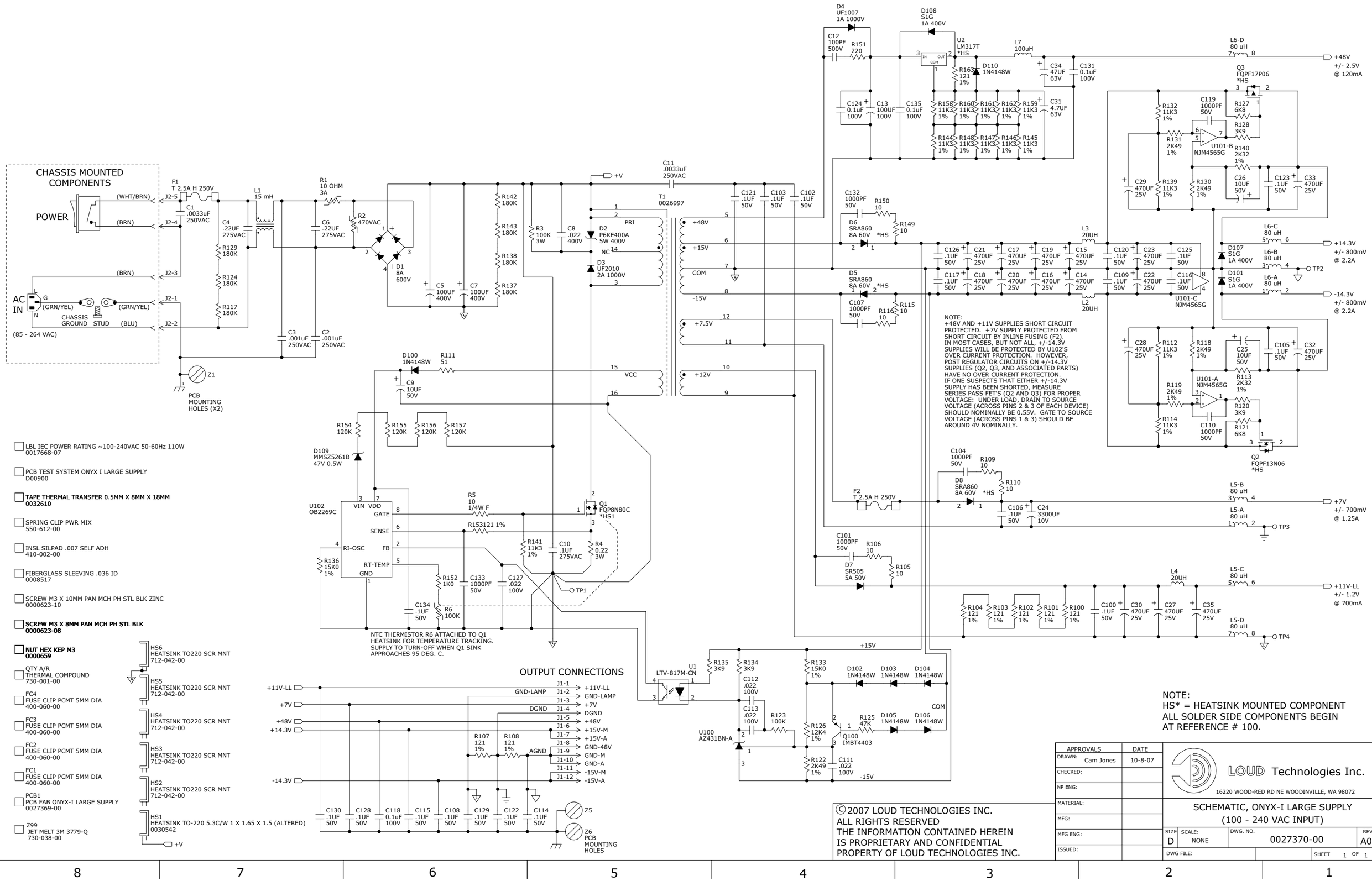

CHASSIS MOUNTED COMPONENTS
POWER
(WHT/BRN)
(BRN)
(BRN)
AC IN
L
G
N
(GRN/YEL)
(GRN/YEL)
CHASSIS GROUND STUD
(BLU)
(85 - 264 VAC)
J2-5
J2-4
J2-3
J2-1
J2-2
F1
T 2.5A H 250V
C1
.0033uF
250VAC
L1
15 mH
C4
.22UF
275VAC
R129
180K
R124
180K
R117
180K
C3
.001uF
250VAC
C2
.001uF
250VAC
Z1
PCB
MOUNTING
HOLES (X2)
R1
10 OHM
3A
C6
.22UF
275VAC
R2
470VAC
D1
8A
600V
C5
100UF
400V
C7
100UF
400V
R142
180K
R143
180K
R138
180K
R137
180K
R3
100K
3W
C8
.022
400V
+V
C11
.0033uF
250VAC
T1
0026997
PRI
D2
P6KE400A
5W 400V
NC
D3
UF2010
2A 1000V
C121
.1UF
50V
C103
.1UF
50V
C102
.1UF
50V
+48V
+15V
COM
-15V
+7.5V
+12V
VCC
D100
1N4148W
R111
51
C9
10UF
50V
R154
120K
R155
120K
R156
120K
R157
120K
D109
MMSZ5261B
47V 0.5W
U102
OB2269C
VIN
VDD
GATE
SENSE
FB
RI-OSC
RT-TEMP
GND
R136
15K0
1%
R5
10
1/4W F
R153121 1%
Q1
FQP8N80C
*HS1
R141
11K3
1%
C10
.1UF
275VAC
R4
0.22
3W
R152
1K0
C133
1000PF
50V
C127
.022
100V
TP1
C134
.1UF
50V
R6
100K
NTC THERMISTOR R6 ATTACHED TO Q1
HEATSINK FOR TEMPERATURE TRACKING.
SUPPLY TO TURN-OFF WHEN Q1 SINK
APPROACHES 95 DEG. C.
D4
UF1007
1A 1000V
C12
100PF
500V
R151
220
D108
S1G
1A 400V
U2
LM317T
*HS
IN
OUT
COM
R163
121
1%
D110
1N4148W
L7
100uH
C34
47UF
63V
C131
0.1uF
100V
C124
0.1uF
100V
C13
100UF
100V
C135
0.1uF
100V
R158
11K3
1%
R160
11K3
1%
R161
11K3
1%
R162
11K3
1%
R159
11K3
1%
C31
4.7UF
63V
R144
11K3
1%
R148
11K3
1%
R147
11K3
1%
R146
11K3
1%
R145
11K3
1%
L6-D
80 uH
+48V
+/- 2.5V
@ 120mA
Q3
FQPF17P06
*HS
R132
11K3
1%
C119
1000PF
50V
R127
6K8
R128
3K9
R131
2K49
1%
U101-B
NJM4565G
R140
2K32
1%
C29
470UF
25V
R139
11K3
1%
R130
2K49
1%
C26
10UF
50V
C123
.1UF
50V
C33
470UF
25V
L6-C
80 uH
D107
S1G
1A 400V
L6-B
80 uH
+14.3V
+/- 800mV
@ 2.2A
TP2
D101
S1G
1A 400V
L6-A
80 uH
-14.3V
+/- 800mV
@ 2.2A
U101-C
NJM4565G
C132
1000PF
50V
R150
10
D6
SRA860
8A 60V
*HS
R149
10
D5
SRA860
8A 60V
*HS
C107
1000PF
50V
R116
10
R115
10
L3
20UH
L2
20UH
C126
.1UF
50V
C21
470UF
25V
C17
470UF
25V
C19
470UF
25V
C15
470UF
25V
C120
.1UF
50V
C23
470UF
25V
C125
.1UF
50V
C117
.1UF
50V
C18
470UF
25V
C20
470UF
25V
C16
470UF
25V
C14
470UF
25V
C109
.1UF
50V
C22
470UF
25V
C116
.1UF
50V
NOTE:
+48V AND +11V SUPPLIES SHORT CIRCUIT
PROTECTED. +7V SUPPLY PROTECTED FROM
SHORT CIRCUIT BY INLINE FUSING (F2).
IN MOST CASES, BUT NOT ALL, +/-14.3V
SUPPLIES WILL BE PROTECTED BY U102'S
OVER CURRENT PROTECTION. HOWEVER,
POST REGULATOR CIRCUITS ON +/-14.3V
SUPPLIES (Q2, Q3, AND ASSOCIATED PARTS)
HAVE NO OVER CURRENT PROTECTION.
IF ONE SUSPECTS THAT EITHER +/-14.3V
SUPPLY HAS BEEN SHORTED, MEASURE
SERIES PASS FET'S (Q2 AND Q3) FOR PROPER
VOLTAGE: UNDER LOAD, DRAIN TO SOURCE
VOLTAGE (ACROSS PINS 2 & 3 OF EACH DEVICE)
SHOULD NOMINALLY BE 0.55V. GATE TO SOURCE
VOLTAGE (ACROSS PINS 1 & 3) SHOULD BE
AROUND 4V NOMINALLY.
C104
1000PF
50V
R109
10
D8
SRA860
8A 60V
*HS
R110
10
F2
T 2.5A H 250V
C106
.1UF
50V
C24
3300UF
10V
L5-B
80 uH
L5-A
80 uH
+7V
+/- 700mV
@ 1.25A
TP3
C101
1000PF
50V
R106
10
D7
SR505
5A 50V
R105
10
L4
20UH
L5-C
80 uH
L5-D
80 uH
+11V-LL
+/- 1.2V
@ 700mA
TP4
R104
121
1%
R103
121
1%
R102
121
1%
R101
121
1%
R100
121
1%
C100
.1UF
50V
C30
470UF
25V
C27
470UF
25V
C35
470UF
25V
U1
LTV-817M-CN
R135
3K9
R134
3K9
C112
.022
100V
C113
.022
100V
R123
100K
U100
AZ431BN-A
+15V
R133
15K0
1%
D102
1N4148W
D103
1N4148W
D104
1N4148W
COM
R126
12K4
1%
R125
47K
Q100
IMBT4403
D105
1N4148W
D106
1N4148W
R122
2K49
1%
C111
.022
100V
-15V
OUTPUT CONNECTIONS
+11V-LL
GND-LAMP
+7V
DGND
+48V
+14.3V
-14.3V
AGND
R107
121
1%
R108
121
1%
J1-1 +11V-LL
J1-2 GND-LAMP
J1-3 +7V
J1-4 DGND
J1-5 +48V
J1-6 +15V-M
J1-7 +15V-A
J1-8 GND-48V
J1-9 GND-M
J1-10 GND-A
J1-11 -15V-M
J1-12 -15V-A
C130
.1UF
50V
C128
.1UF
50V
C118
0.1uF
100V
C115
.1UF
50V
C108
.1UF
50V
C129
.1UF
50V
C122
.1UF
50V
C114
.1UF
50V
Z5
Z6
PCB
MOUNTING
HOLES
HS6
HEATSINK TO220 SCR MNT
712-042-00
HS5
HEATSINK TO220 SCR MNT
712-042-00
HS4
HEATSINK TO220 SCR MNT
712-042-00
HS3
HEATSINK TO220 SCR MNT
712-042-00
HS2
HEATSINK TO220 SCR MNT
712-042-00
HS1
HEATSINK TO-220 5.3C/W 1 X 1.65 X 1.5 (ALTERED)
0030542
+V
LBL IEC POWER RATING ~100-240VAC 50-60Hz 110W
0017668-07
PCB TEST SYSTEM ONYX I LARGE SUPPLY
D00900
TAPE THERMAL TRANSFER 0.5MM X 8MM X 18MM
0032610
SPRING CLIP PWR MIX
550-612-00
INSL SILPAD .007 SELF ADH
410-002-00
FIBERGLASS SLEEVING .036 ID
0008517
SCREW M3 X 10MM PAN MCH PH STL BLK ZINC
0000623-10
SCREW M3 X 8MM PAN MCH PH STL BLK
0000623-08
NUT HEX KEP M3
0000659
QTY A/R
THERMAL COMPOUND
730-001-00
FC4
FUSE CLIP PCMT 5MM DIA
400-060-00
FC3
FUSE CLIP PCMT 5MM DIA
400-060-00
FC2
FUSE CLIP PCMT 5MM DIA
400-060-00
FC1
FUSE CLIP PCMT 5MM DIA
400-060-00
PCB1
PCB FAB ONYX-I LARGE SUPPLY
0027369-00
Z99
JET MELT 3M 3779-Q
730-038-00
NOTE:
HS* = HEATSINK MOUNTED COMPONENT
ALL SOLDER SIDE COMPONENTS BEGIN
AT REFERENCE # 100.
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APPROVALS
DATE
DRAWN: Cam Jones 10-8-07
CHECKED:
NP ENG:
MATERIAL:
MFG:
MFG ENG:
ISSUED:
LOUD Technologies Inc.
16220 WOOD-RED RD NE WOODINVILLE, WA 98072
SCHEMATIC, ONYX-I LARGE SUPPLY
(100 - 240 VAC INPUT)
SIZE D
SCALE: NONE
DWG. NO. 0027370-00
REV. A00
DWG FILE:
SHEET 1 OF 1