Secure using 3 #6-32 x .437 Phillips screws w/ captive washers (30-00-0607) and 2 #6-32 x .625 Phillips screws w/ captive washers (30-00-0610). NOTE: the 2 longer screws mount directly through the plastic AC receptacle as shown below.



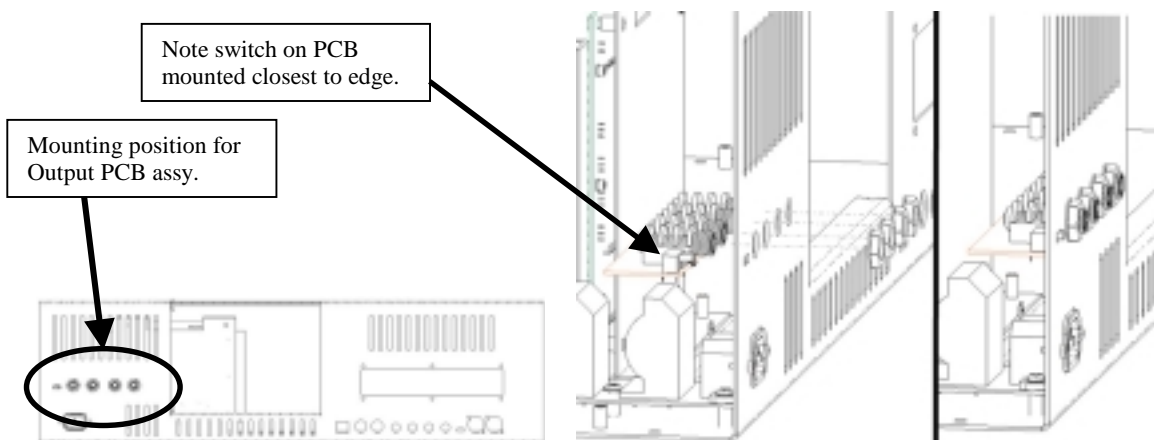
### ***a) Insert the Power Supply PCB***

The power supply assembly (50-00-1102) is mounted onto the base of the chassis using 2 #10-32 screws (30-00-1012) with a #10 external tooth lockwasher (30-03-0001) mounted on each screw. Tighten to a torque of 10 in/lbs. Note the orientation of the assembly and that it sits upon an embossment on the chassis base.



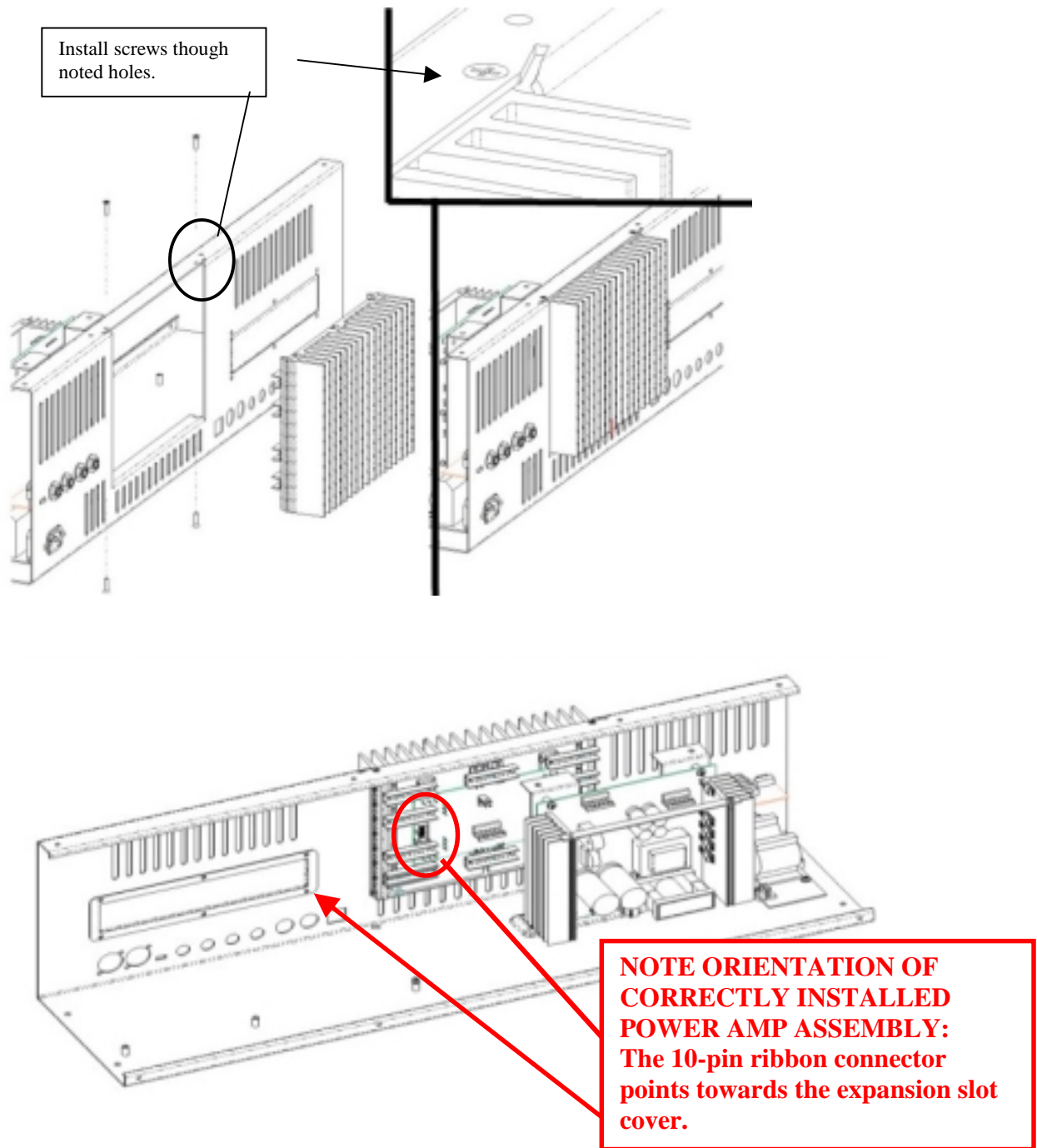
### ***b) Attach the Speaker Output PCB***

Attach the Output PCB Assy (50-00-0104) to the chassis through the indicated through holes. Hand tighten the ¼ plastic jack nuts. Note PCB switch orientation on figure. Secure the PCB with 4 ¼ in plastic jack nuts (parts included with PCB assy).



### *c) Insert the Power Amp Assembly*

Insert the heat sink sub-assembly into the chassis (30-51-0043). The unit is secured using 4 #6-32 self-tapping flat head Phillips screws (30-00-0018). ENSURE THAT THE ASSEMBLY IS PROPERLY ORIENTED IN THE CHASSIS BEFORE SECURING (SEE FIGURE BELOW). Tighten to a torque of 8-10 in/lbs.

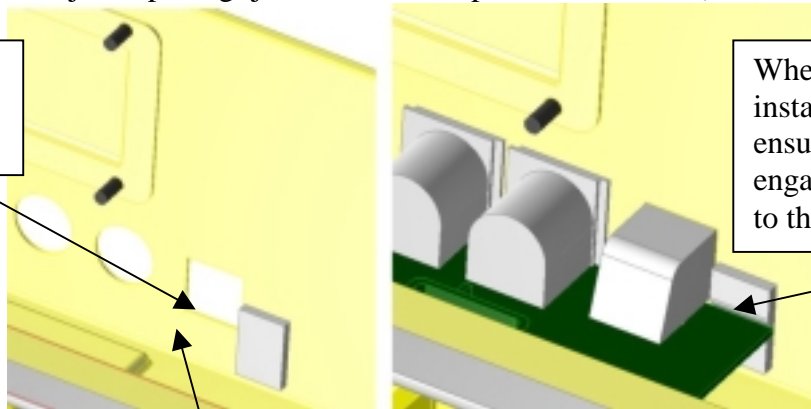




**d) Attach Foam Block to the chassis and the Main Board PCB**

Cut foam block (#30-75-0010) into 1/3 of length. Attach the block to the indicated position adjacent to the RJ45 jack opening (just below the expansion slot cover).

Position so foam block lies about 1/16 from hole opening

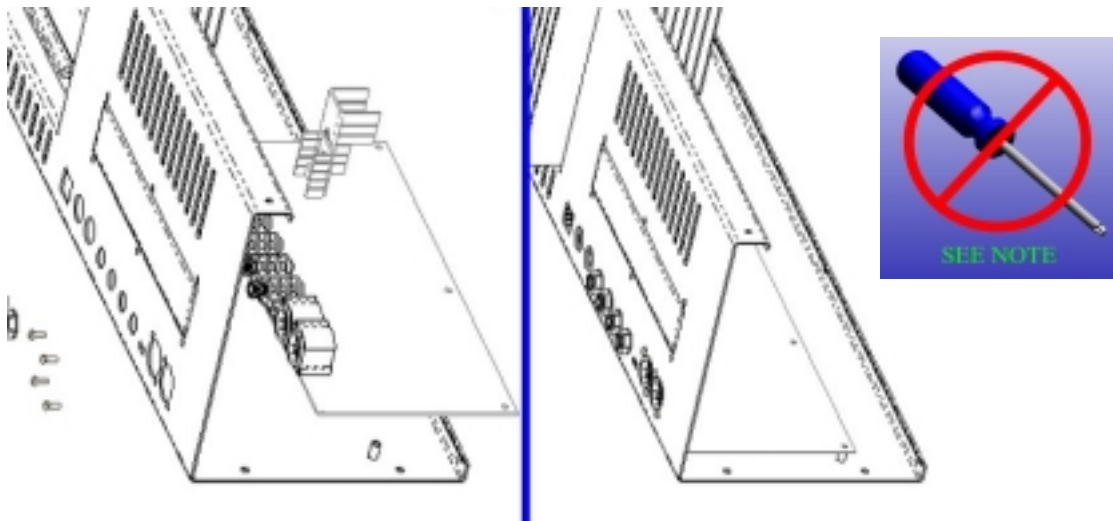


When Main PCB is installed (next step), ensure the board engages foam similar to this view

Position foam about 3/8 in below this edge

The MAIN PCB goes in next. Place the PCB on the PEMs in the chassis and slide the jacks through the appropriate cutouts as shown. **WHEN CORRECTLY INSTALLED THE JACK FACES SHOULD PASS THROUGH THE THOUGH HOLES. ENSURE THE RJ45 PROJECTS THOUGH ITS RESPECTIVE OPENING.**

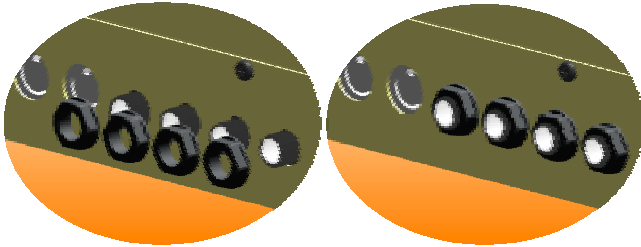
Begin by placing and partially tightening the (3) #6-32 x .375 lg. pan head Phillips screw w/ captive star lock washers (30-00-0607) that attach through the PCB. Tighten these screws only partially. The back-panel screws **MUST** be tightened before locking these screws down.



*Note: In spite of the warning, a screwdriver may be used to help insert the screws and partially tighten them, but they must not be fully tightened until after the back panel screws are placed and tightened. The “No Screwdrivers” graphic is simply to highlight this. The reasons for this are detailed in the note at the end of this section.*



(4) #4 tapping screws (30-00-4250) hold the XLR jacks to the back panel. Flush the jacks with the back panel, insert the screws, and tighten to 4 in-lbs.



(4) Plastic jack nuts should be placed next. Flush the jacks with the back panel, insert the nuts, and tighten to 4-5 in-lbs.

The PCB Screws must now be tightened the rest of the way. They should be tightened to a torque of 6 in-lbs.



*Note: These screws must be left loose until this step for 3 main reasons: (1) It is the easiest way to get all of the screws to line up. (2) It will help prevent cracking in the solder joints on the jacks and (3) it will ensure grounding points will make electrical contact with the chassis.*

*FYI: If the PCB screws are tightened prior to inserting and tightening the back panel screws, the fixed board may not align properly, creating high shear stress on the jack pins. Conversely, if the PCB screws have not been placed and finger tightened to rough locate the board prior to the back panel screws, there is a possibility of misalignment with the PEMS. Forcing this misalignment back into alignment while the back panel screws are tight will have the same effect of heightening shear stress on the jack pins and may crack the solder joints.*

### *e) Inspect the Completed Sub-Assembly*

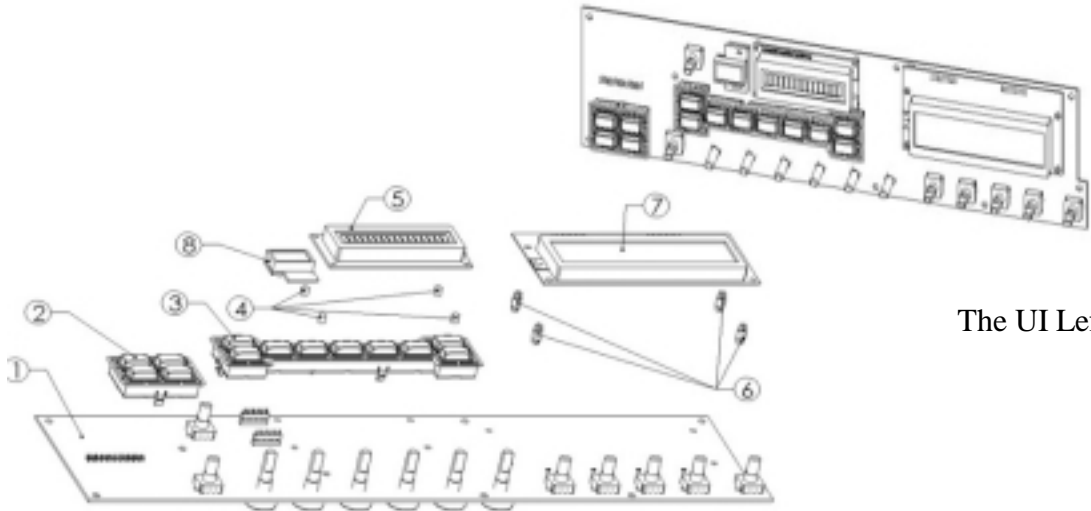
After completing the sub-assembly, inspect it to ensure that everything is correctly placed. Check that:

- **Check that the power amp assembly is mounted in the correct orientation.**
- **Check that the all PCB standoff holes have been secured (12 screws total).**
- **Check that the power switch is snapped flush into the chassis in the correct orientation.**
- **Check that all screws and nuts securing the output jack have been installed and are secure (4 screws, 8 plastic nuts).**
- **Check that the RJ45 jack protrudes through the square hole in the chassis and is flush with the back face of the chassis.**

If the assembly passes the above tests, move on to the next step. Correct any problems immediately. If you have any quality questions, consult your supervisor.

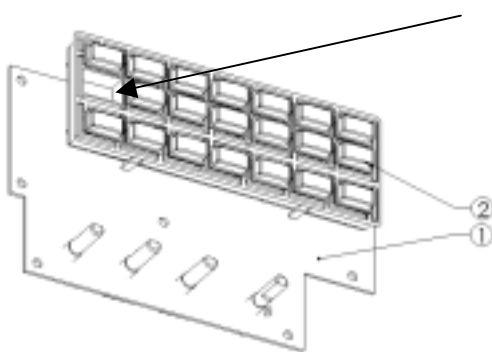
## The User Interface (UI) PCBs

Before the user interface PCBs can be attached to the chassis cover, it is first necessary to assemble the button arrays and LCDs.



The UI Left PCB

ITEM	QTY	LINE6 PART NO	DESCRIPTION
1	1	50-00-0106	PCB ASSY, USER INTERFACE, LEFT
2	1	50-00-0006	ASSEMBLY, AMP SELECT
3	1	50-00-0038	ASSEMBLY, CHANNEL SELECT
4	4	30-12-0001	RICHCO P/N DLCBST-3-01
5	1	50-00-0114	PCB ASSY, DISPLAY, 192 x 48
6	4	30-12-0002	RICHCO P/N LMSP-3-01
7	1	50-00-0115	PCB ASSY, DISPLAY, 1 X 16
8	1	N/A (BREAK AWAY, 50-00-0107)	PCB ASSY, LED



Note empty hole orientation  
when mounted on board

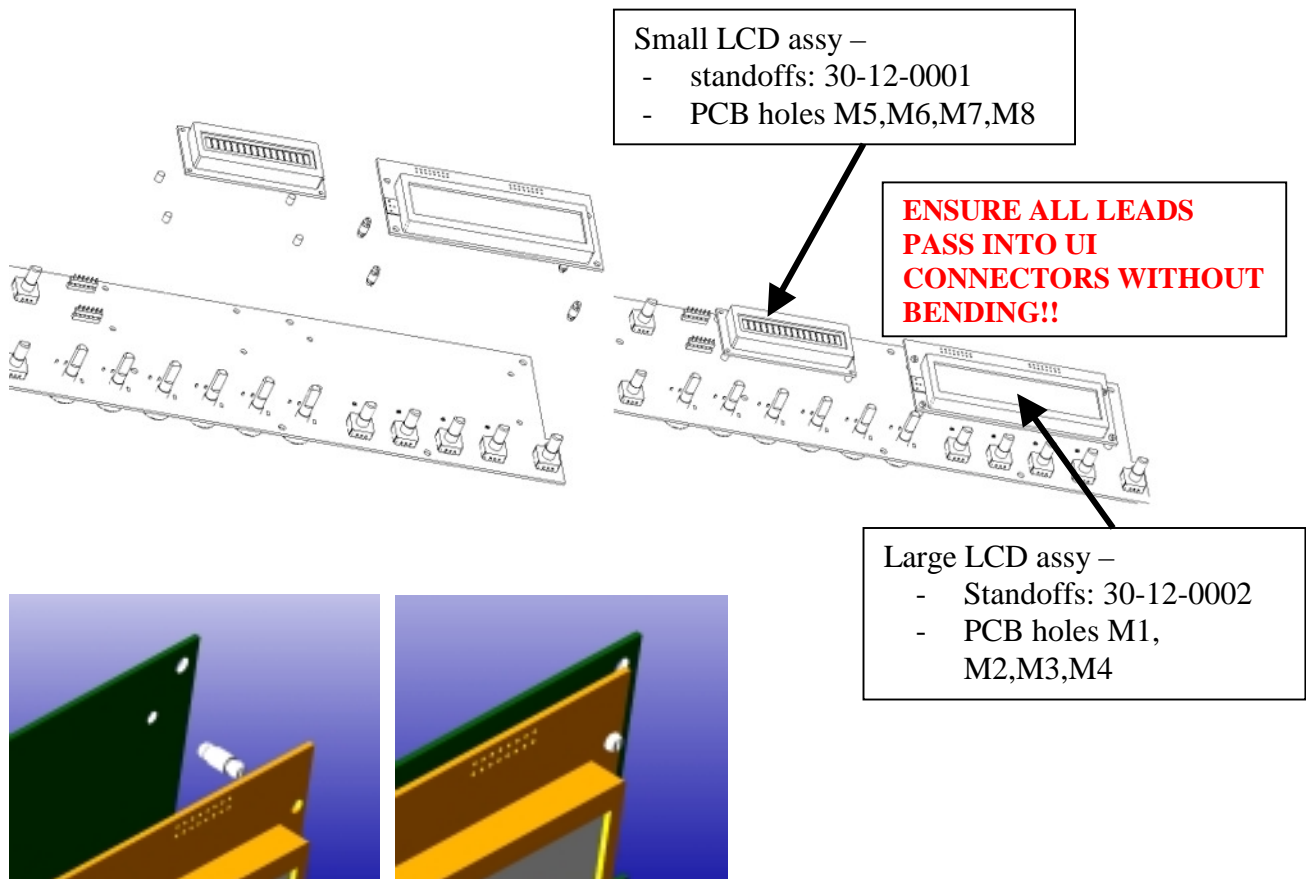
The UI Right PCB.

Refer to this graphic  
throughout the following  
section for aid in locating  
the parts discussed.

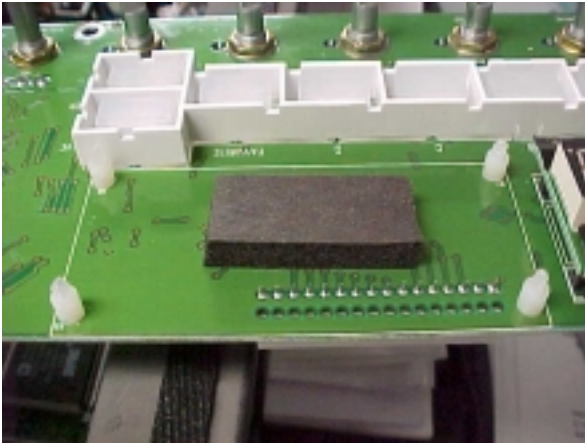
ITEM	QTY	LINE6 PART NO	DESCRIPTION
1	1	50-00-0107	PCB ASSY, INTERFACE, USER RIGHT
2	1	50-00-0031	ASSY, FINAL, EDIT SEL

### a) Place Standoffs and Displays

The LCDs (50-00-0114) & (50-00-0115) must be attached to the left (larger) PCB. Both displays are attached with snap-in plastic standoffs. Place the standoffs through the predrilled holes in the UI board PCB until their locking fingers are fully engaged. After placing four standoffs for each display, snap the respective display into place on the standoffs. **BOTH DISPLAY PCB ASSEMBLIES CONTAIN LEADS THAT WILL PASS THROUGH HOLES AND INTO HEADERS ON THE UNDERSIDE OF THE UI – PCB. ENSURE THAT THESE LEADS PASS SMOOTHLY THROUGH THE DRILL HOLES WITHOUT BENDING.** Note foam strip placement, under the small LCD. When snapped in place, do not solder.

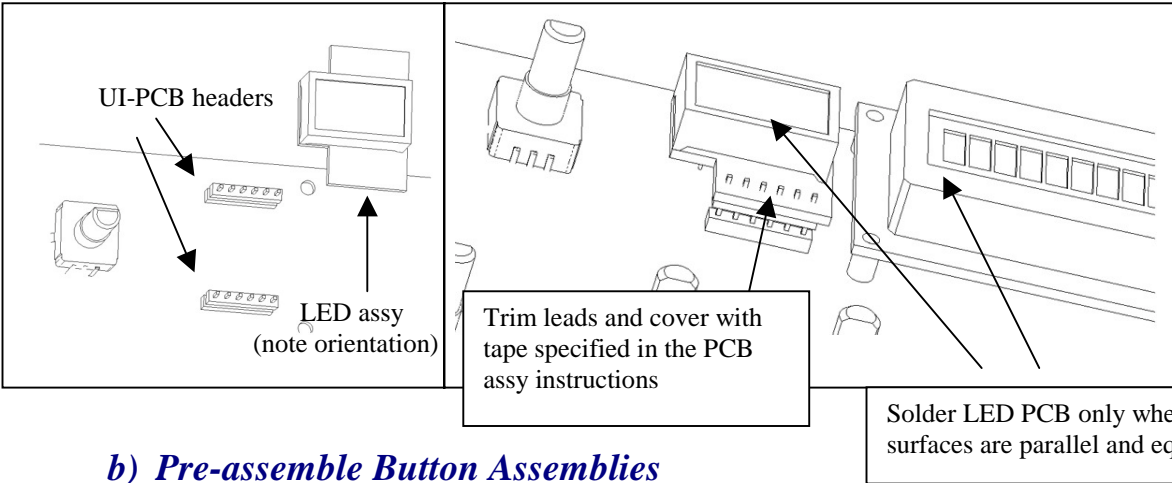


Remove the led PCB assy assembly from the UI board – right (50-00-0107). This is soldered onto the UI board – left (50-00-0106) at position H2. The LED PCB assembly is mounted onto the plastic standoff already mounted onto the UI-left (see figure below). **Orient the assembly according to the figure.** When fully positioned on the standoffs the face of the led should be at the same level and parallel with the LCD assemblies. Solder when mounted.



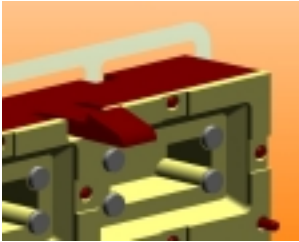
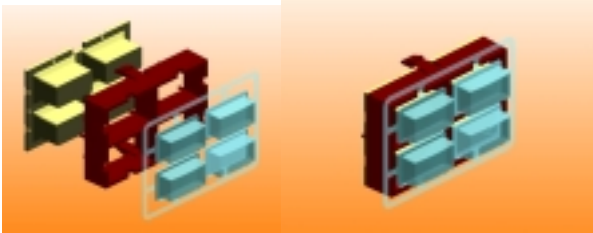
**Small Display Module.**

Add 1 Foam piece (approx 1”) #30-75-0010,  
Under small Display module #50-00-0115.



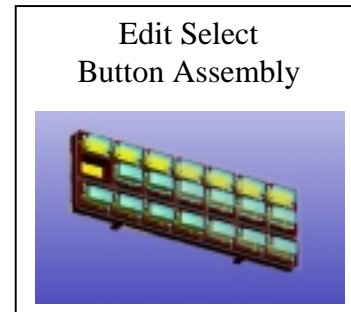
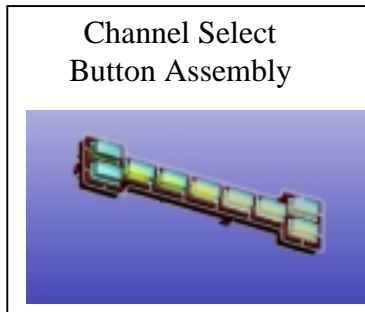
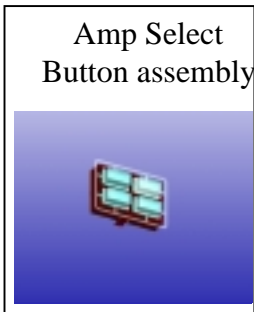
***b) Pre-assemble Button Assemblies***

The button assemblies must be partially pre-assembled. Each button assembly consists of a rubber keypad, a plastic isolation frame, and an array of keycaps affixed to a Mylar retainer.



The boxed pullout graphic at the left shows the backside of the button pad assembly. The holes in the rubber pad mate with the indicator pegs in the plastic. The Mylar keycap assembly just rests in place at this stage. The front panel of the respective model will later retain it.

*Note: The (3) button assemblies are all assembled in a similar fashion.*



These attach to UI – left board  
(see diagram on page 22)

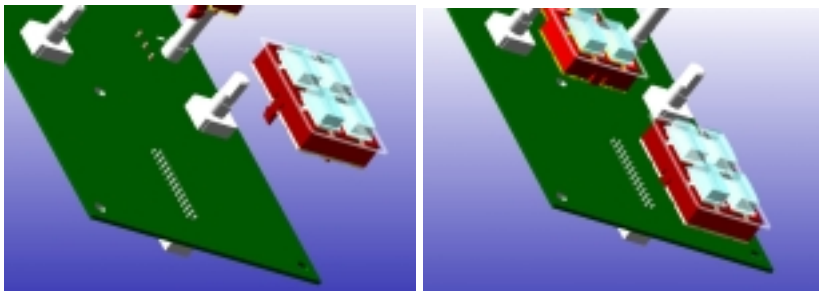
This attaches to UI –right  
board

**Button Assembly Part No. Reference Chart**

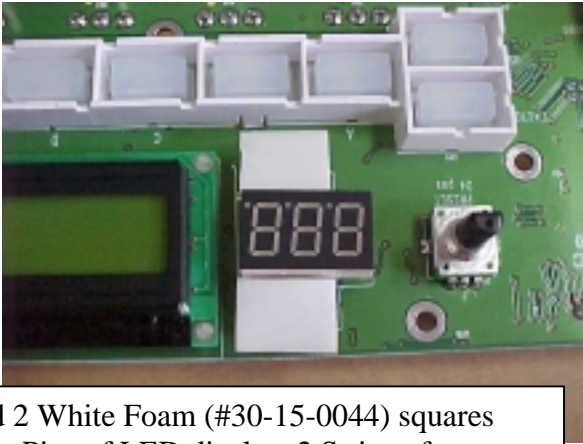
	<b>Amp select</b>	<b>Channel select</b>	<b>Edit Select</b>
<b>Rubber Pad</b>	50-00-0007	50-00-0008	50-00-0009
<b>Isolation Frame</b>	30-27-0004	30-27-0003	30-37-0001
<b>Keycap Array</b>	50-00-0039	50-00-0042	50-00-0043

***c) Place Button Assemblies***

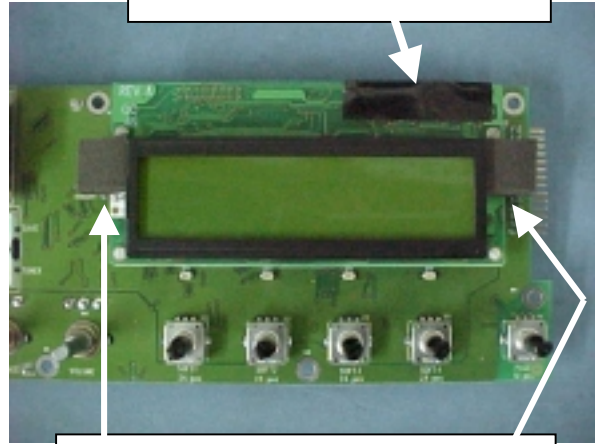
Insert the button assemblies into the PCB as shown in the graphic below. Each button frame has a set of alignment pins that will guide it to its proper location. A pair of locking fingers will snap into routed holes in the board. Ensure that each frame is securely locked into place and is situated flush with the face of the PCB.



*Note: The Mylar keycap assemblies do not lock to the isolation frames and may be set aside until it is time assemble the chassis cover.*



Add 2 White Foam (#30-15-0044) squares Over Pins of LED display. 2 Strips of Polyester tape (#30-65-0002), can be added on top of the foam, or prior to foam application.



Polyester Tape (#30-65-0002) strips should cover these exposed pins.

Replace Large display Module.  
Add 2 Rubber Pads (#30-75-0010)  
As shown.

#### *d) Inspect the UI PCBs*

The UI PCBs should now be completed sub-assemblies. Check to make sure that:

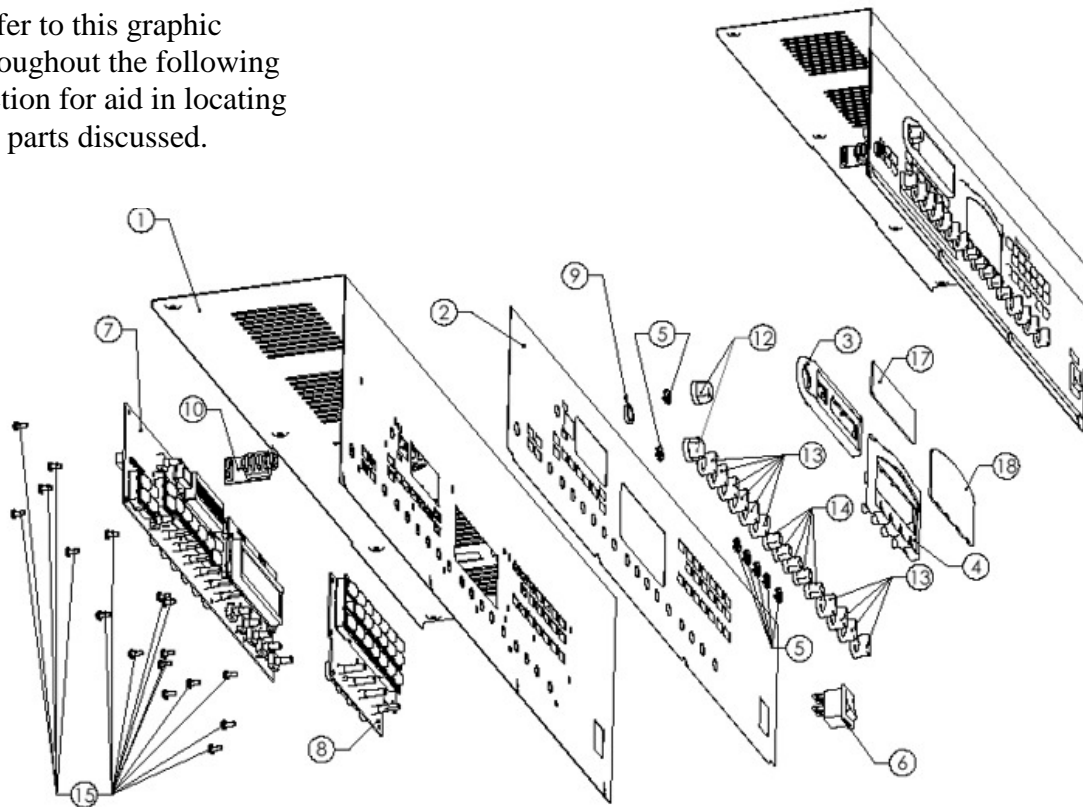
1. All button assemblies are securely snapped in place and depress reliably. Ensure that Rubber keypads sit naturally under the button frames and are not twisted or deformed
2. All soldered components are securely fixed to the PCB and are mechanically functional.
  - Visually inspect pots and encoders to see that parts are perpendicular to the board surface. If the stem of a component is skewed, correct the problem immediately.
  - Make sure all pots have nuts
  - **Make sure 3 out of the 4 pots in the right UI board are center click.**
  - Lightly pull on the stems of all potentiometers and encoders to ensure that the component is properly fixed and that the part is not defective (i.e. the stem does not detach from the component). If a component fails this test, DO NOT attempt to fix the broken component. Discard and replace the component immediately.
  - Spin the stem of each component to verify smooth consistent feel and function.
  - Mark the PCBA with the appropriate Assembly Rev letter.

When inspection process is complete, set the front panel PCB sub-assembly aside.



# The Chassis Cover Assembly

Refer to this graphic throughout the following section for aid in locating the parts discussed.



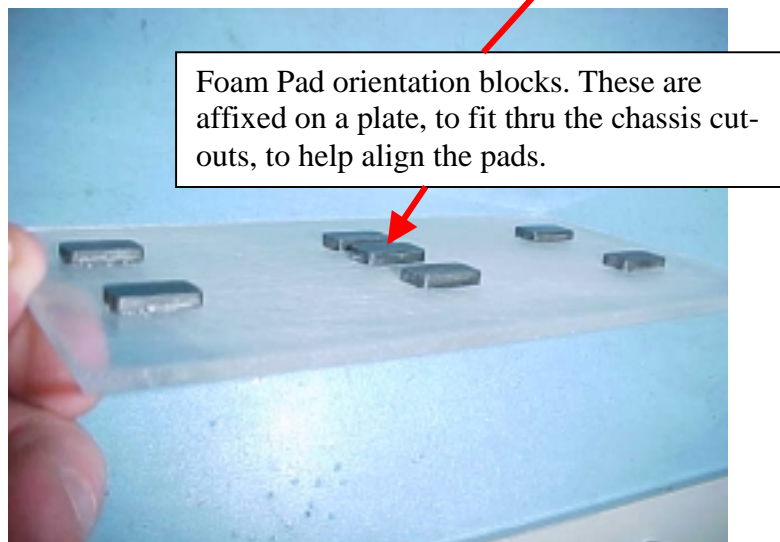
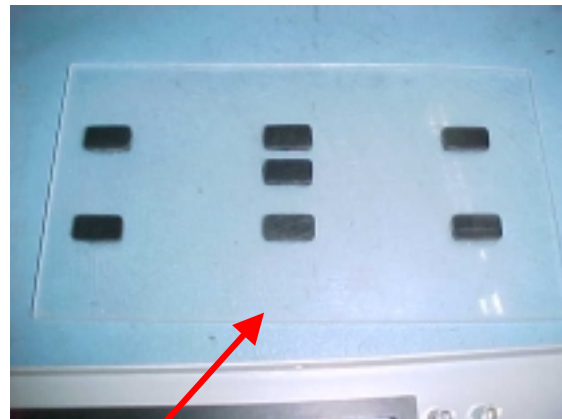
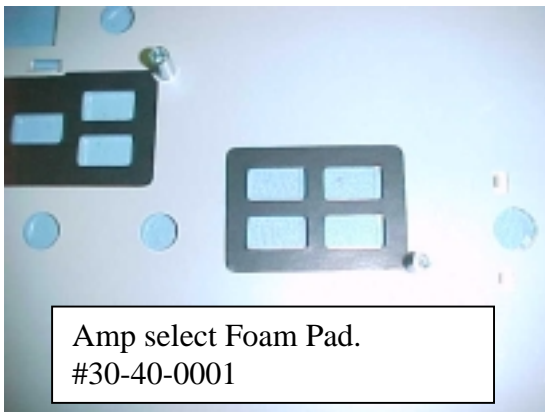
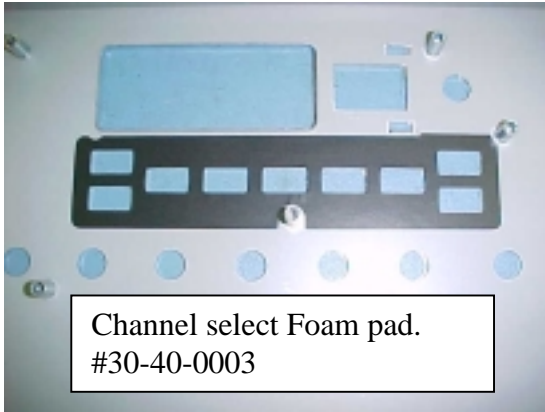
ITEM	QTY	LINE6 PART NO	DESCRIPTION
1	1	31-51-0076	CHASSIS, COVER, Vetta HD
2	1	50-00-0108	ASSY, ARTWORK, OVERLAY
3	1	30-27-0031	BEZEL, LEFT, AX3
4	1	30-27-0034	BEZEL, MAIN, AX3
5	7	30-27-0042	SHOULDER WASHER, ENCODER
6	1	24-06-0002	ROCKER SWITCH
7	1	N/A (REF ONLY)	PCB ASSY WITH SUB ASSY
8	1	N/A (REF ONLY)	PCB ASSY WITH KEYPAD ASSY
9	1	30-15-0004	WASHER, SPACER
10	1	50-00-0099	PCBA, INPUT GUITAR, AX3
12	1	30-27-0027	KNOB, ENCODER LG.
13	10	30-27-0026	KNOB, POT LG.
14	5	30-27-0025	KNOB, SMALL POT
15	17	30-00-0607	SCR 6-32 x 7/16 LG PHILLIPS PN
16	1	30-27-0027	KNOB, ENCODERS LG.
17	1	30-27-0033	LENS, BEZEL, LEFT
18	1	30-37-0032	LENS, LARGE BEZEL
XX	1	30-40-0001	INSERT, VIBRATION DAMPING, AMP SELECT.
XX	1	30-40-0002	INSERT,VIBRATION DAMPING,EDIT SELECT.
XX	1	30-40-0003	INSERT,VIBRATION DAMPING,CHANNEL SELECT.
XX	2	30-65-0004	TAPE, ENCODER SHAFT.
XX	2	30-51-0093	CLIP, LARGE BEZEL.

XX	4	30-00-0025	SCREW,4-40 x 3/16"LG,PPH. ( Large bezel)
XX	1	30-51-0096	SPRING CLIP (small bezel)
XX	1	30-51-0102	PUSH NUT RETAINER (small bezel)

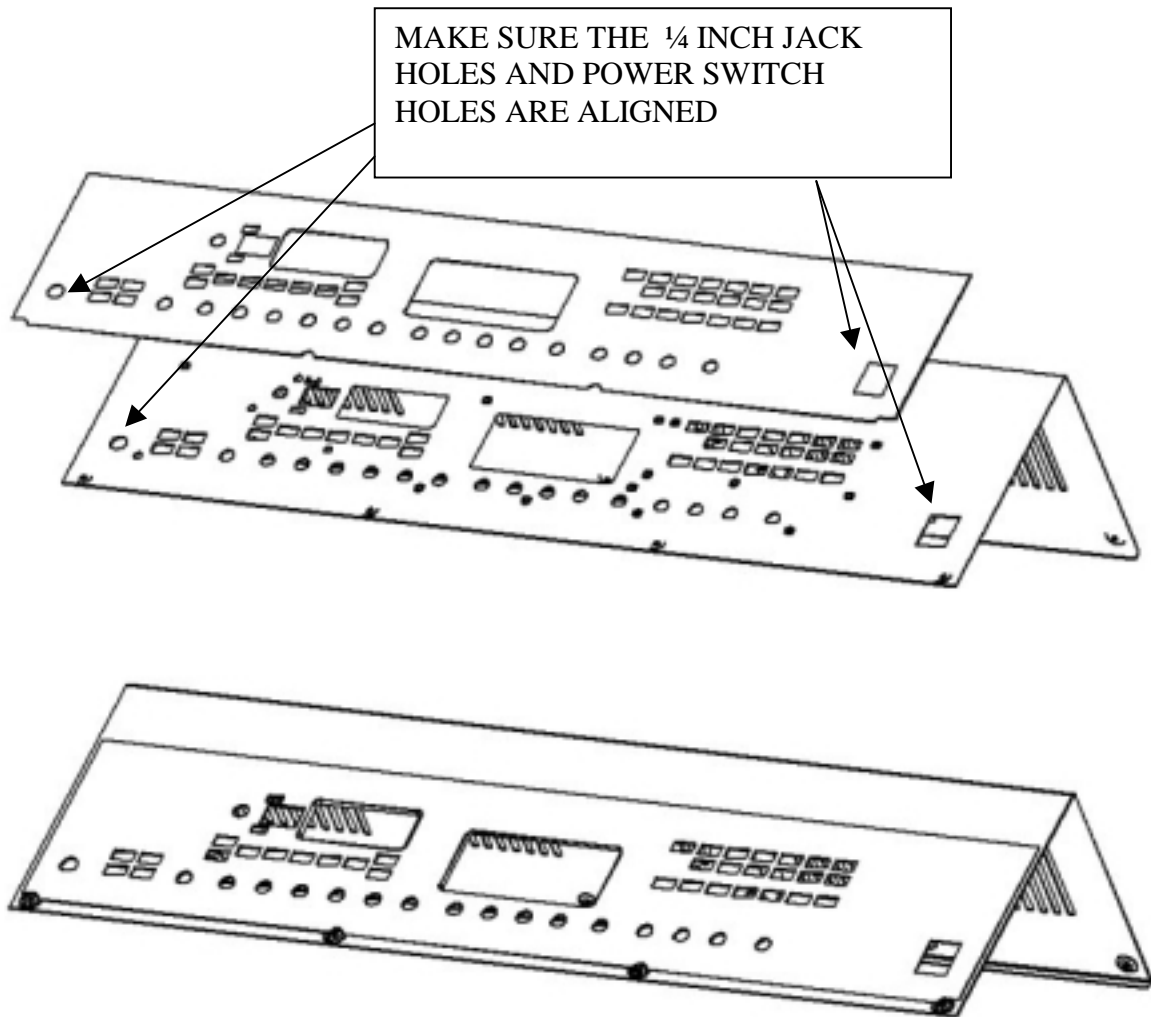
**a) Attach the Foam pads, Overlay and Shoulder Washers**

**BEFORE BEGINNING ENSURE THAT THE CHASSIS COVER (30-51-0076) IS CLEAN AND CLEAR OF DEBRIS.**

First, attach the Foam vibration key pads to the PCBA side of the Chassis cover. Use the orientation blocks, as shown, to align these with the button cut-outs.



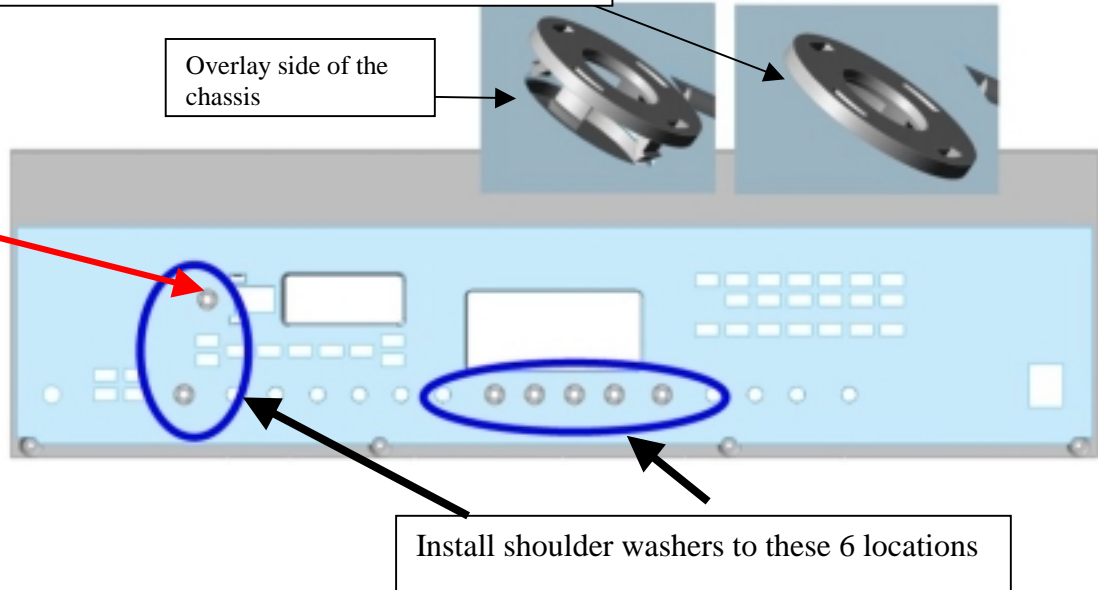
*a)* cnd.....Remove from the overlay (50-00-0108) the self-adhesive cover sheet and place into the alignment fixture, adhesive side up. Position the overlay as indicated on the fixture. Position the chassis cover over the alignment fixture, and orient so the alignment pins come through the chassis cover. Before applying the cover onto the overlay ensure that the piece is correctly oriented and not backwards. Bring the cover down onto the overlay, and apply pressure. Remove the protecting film from the overlay. **USE GLOVES FROM THIS POINT ON WHEN HANDLING THE COVER.**



There are (6) encoders knob treatments (30-27-0042) used on this product. They are to be placed in the holes indicated below. Insert them onto the front (or overlay side) of the chassis . 1 washer is being left off the assembly, as shown below.

Each treatment has a set of locking fingers that snaps into place. Make sure that each treatment sits flush with the surface of the cover.

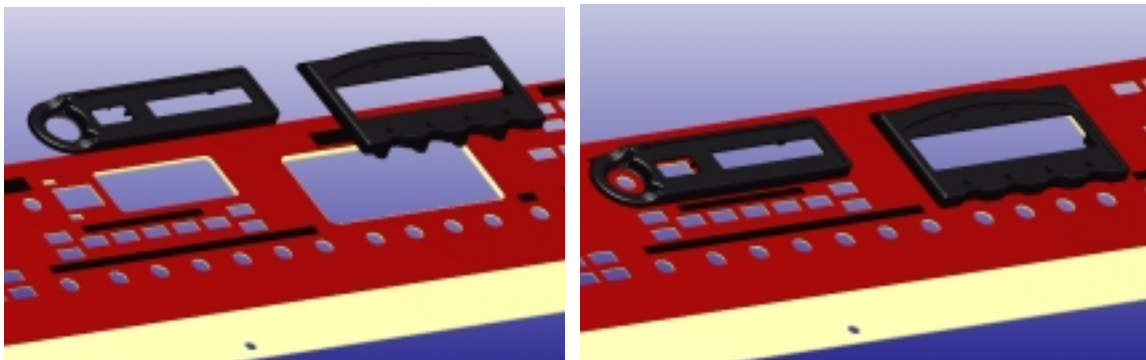
**DO NOT  
INSTALL this  
one.**  
Due to the  
rotation stiffness.

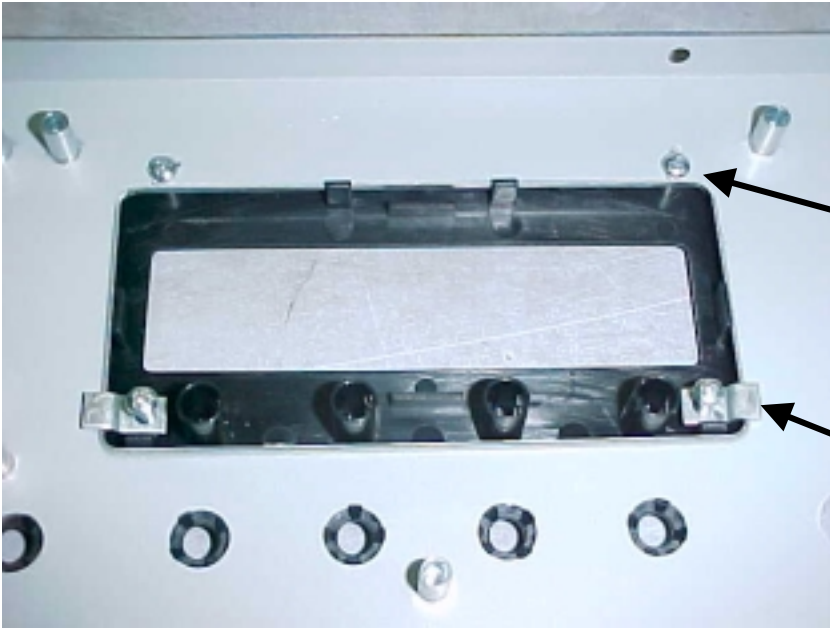


### ***b) Attach the Bezels***

Once the overlay is in place, the next step is to attach the bezels. There are two bezels, the large LCD bezel (30-27-0034), and the small LCD bezel (30-27-0031). The bezels have locking fingers that will snap into place through the cutouts in the chassis cover. Apply smooth even pressure to the top of each bezel until it snaps into place.

The Large Bezel is finally secured with (4) Screws #30-00-0025 4-40 x 3/16" lg PPH, torque 4 in/lbs, and 2 Retaining clips (#30-51-0093) as shown.



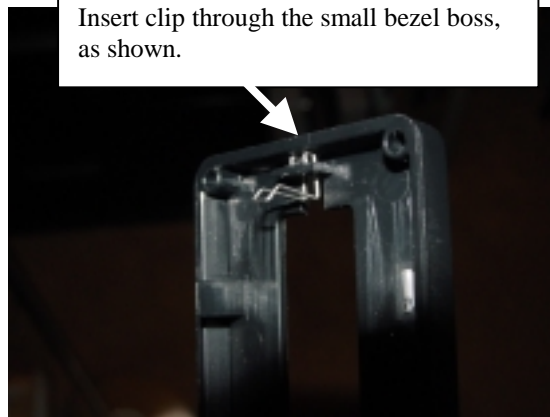


Screw, 4-40 X 3/16" lg, PPH.  
#30-00-0025. (4 PER)  
Torque to 4 in/lbs.

Clip, Large Bezel.  
#30-51-0093 (2 PER)



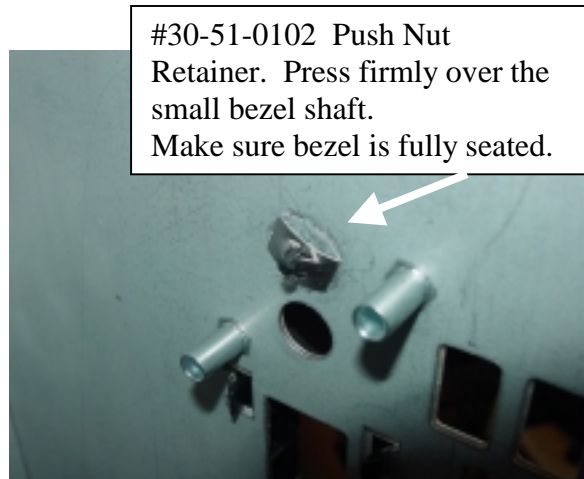
#30-51-0096  
SPRING CLIP



Insert clip through the small bezel boss,  
as shown.



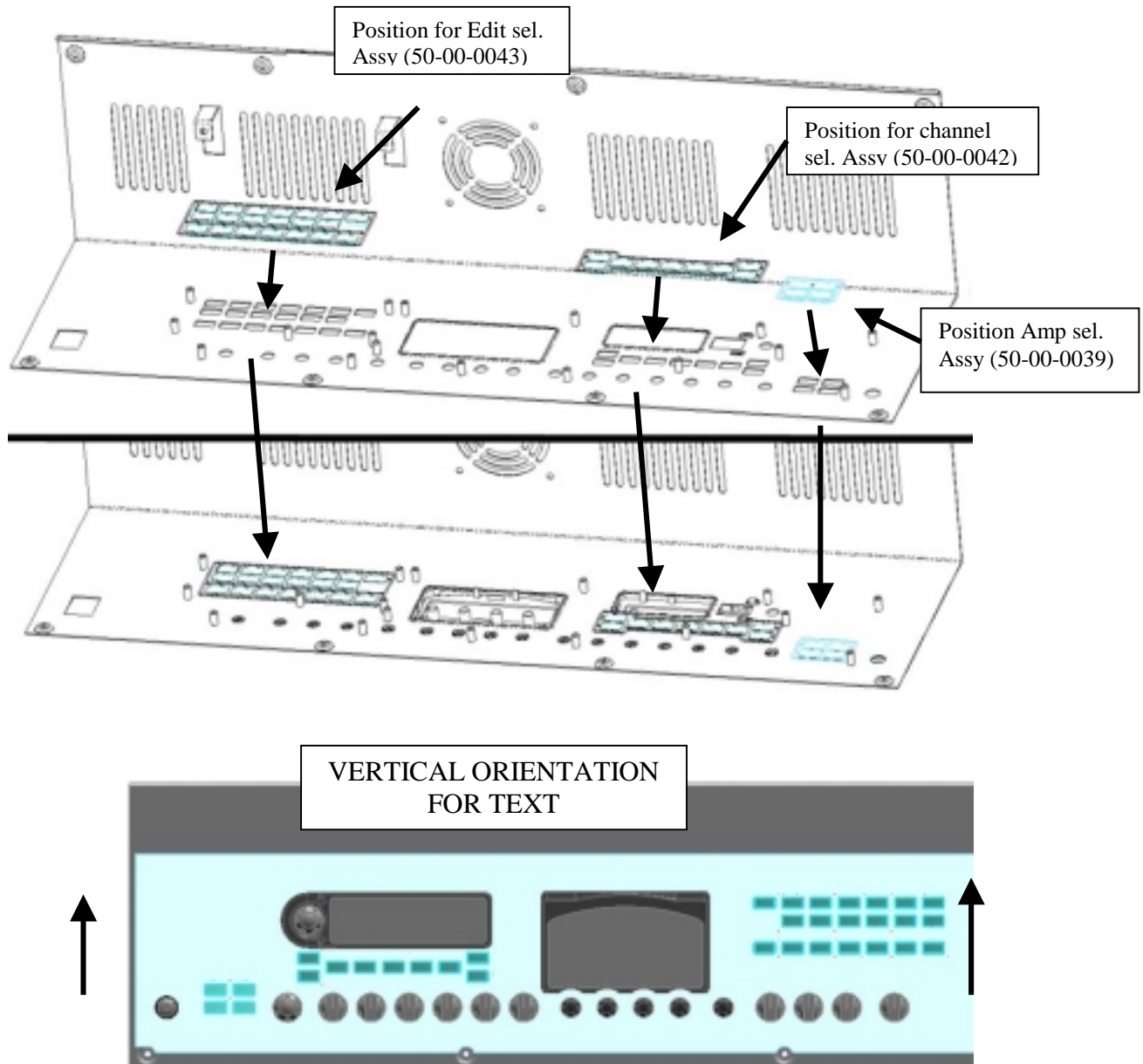
With Small bezel in place, snap the  
spring clip over the metal lip.



#30-51-0102 Push Nut  
Retainer. Press firmly over the  
small bezel shaft.  
Make sure bezel is fully seated.

### ***c) Position Keycaps***

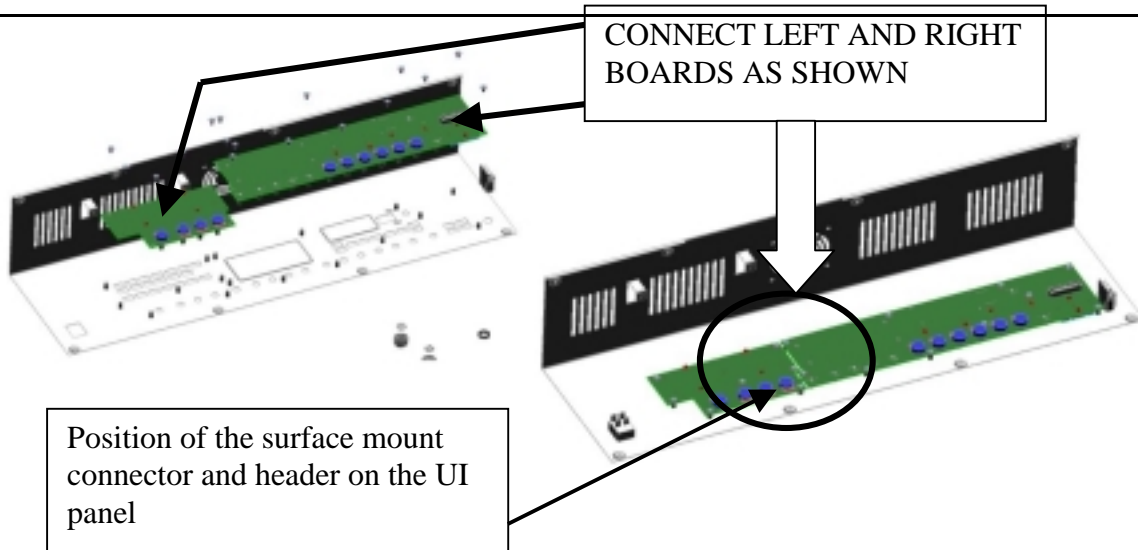
Insert the key caps (50-00-0039, 50-00-0042, 50-00-0043) into their respective through holes (see figure below). Ensure that the text is oriented correctly (see figure).



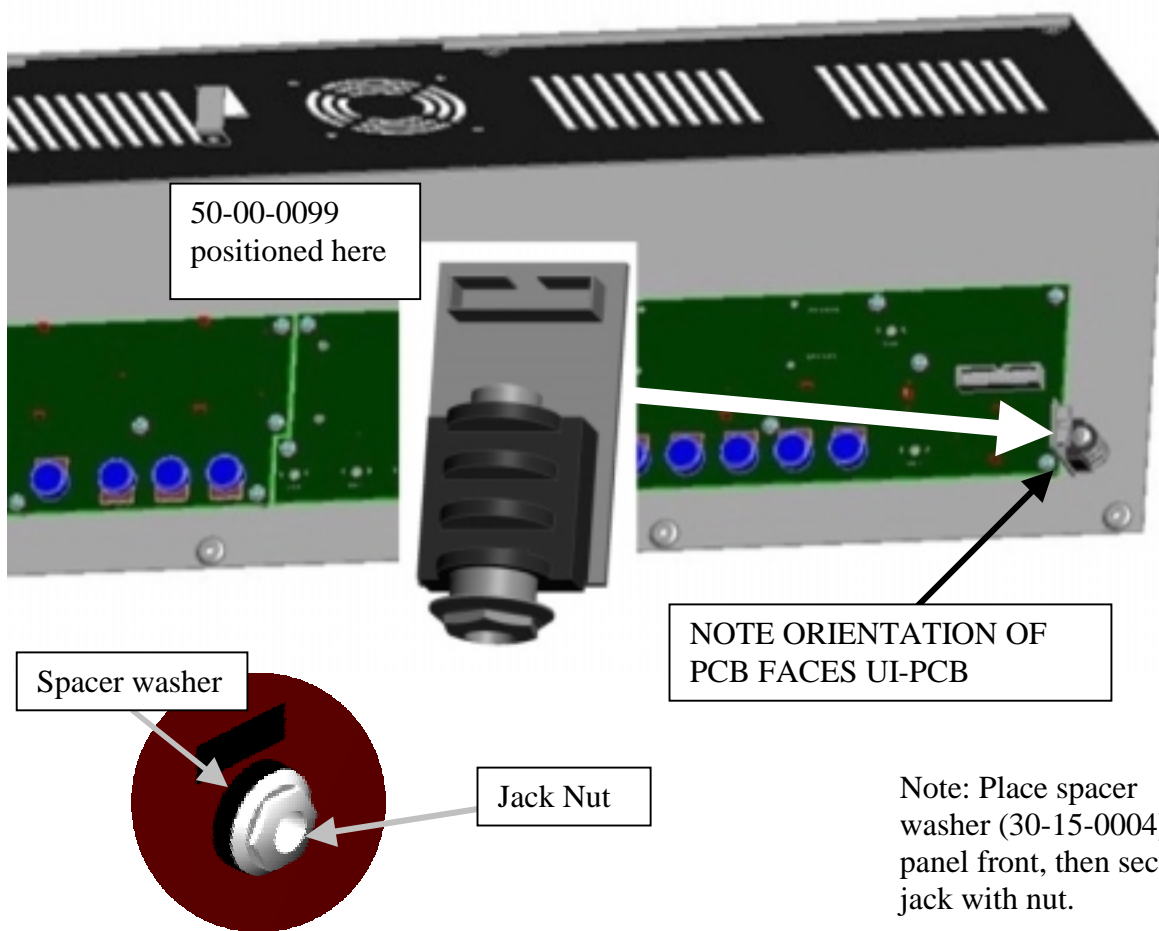
### ***d) Attach the UI PCBs and Guitar Input Jack to the Chassis Cover***

The right and left UI panels connect via a 28-pin surface mount connector mounted to the backside of each PCB. Connect the 2 as shown in the figure below. Use firm pressure to ensure good electrical contact.

Ensure that the plastic display frames and rubber keypads have not become dislodged and are still fully snapped into the UI PCB's. Now mount the connected boards to the chassis cover. Use #6 captive star machine screws (30-00-0607). 7 screws secure the smaller right UI board, and 9 screws secure the right. Tighten to a torque of 6-8 in/lbs.

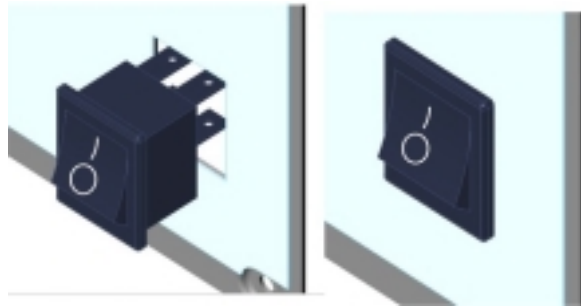


Attach the guitar input jack assembly (50-00-0099) to the chassis cover as shown below. Insert a spacer washer (30-15-0004) under the jack nut as shown in the figures below. Orient the PCB of the jack assembly to face the UI-PCB.



### *e) Snap in Power Switch*

Snap in the Power Switch to the rectangular hole indicated below. For correct mounting ensure that the “O” symbol on the switch is oriented as indicated in the figure.



### *f) Inspect the Completed UI Panel Sub-Assembly*

After completing the sub-assembly inspect it to ensure that everything is correctly placed. Check that:

- All knobs are uniformly seated and appear straight. If a knob is visibly skewed, check for proper insertion and correct the problem immediately.
- Knobs turn smoothly and do not scrape the cover.
- Check that all knobs potentiometer knobs can turn to **exactly** the 12:00 position
- Pull on each knob until it starts to slide off the stem, then reposition it to its proper height. This will help identify defective components. The knob must have the ability to be removed without unseating the stem of its encoder or potentiometer.
- Check that the encoders have negligible wiggle (for missing or incorrect insertion of the encoder shoulder washers).
- Check that all keycap assemblies have been mounted correctly in the up orientation.
- Test the buttons to ensure that they all have a uniform feel and are not pinched under the cover. All buttons should depress and pop up freely.
- Re-examine the front panel for cosmetic defects. Look for any marks, scratches or blemishes. Check for smudges or other defects in the silk-screening.

If the assembly passes the above tests, move on to the next step. Correct any problems immediately. If you have any quality questions, consult your supervisor.



## Cable Assemblies

### *a) Connect the Cable Assemblies*

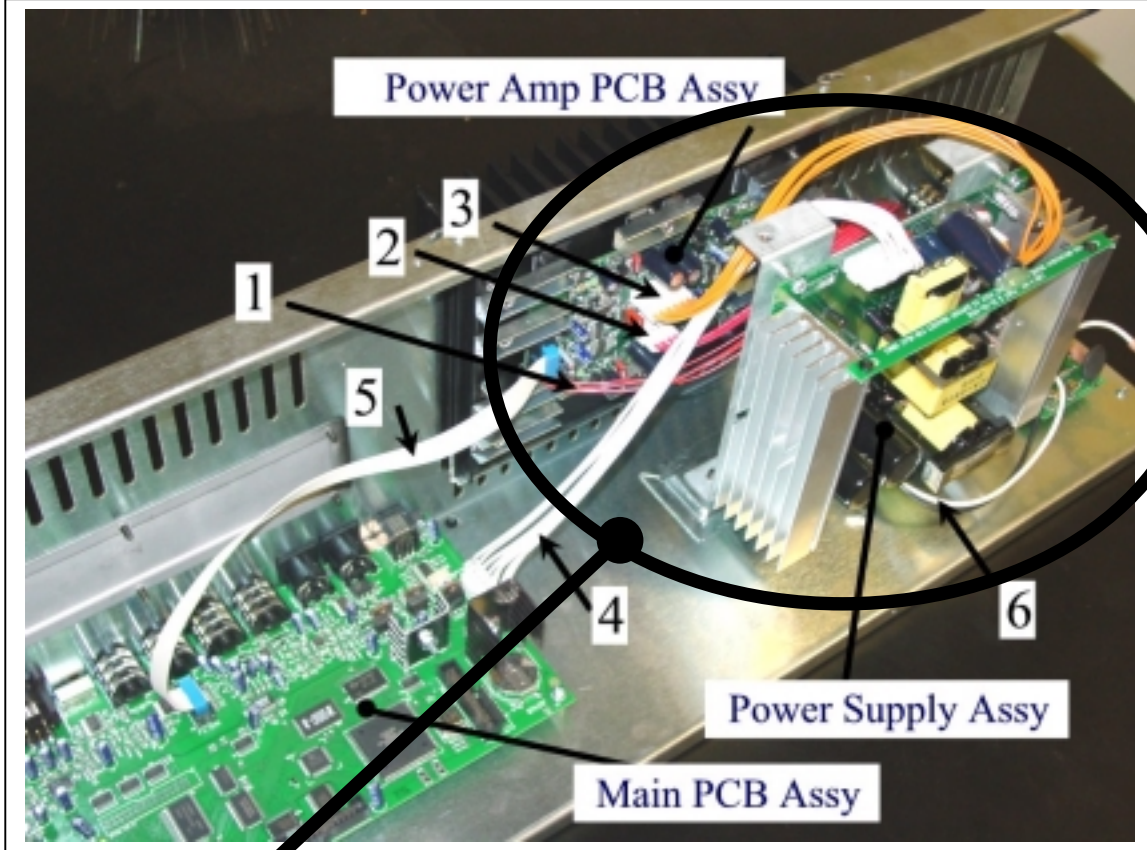
Before securing the completed chassis cover assy to the completed chassis assy, all cables need to be connected. Use the table below to reference where the cables connect. The photos following the table in this section reference the cables listed below. Use the table and photos together to correctly complete this section.

Due to the very repetitive nature of this section, it will be very short on text. Keep the following things in mind while connecting the cable assemblies:

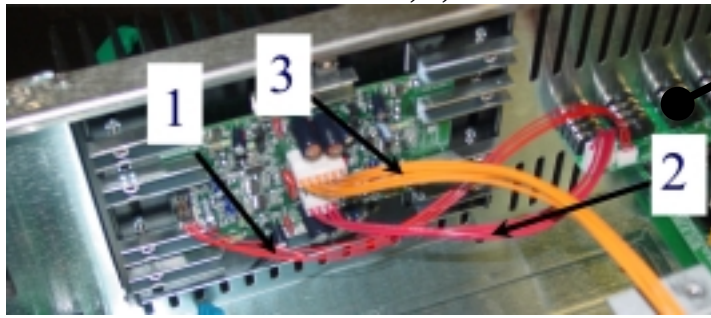
- Connect all cable assemblies securely.
- Connectors should be fully engaged with PCB header shrouds.
- Some headers on the PCB's will not be used and will be left empty.

#### **Vetta CABLE TABLE**

<b>No.</b>	<b>Line6PartNo</b>	<b>Description</b>	<b>PCB Position*</b>	<b>No. of Pins</b>	<b>Wire color</b>
1	21-34-0007-2	Amp-Output, Z-sel	P4-H3	4	Red
2	21-34-0008-2	Amp Output, 4pin	P2-J8	4	Red
3	21-34-0021-2	Pwr Supply – Pwr Amp	H6-P3	6	Orange
4	21-34-0014-2	Pwr Supply – Main PCB	H7-J49	8	White
5	21-30-0009-2	Pwr Amp – Main PCB Main Power Switch	P1-H12	10	Grey (ribbon)
6	21-34-0008	Cable	J1-J2	2	White/Black
7	21-34-0006	Voltage Jumper	J2	2	White
8	21-34-0015	Guitar Input	J26-guitar PCB	5	White
9	21-30-0026	UI – Main PCB	H9-H12	26	Grey (ribbon)
10	40-25-0015	Grounding cable	--	1	Green

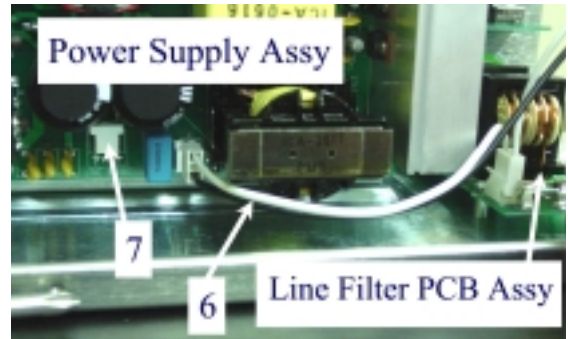


**Inset view for cables 1,2,3:**

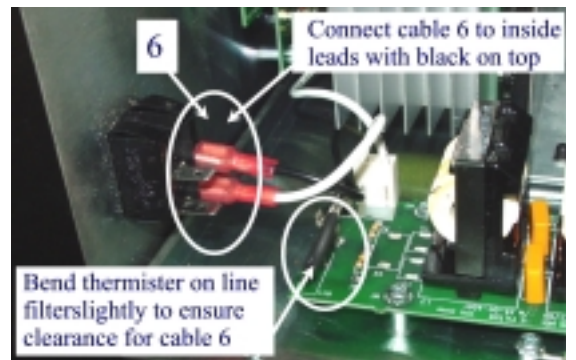
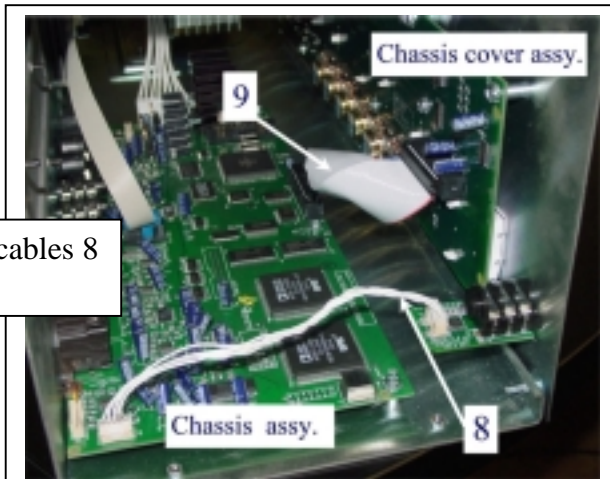


**Output PCB Assy**

**Inset for cables 6 and 7:**

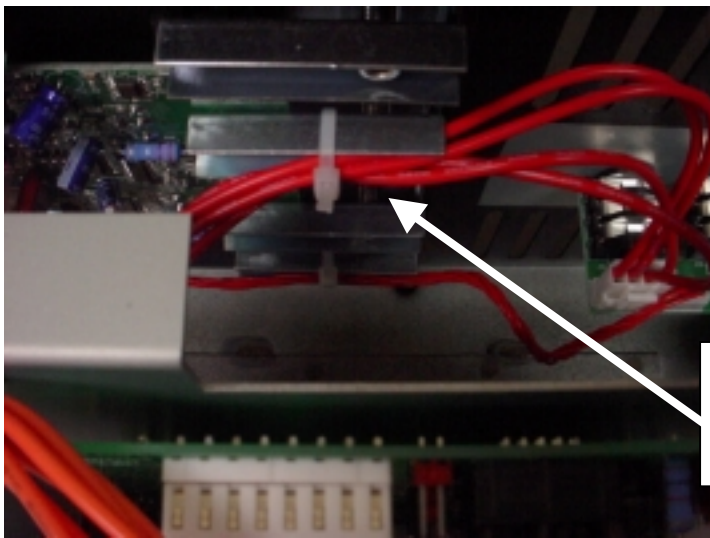
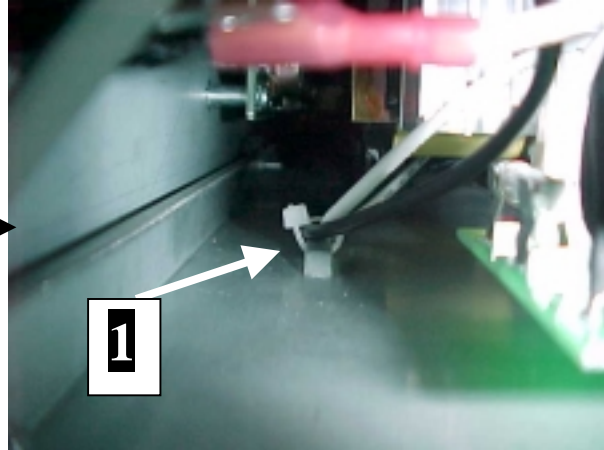


**View for cables 8 and 9**



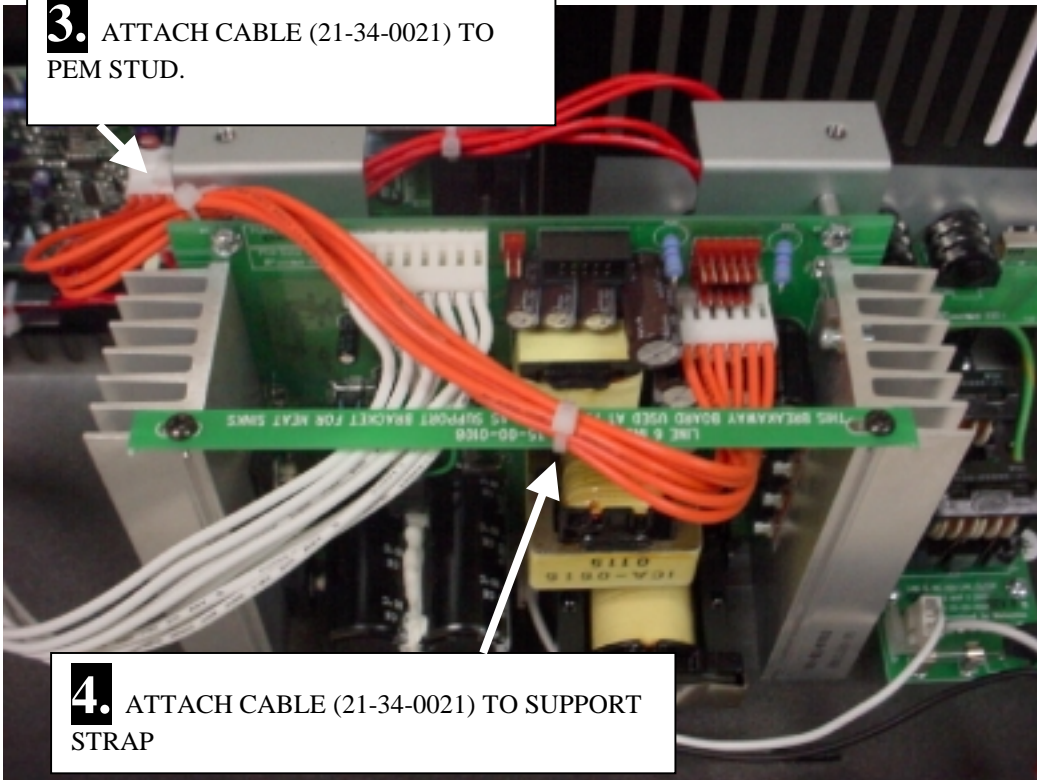
## -CABLE TIE POSITIONS. (6 places)-

Secure the main switch cable (#6 above) to the chassis, using a ziptie as shown in the adjacent figure. The ziptie will secure to the chassis by passing it through a lance in the sheetmetal as shown .



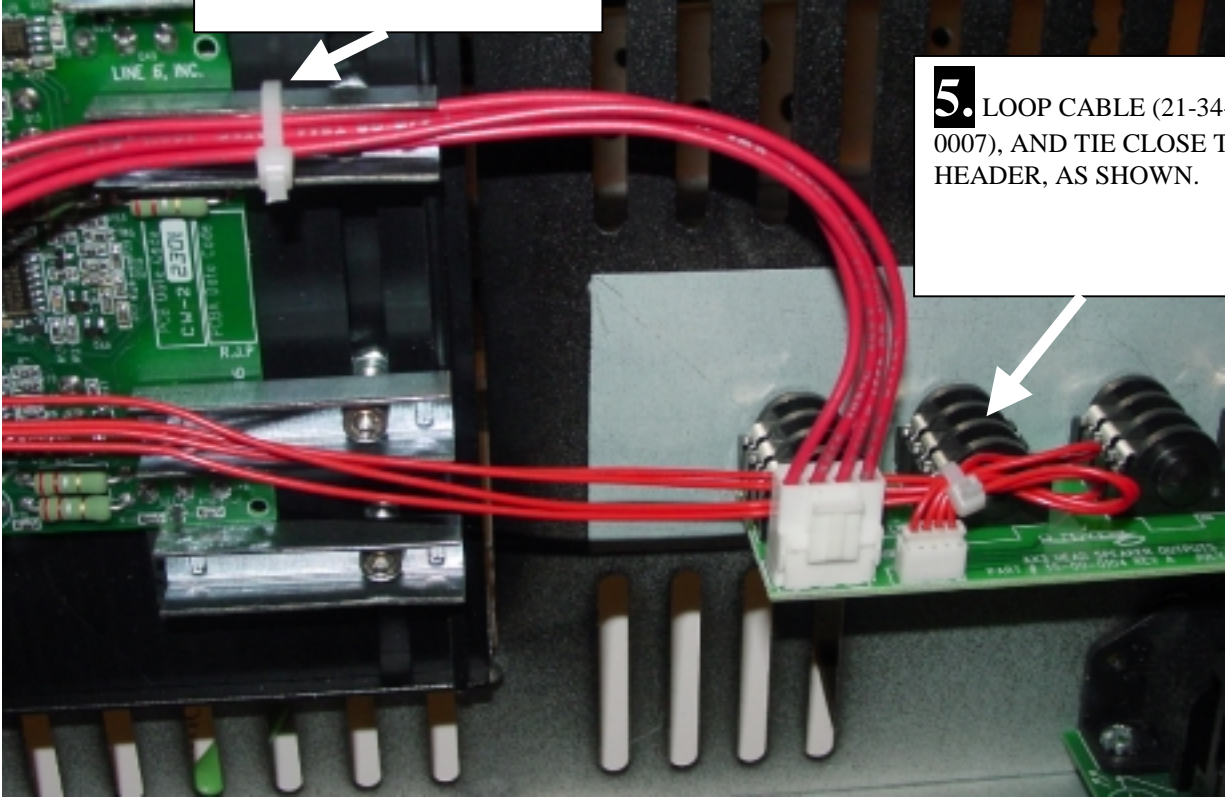
**2.** ATTACH cable #21-34-0008, TO #2 down RIGHT CLAMP ONLY

**3.** ATTACH CABLE (21-34-0021) TO PEM STUD.



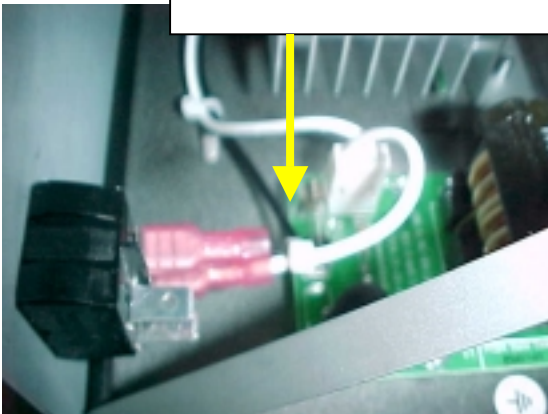
**4.** ATTACH CABLE (21-34-0021) TO SUPPORT STRAP

MIDDLE CLAMP ZIP TIE  
( SAME AS No.2 ABOVE)

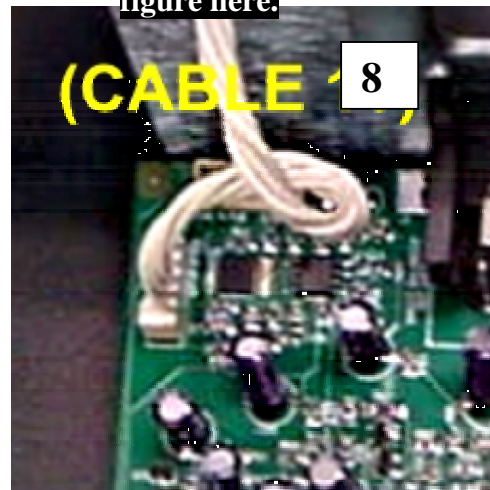


**5.** LOOP CABLE (21-34-0007), AND TIE CLOSE TO HEADER, AS SHOWN.

**6.** ZIP TIE CLOSE TO SPADE CONNECTORS, AT THE MAIN SWITCH.



**Note on Cable 8: Twist this cable before connecting as shown in the figure here.**



***b) Set the voltage jumpers***

The correct voltage jumper configuration is as follows:

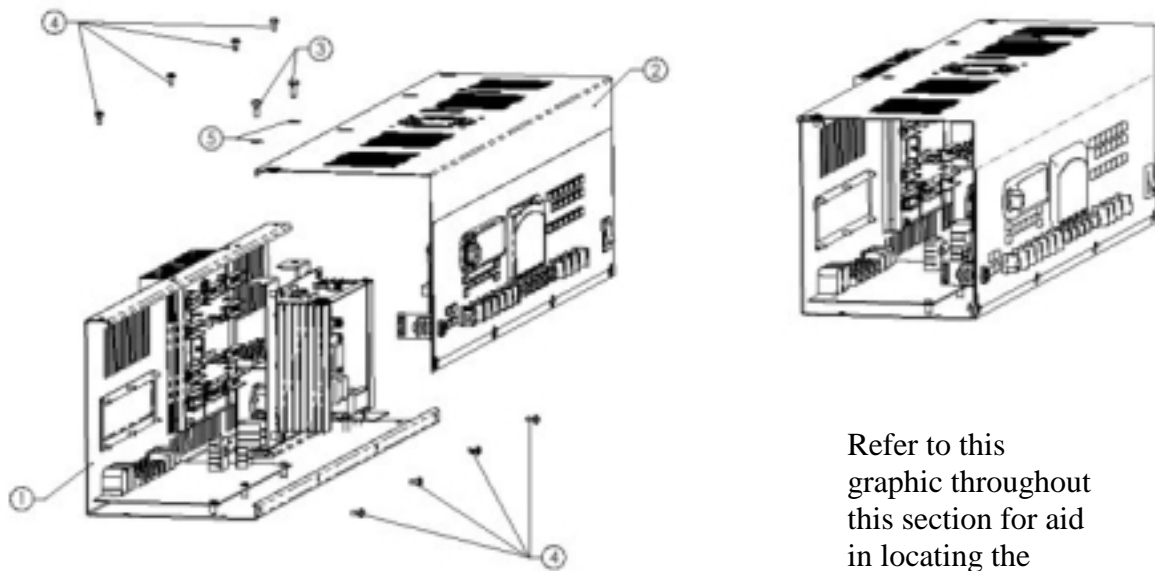
Voltage:	Jumper	Fuse:
100 – 120	On	8 amp (#24-19-8250)
220-240	Off	4 amp (#24-19-4250)

**Place voltage sticker on the chassis just below where the fuse and jumper are set.**

**IF VOLTAGE IS SET TO 220-240V , IMMEDIATELY APPLY TO BACK SURFACE OF CHASSIS A SECOND VOLTAGE STICKER (#40-25-0011) INDICATING THIS JUMPER/FUSE CONFIGURATION. POSITION THE STICKER ADJACENT TO THE AC RECEPTICLE COVERING THE 100-120V POWER RATING ALREADY SILKSCREENED ONTO THE METALWORK.**

**IF VOLTAGE SETTING IS SET TO 100-120, THEN NO STICKER IS NECESSARY (The chassis artwork already specifies this value).**

## Completing the Electrical Chassis



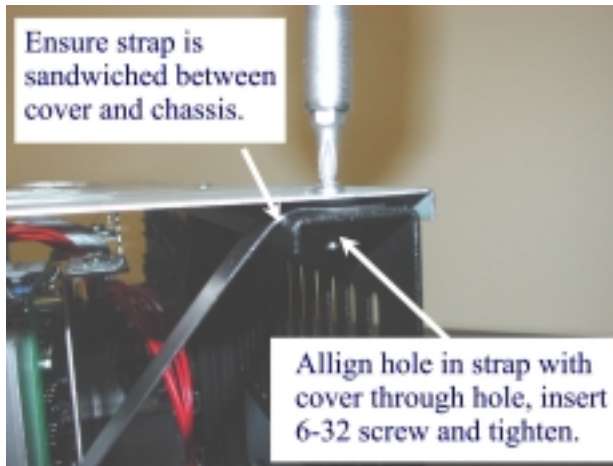
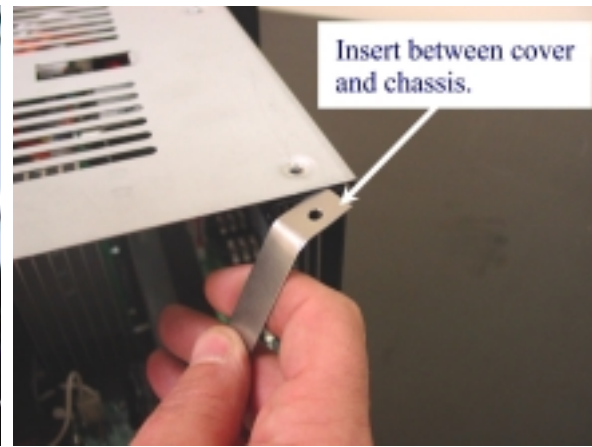
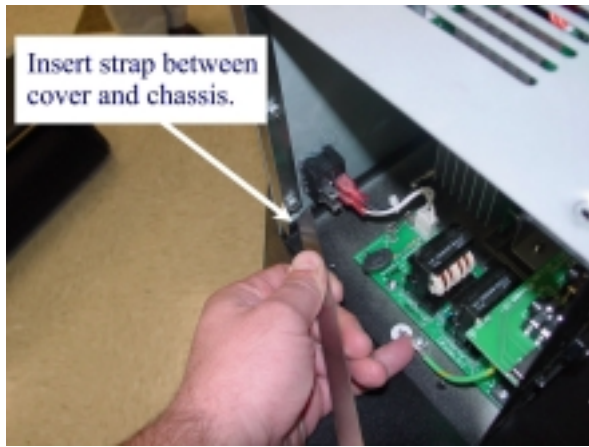
Refer to this graphic throughout this section for aid in locating the parts discussed.

ITEM	QTY	LINE6 PART NO	REV	DESCRIPTION
1	1	N/A (REF ONLY)	X0	ASSY, CHASSIS - COMPLETE
2	1	N/A (REF ONLY)	X0	ASSY, CHASSIS COVER
3	2	30-00-1012	N/A	SCREW #10-32 X 1/2 PHILLIPS PAN ZINC
4	8	30-00-0607	N/A	SCR 6-32 x 7/16 LG PHILLIPS PN
5	2	30-03-0001	N/A	WASHER #10 EXTERNAL TOOTH LOCKWASHER ZINC
x	2	30-51-0095	N/a	CHASSIS BRACE (NOT SHOWN ABOVE)

### *a) Attach the Chassis Cover Assembly to the Sub-Chassis*

Before proceeding, verify that all cable assemblies are properly attached. Connect the cable assemblies between the cover and chassis as described in the previous section. Connect the guitar cable from the main board up to the guitar jack PCB on the cover. Connect the main ribbon cable from the main board up to the UI-left panel. Connect the cable for the main switch the power supply and to the power switch.

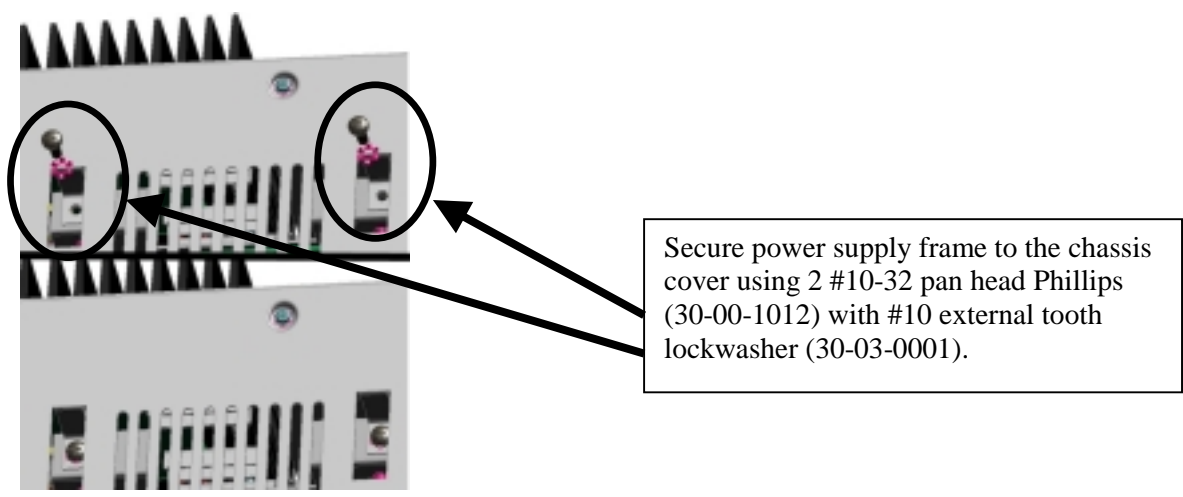
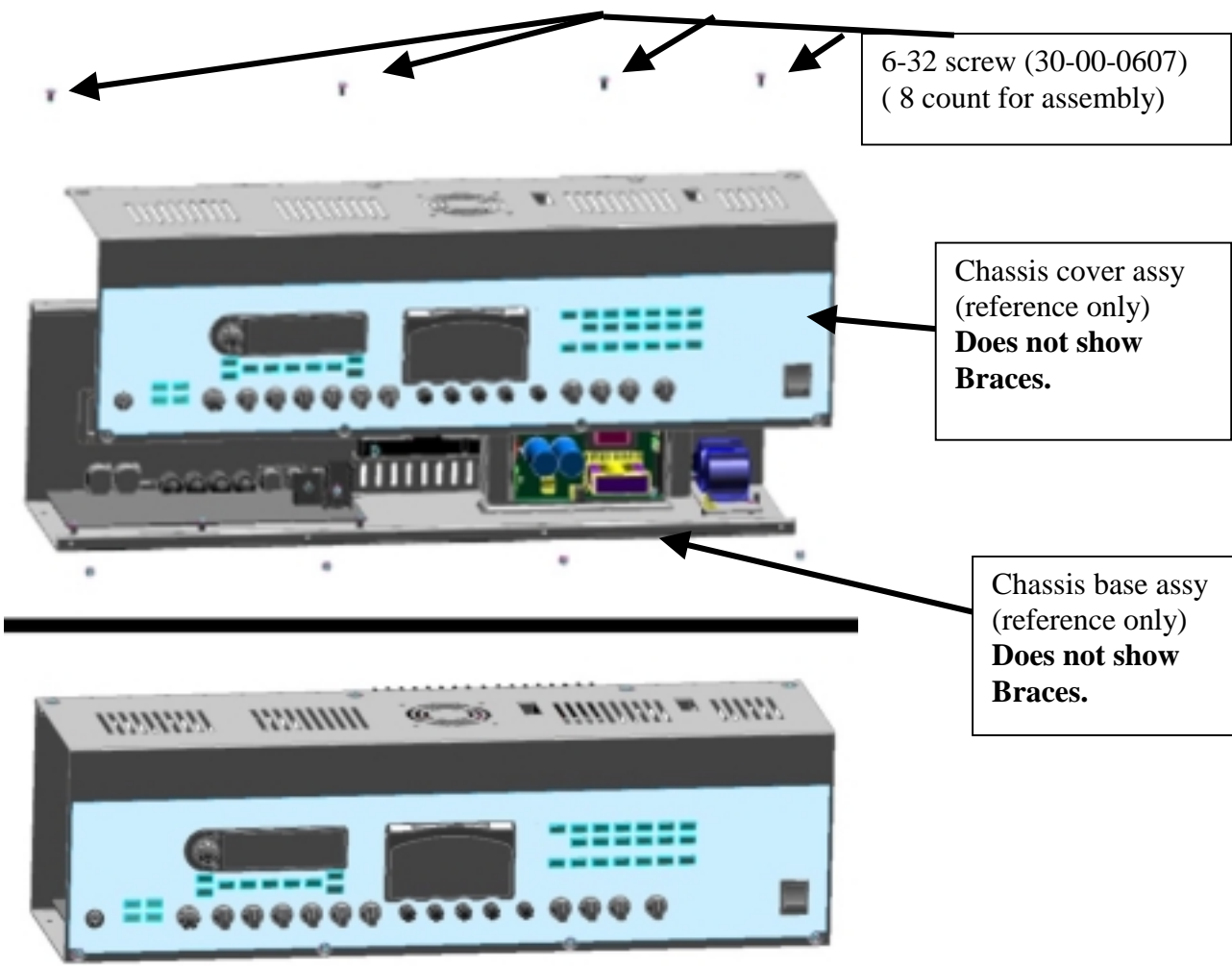
2 Chassis Brace's are assembled at this point, to strengthen the assembly.



Attach chassis cover to base using 8 #6-32 captive star washer screws (30-00-0607).

4 are used at the top of the assembly ( MAKE SURE THAT THE 2 OUTER SCREWS GO THROUGH THE ENDS OF THE 2 BRACES)

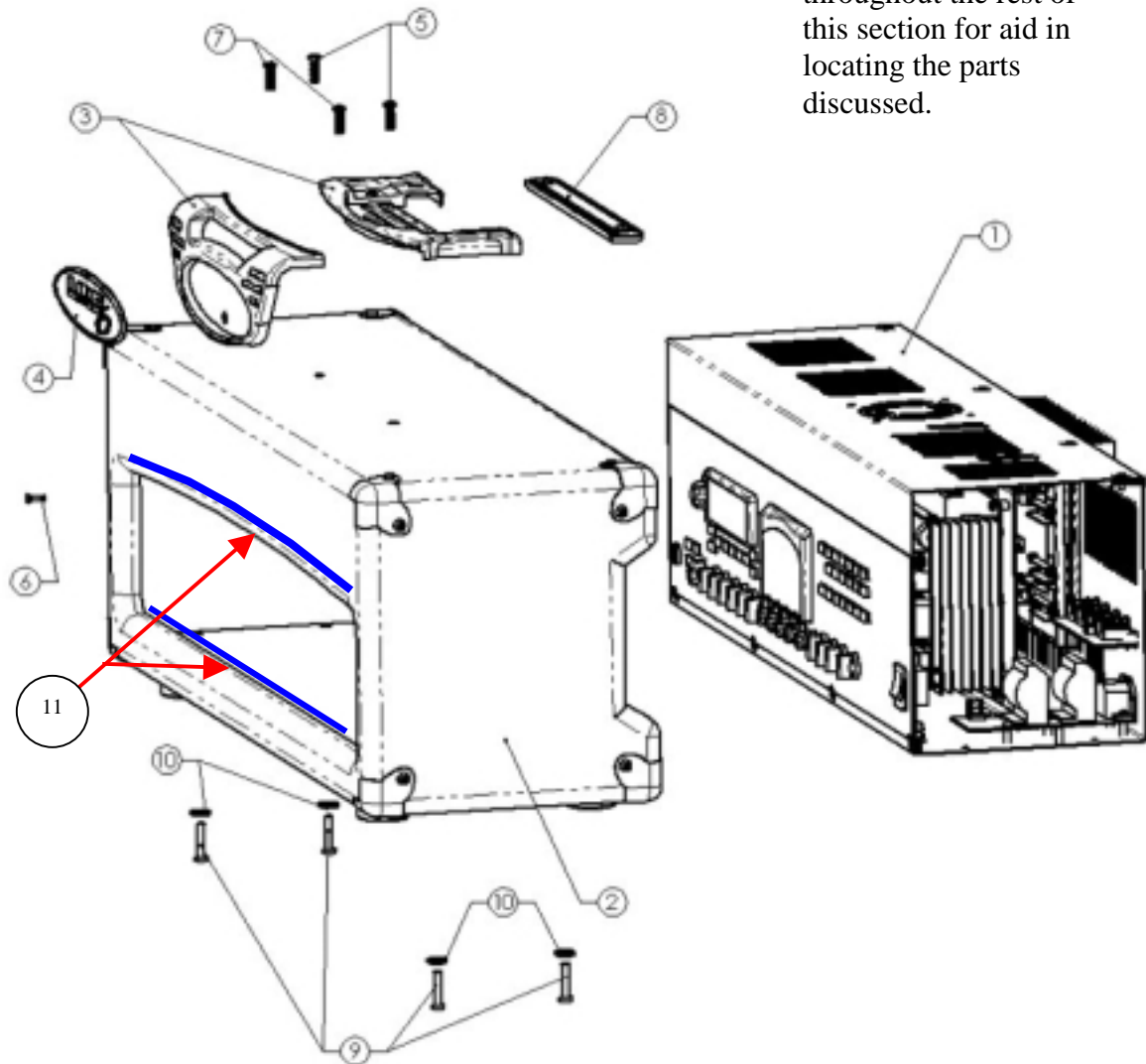
Other 4 are used on the front (see below) AGAIN, MAKE SURE THAT THE 2 OUTER SCREWS GO THROUGH THE ENDS OF THE 2 BRACES. Finish the subassembly by securing the power supply frame as described at the bottom of the page. Tighten to a torque of 6-8 in/lbs.





## Completing the Unit

Refer to this graphic throughout the rest of this section for aid in locating the parts discussed.



ITEM	QTY	LINE6 PART NO	DESCRIPTION
1	1	N/A (REF ONLY)	ASSY, CHASSIS AND COVER
2	1	30-51-0152	CABINET, Vetta HD
3	1	<b>30-51-0074</b>	<b>HANDLE BRACKET TOP</b>
3	1	<b>30-51-0075</b>	<b>HANDLE BRACKET BOTTOM</b>
4	1	30-60-0002	LOGO, OVAL HANDLE BRCKT
5	2	30-00-1032	SCREW, 10-32 X 1.25 OVAL HD PH, NICKEL
6	1	30-00-0019	SCREW, #6-32 x 1/2, SELF TAPP, FLAT HD, PHIL
7	2	30-00-0023	SCR, #10, OVAL HEAD PHILLIPS, ZN
8	1	30-57-0580	HANDLE STRAP
9	4	30-00-1124	#10-32 x 1.5" OVAL HD PH, BLK
10	4	30-03-0011	WASHER, FINISHING, #10, BL OXIDE
11	2(pls)	30-63-0010	INSULATION, FOAM STRIP

***a) Assemble the Handle Bracket***

Center the handle strap into the recesses of the top handle bracket – **NOTE ORIENTATION OF THE GROOVES IN THE STRAP** (see below). Hold the front handle bracket against the front of the cabinet as shown below. With the strap held in the recess, place the Top handle bracket onto the Front handle Bracket.. **ASSURE ALLIGNMET BETWEEN EDGES OF TOP AND FRONT BRACKET –SEE BOLD NOTE BELOW**. At this point fasten the 2 Top Bracket using #10-32 machine screws only. Tighten to a torque of 8-10 in/lbs.

Handle strap assy  
(30-57-0580)

#10-32 oval head machine screws  
(30-00-1032)

Note orientation of  
handle strap with  
grooves on top

Top handle bracket  
30-51-0074

Front handle bracket  
30-51-0075

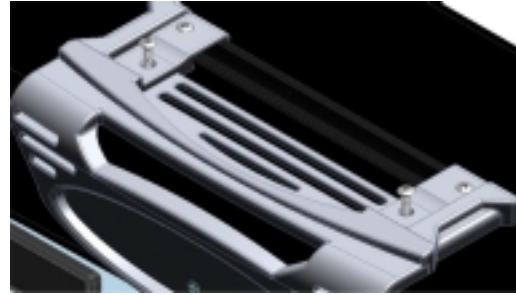
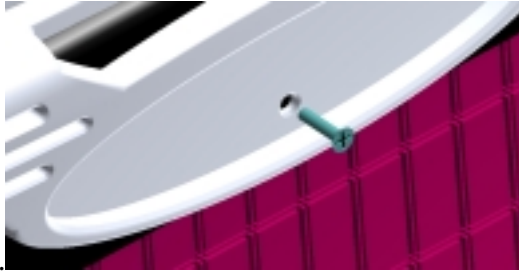
#10 x 1-inch oval head Phil  
wood screw (30-00-0023)

**Note that these 2 edges align  
when handle bracket pieces  
are properly mounted.**

Line 6 and Vetta are trademarks of Line 6, Inc. Other amplifier and effect names used in this product are all trademarks of their respective owners, which are in no way associated or affiliated with Line 6. These trademarks of other manufacturers are used solely to identify the products of those manufacturers whose tones and sounds are modeled in this product.

Vetta disclaimer sticker.  
P/N 40-25-0150

Now affix the Front Handle Bracket using the #6 wood screw (30-00-0019, see below left). Finish securing the Top Handle Bracket to the cabinet using 2 #10 oval HD wood screws (30-00-0023) as shown below (right side).



***b) Attach the Line 6 Logo***

Peel off the backing from the logo piece (30-60-0002) to reveal the pressure sensitive adhesive, center the logo in the bracket depression, and firmly press the logo into place.

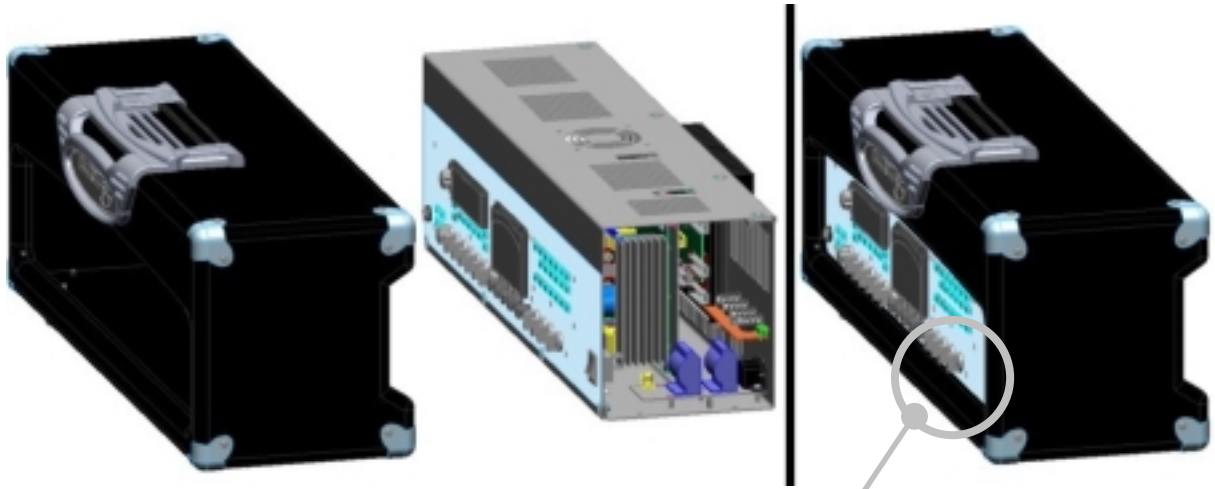


***c) Insert the Chassis into the Cabinet.***

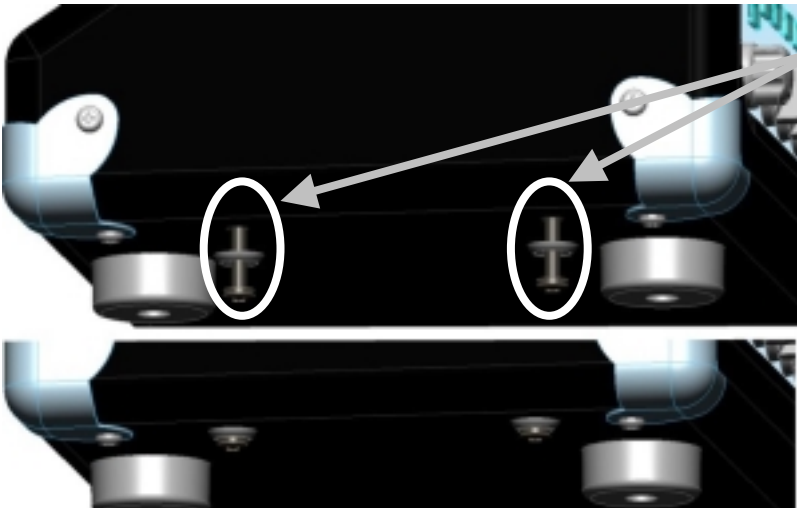
Before mounting the chassis into the cabinet, punch through the vinyl into the pre-drilled holes in the chassis base. Approximate location for the holes is shown below.



Slide the completed chassis assembly into the cabinet unit the overlay on chassis cover sits against the inside face of the front cover. Secure the chassis using 4 #10 (30-00-1124) screws mounted with 4 #10 finish washers (30-03-0011).



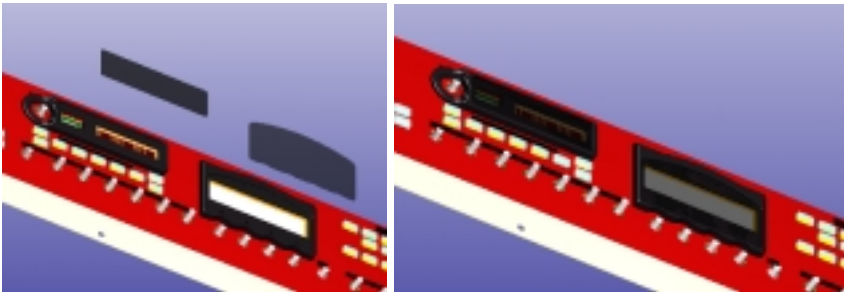
The chassis will sit directly against back of the cabinet front face when correctly installed.



Secure the chassis using 4 #10 (30-00-1124) screws mounted with 4 #10 finish washers (30-03-0011).

***d) Place the Bezel Lenses***

The bezel lenses must be placed next. The LCD bezels each have a smoked lens that attaches with pressure sensitive adhesive. Gloves must be worn at this stage. Remove the adhesive protection film. Carefully center the lens, and firmly press it into place.



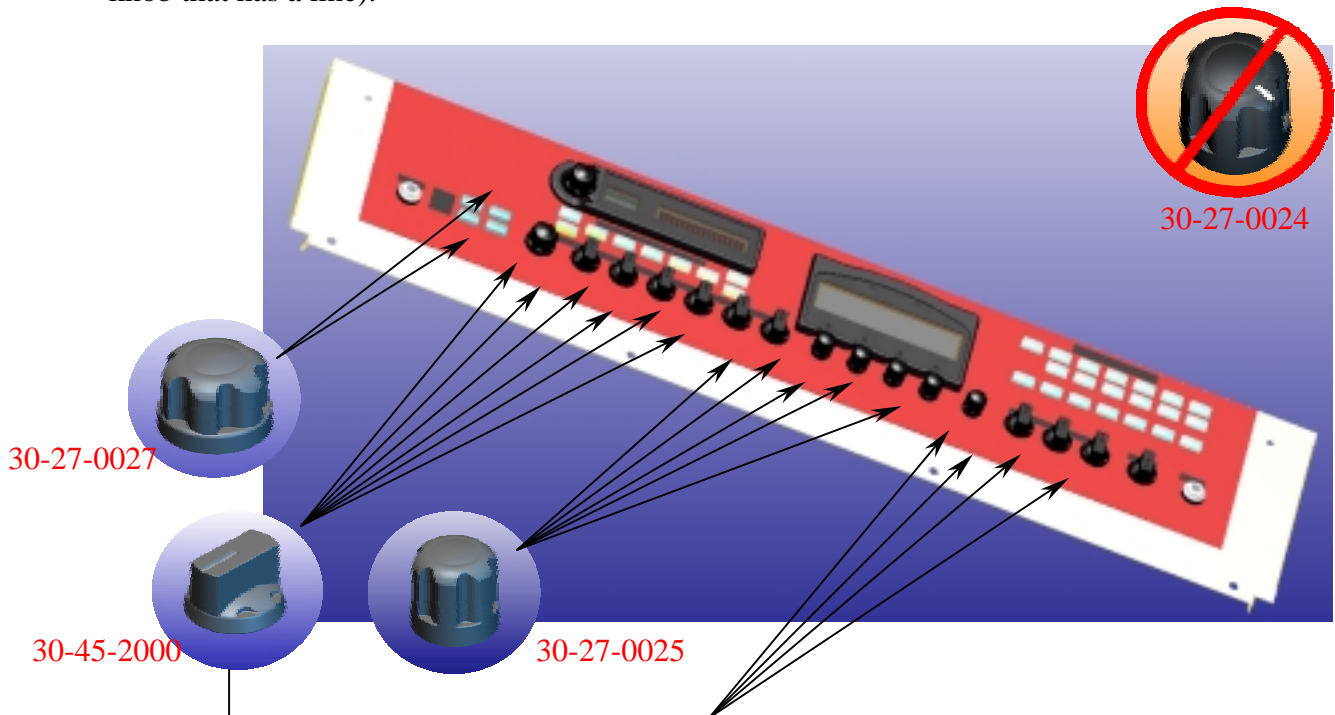
Make sure that the lenses are centered in the bezels, that they are undamaged, and that they do not have any fingerprints on them.

### e) Attach the Knobs

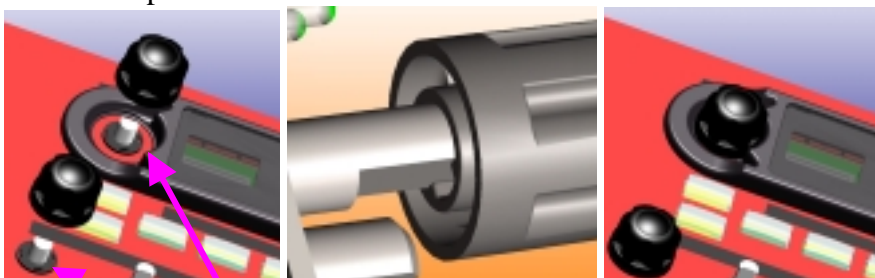
The next step in assembling the cover sub-assembly is placing the knobs on the component stems. The knobs are standardized across multiple Line 6 products.

*The large encoder knob also has a spacing finger. DO NOT REMOVE the spacing finger from the encoder knob (30-27-0027).*

Check to ensure that the small encoder knob has been chosen correctly. It must NOT have a white indicator line that shows its orientation. (Line 6 stocks a very similar small potentiometer knob that has a line).



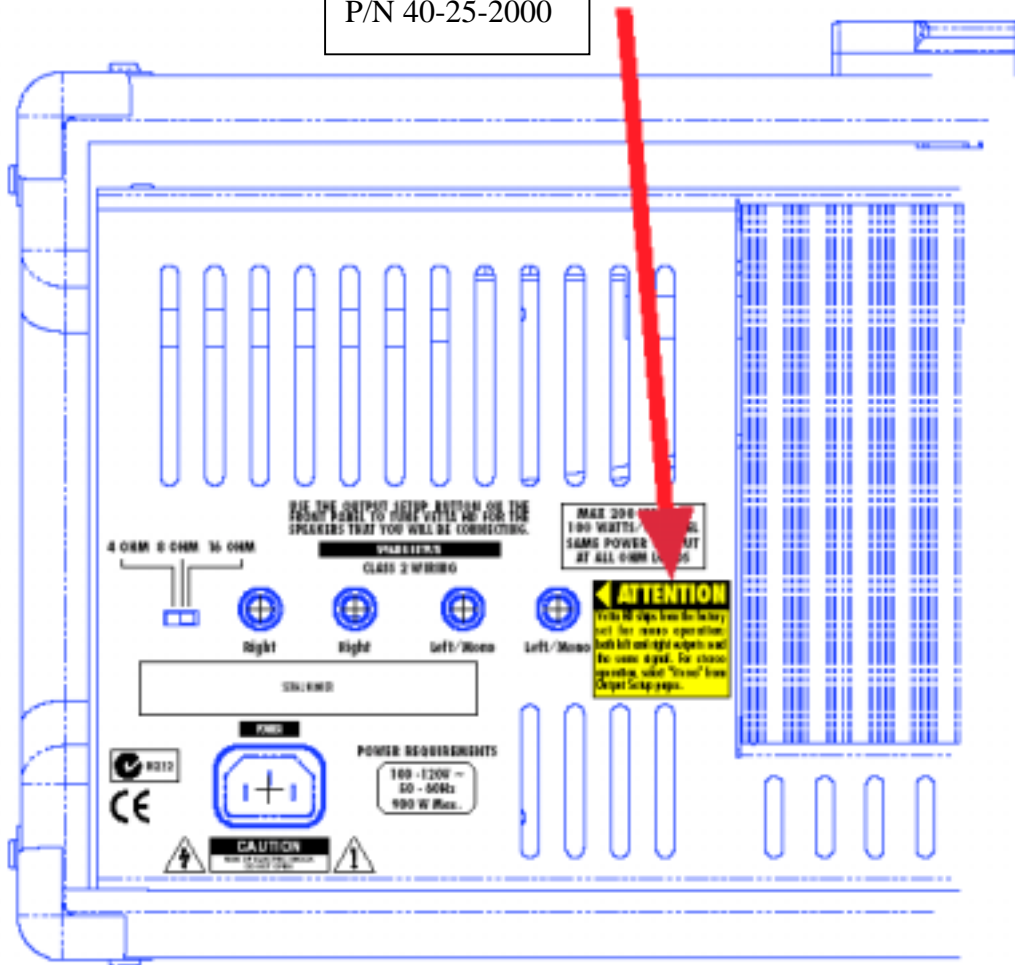
Simply orient the knob such that the D-shaped hole matches the stem of a component and slide it down until it rests on the step in the component shaft. The knobs are not to bottom out on the face of the product or the knob treatments.



**Large Encoder pot shafts have a strip of tape applied, from the Flat surface, across the top. (Not shown here). #30-65-0004 (1 on each). This prevents the knobs from coming loose.**

Place sticker here (Back section of Vetta HD shown below)

P/N 40-25-2000



### f) Set shipping configuration

Configurations for shipping are:

1. **XLR:** set to “ground” position.
2. **All POT’s:** set to zero, **EXCEPT** for “Global” knobs - these should be set to 12:00 o’clock.
3. **Ohm select switch** set to 8 ohm.

## **Test and Inspect the Completed Unit**

To help ensure maximum quality of all products, it is the responsibility of the assembler to complete a post assembly inspection prior to sending the unit on to electrical testing and final inspection. This should help achieve one goal: no unit shall ever be returned from test and inspection for rework because of a mechanical defect that could have been corrected at the assembly stage. Remember that things that have already been inspected during assembly may have been inadvertently damaged during the assembly process. With this in mind, fully inspect the unit for mechanical defects. Things to look for include:

- Cosmetic damage to any visible surface of the unit. This includes but is not limited to: defects to the silk-screening – both front and back panel, dents, dings or scratches in all outer surfaces, smooth even surface color of the front panel, even paint coverage and texture to the top cover, scratched or fingerprinted lenses, scratches or fingerprints on buttons, damage to button text or keycaps, and/or visible process marks on knobs and other plastic parts.
- Proper complete assembly of all parts. This includes but is not limited to: Presence of all parts, flush full insertion of all screws. Even consistent spacing of knobs, proper centering of lenses in cutouts, etc.
- Proper mechanical function of all components. This includes re-testing all knobs for smooth consistent feel, testing all buttons for proper feel.
- Add stickers for inspection, serial number and AC voltage.

If there is any question about the quality of a unit, consult a supervisor for guidance. If the unit passes assembly inspection, the unit is complete and ready to proceed to electrical testing, final inspection, pack and ship.

## **-PACK-OUT LIST-**

1. # **40-00-0000**...CHART, PATCH , Vetta. **(1 PER)**
2. # **40-00-0001**...MANUAL, USERS, Vetta. **(1 PER)** Rev.B & above only.
3. # **40-00-0073**...ACCESSORY SHEET, DOMESTIC. **(1 PER)** US MODELS ONLY.
4. # **40-10-0001**...FOAM CORNER, PE-LAM 1.5spf HD2. **(8 PER)**
5. # **40-10-0018**...CARTON, SHIPPING, Vetta HEAD. **(1 PER)**
6. # **40-20-0010**...PLASTIC BAG 43"x 38". **(1 PER)**
7. # **40-20-0011**...BAG, PLASTIC, 10"x 16", 2 mil. **(1 PER )** for lit pack.
8. # **40-25-0020**...LABEL, QUALITY INSPECTION. **(2 PER)**
9. # **40-25-0101**...LABEL, BARCODE SERIAL NUMBER. **(1 SET PER)**
10. # **40-25-0150**...STICKER, VETTA DISCLAIMER. **(1 PER)**
11. #**40-25-0254**...LABEL, PREMIUM LINE 6 (RED) **(1 PER)**





## Vetta and FBX Service Hints

---

If the PS\_VALID line is inadvertently short-circuited, D15 on the power supply will almost certainly fail. This will keep the audio from appearing on the Direct Outputs, and possibly on the speaker outputs.

If the main FETs (Q3 & Q15) on the power supply are shorted, a series of components will most likely fail. Replace R21, R7, R55, R49, R12, R11, R15, D4, Q3, Q15, Q11, Q2, and U2.

If unit locks up intermittently and or settings aren't remembered after power cycle, check SRAM battery to ensure voltage isn't significantly below 3V. Replace the battery if it is below 2.7V and check the SRAM current consumption by measuring less than 100mV across R185.

If 7 segment numeric display behaves erratically, check to ensure proper insulation between pins and chassis on header connecting numeric display PCB to U.I. PCB.

If displays show garbled information or none at all, check to ensure proper seating of ribbon cable from main board to U.I. board. Note: obvious but common.

Be extremely cautious when removing knobs for the three global controls. The shafts on these pots will pull out easily. The suggested method is to hold the shaft of the pot from the inside of the chassis with pliers while pulling the knob off. If the shaft breaks, the pot CAN be replaced without removing the entire U.I. board. The method is to first cut the pins of the pot, remove it and then de-solder and remove the pins remaining in the board.

If the power supply must be removed from the unit, it is not necessary to remove the speaker output PCB. There is a hole in this board, which allows for accessing the power amp screw below. A magnetic screwdriver is handy to put the screw back in.

Be very careful while working on the power supply PCB. The PCB section between the AC receptacle and the transformer has high voltages.

Notice that the power connectors have a lever, which must be pressed to unplug them. Also while pulling or pushing on these connector, try to support the PCB with the other hand to avoid excessive stress.

Both power connectors on the speaker output board are 4 pin wide. The PCB screening shows which one plug where.

If the DC bias voltage at the input pin 25, 24, 4, or 5 of the guitar input ADC U19 is significantly off from its nominal value of 2.5V (less than 1.8V or more than 3.2V), the part is probably bad. The same is true for Pin 22,23, 20 or 21 of the DAC U20 and U21, and for pin 17,16,20,19,23,24,26, or 25 of the CODEC U16.

When troubleshooting the amp PCB by itself, you can power just the +/-15V rails and check almost the entire audio path. Once that is checked then bring up the main rails and check to see if the proper bias rails are all correct. This process allows for easier troubleshooting before applying the high voltage rails.

If the software locks up when changing amp models, either the battery is not working or dead, or the Model Defaults are bad. Model Defaults are loaded via MIDI SysEx from the Save pages, and can be loaded from a working amp or from a MIDI SysEx computer program.

# Vetta Self Test Procedure

These tests should be used to confirm a customer complaint or as a final test at the completion of a repair. Failure of any of these tests may indicate a problem within that section's underlying circuit and not just a failure of the surface component. In these cases, further troubleshooting in the failing circuit should be performed.

## 1. Hold down **Reverb** Button while powering the unit up.

Small LCD will display "**1 SRAM Test**"

Large right LCD will display 4 lines of text:

"**Press TREMOLO to decrement test**" (press to step down through different tests.)

"**Press "GATE" to increment test** (press to step up through different tests)

"**Press COMPRESS to execute test**" (press to start an individual test)

"**Press REVERB to exit**" (press to exit an individual test)

Press **COMP** to start 1<sup>st</sup> test. When first test is complete, the right display will read out either pass or fail. Press **GATE** to advance to test #2.

## 2. Switch test #2

Press **COMP** to start test

Press each of the 33 buttons, the large right LCD should display **DOWN** when each button is pressed and **UP** when the button is released.

Press both the **Preset** and **User** buttons to exit Test 2.

Press the **Gate** button once to advance to Test #3.

## 3. LED Test #3

Press the **COMP** button to start test.

All 33 button LEDs should light

All segments on the small LED board ("888") should light

All 4 small LEDs below the large right LCD should light

Each individual LED should light sequentially.

Press **GATE** once to advance to Test #4.

## 4. Character LCD Test #4

Press **COMP** button to start test

All 16 blocks on the small left LCD should fill.  
Press **GATE** once to advance to Test #5.

### 5. **Graphic LCD Test #5**

Press **COMP** button to start test.  
The large right LCD should fill and then clear.  
A vertical line will run from right to left on the right LCD.  
Then a horizontal line will run from bottom to top.  
Press **GATE** to advance to test #6

### 6. **Encoder Test #6**

Press the **COMP** button to start test  
Rotate all 7 black encoder knobs. The large right LCD  
should display changing numbers as each of the encoders  
is turned.  
Press **REVERB** to exit test.  
Press **GATE** button to advance to test #7.

### 7. **POTS test #7**

Press the **COMP** button to start test.  
Rotate all 10 silver pots. The large right LCD should display 000  
when pot is fully to the left and 127 when fully to the right.  
Press **REVERB** to exit test.  
Press **GATE** to advance to test #8

### 8. **MIDI Test**

A midi cable must be connected from the Midi In port to the Midi Out  
port for this test.  
After midi cable is in, press **COMP** to begin Midi Test.  
Large right LCD will display test results (pass or fail/error)  
Press **REVERB** to exit test.  
Press **GATE** to advance to test #9

### 9. **FB Test**

This test requires a special RJ45 loopback connector. If you do not  
have this connector, simply press **GATE** to advance to next test.  
With the loopback connector connected, hit the **COMP** to begin test.  
Large right LCD will display test results (Pass or fail/error)  
Press **REVERB** to exit test.  
Press **GATE** to advance to next test.

10. & 11. Currently these are empty tests. Press **GATE** to advance past these tests.

### 12.**InitDefaults?**

This is not an actual test routine but is used for resetting amp model and effects parameter defaults back to what was originally loaded in via flash. This is useful if a user has customized one or more of his or her amp models or effects and decides he or she wants to go back to the defaults loaded during the last flash update. Please note: this does not affect the presets, just the amp and effect default settings. Press **COMP** to execute the initialization or **GATE** to skip ahead.

### 13.**UploadCode?**

Again not a test but a way to off-load the current operating system from the Vetta to a Midi data filer, computer or another Vetta via Midi. Press **COMP** to begin uploading or **GATE** to skip ahead.

### 14.**Upload Factory?**

This will off-load the factory presets loaded in the Vetta to a Midi data filer, computer or another Vetta via Midi. Press **COMP** to begin uploading the current factory presets or **GATE** to skip ahead.

### 15.**Rcv Factory?**

This will prepare Vetta to receive a Midi SysEx data dump of a factory preset bank from a Midi data filer, computer or other Vetta. Press **COMP** to prepare the Vetta to receive a factory preset midi dump or **GATE** to skip ahead. **NOTE:** After **COMPRESS** is pressed, the Vetta will erase it's factory and user presets as well as the internal back up memory before it will receive the new file.

### 16.**Burn in LEDs?**

This will turn on all LED's until the **REVERB** button is pressed to exit. To begin LED burn-in, press **COMPRESS**.

If you press **COMP**, the Vetta will call Test #1 (SRAM) back up. To exit test mode, press **REVERB**.

## Vetta Software Upgrade Procedure

The Vetta's software is upgraded via a Midi SysEx data dump to the Vetta's Flash memory; there is no replaceable EPROM. To perform an upgrade to Vetta, you will need either a Midi data filer or a computer with Midi SysEx software as well as the new software code and a standard Midi cable (or joystick-to-midi cable). New code can also be imported from another Vetta.

Connect the midi cable from the Midi out port of your transmitting device to the Vetta's MIDI In port (If your computer has a soundcard that utilizes the joystick port for midi operations, you will need a Midi-to-joystick cable.) After the midi connections are made and the unit from which you are transmitting the software is ready with the proper code, follow the instructions below.

(**Note: To find the current software version in the Vetta**, press **System Setup** and turn the PAGE knob clockwise to the last page. The right display should read "V e t t a Version 1.0x", denoting the current software version.)

1. Turn Vetta's power button on while holding down **COMP**. The right LCD will display "Software Update...Press **EDIT** to continue. Press **TAP** to cancel"
2. Press **EDIT** to enter software update mode or **TAP** to exit update mode.
3. The right LCD will say "WARNING!! This cannot be undone! Are you sure? Press **SAVE** to continue. Press **TAP** to Cancel". Press **Save** to proceed. The amp will now erase the current operating system software from its memory. **Please note:** if you exit the procedure now and try to use the amp, it will light up but the amp will not function as there is no operating software.
4. After the amp has cleared out the old software, the right display will read "Ready for Software Download". Tell your Midi Data filer, Computer Midi SysEx software or 2<sup>nd</sup> Vetta to send the new Vetta Operating system software. (To send the software out of the 2<sup>nd</sup> Vetta, you must go into the self test mode. To do this, power up the 2<sup>nd</sup> Vetta while holding down it's

**REVERB** button. Proceed to TEST #13, "Upload Code". Press **COMP** to begin sending the software).

5. After amp has received the new software, the right display will read "Software download complete. Press **SAVE** to run new software"

6. Press **SAVE** and the Vetta will go into play mode.

7. If program load is slow switching from channel to channel, you will need to reset the program memory. Press **SAVE** and scroll to page 10, "RESET FACTORY". Press **SAVE** while on this page to reset the Factory Bank. The right LCD will read "...restoring FACTORY bank...". When this process is complete, scroll to page 11, "RESET USER" and press **SAVE** once again. The right LCD will now read "...restoring USER bank...". Press TAP when the process is complete.



6033 De Soto Ave.  
Woodland Hills, CA 91367  
P. 818-575-3600  
F. 818-676-1585  
E. [service@line6.com](mailto:service@line6.com)

**Vetta's presets (Factory and User) can be reset from the internal back up memory within the amp. To do this, hit the Save button and scroll to the appropriate reset page (Factory or User from back up memory).**

**You can also install new Factory or User banks via Midi Data dump. To do this, hit the Save button and scroll to the appropriate receive page ("Receive MIDI Factory Bank?" or "Receive MIDI USER Bank?") It is also possible to receive a Factory bank (Rcv Factory?) from within the test mode. See Self test #16. Please note, when importing a Factory bank in this way, the Factory bank will expand into the User bank as well.**

**To re-install or upgrade the operating system, please see the section titled "Software Install/Upgrade/Version".**