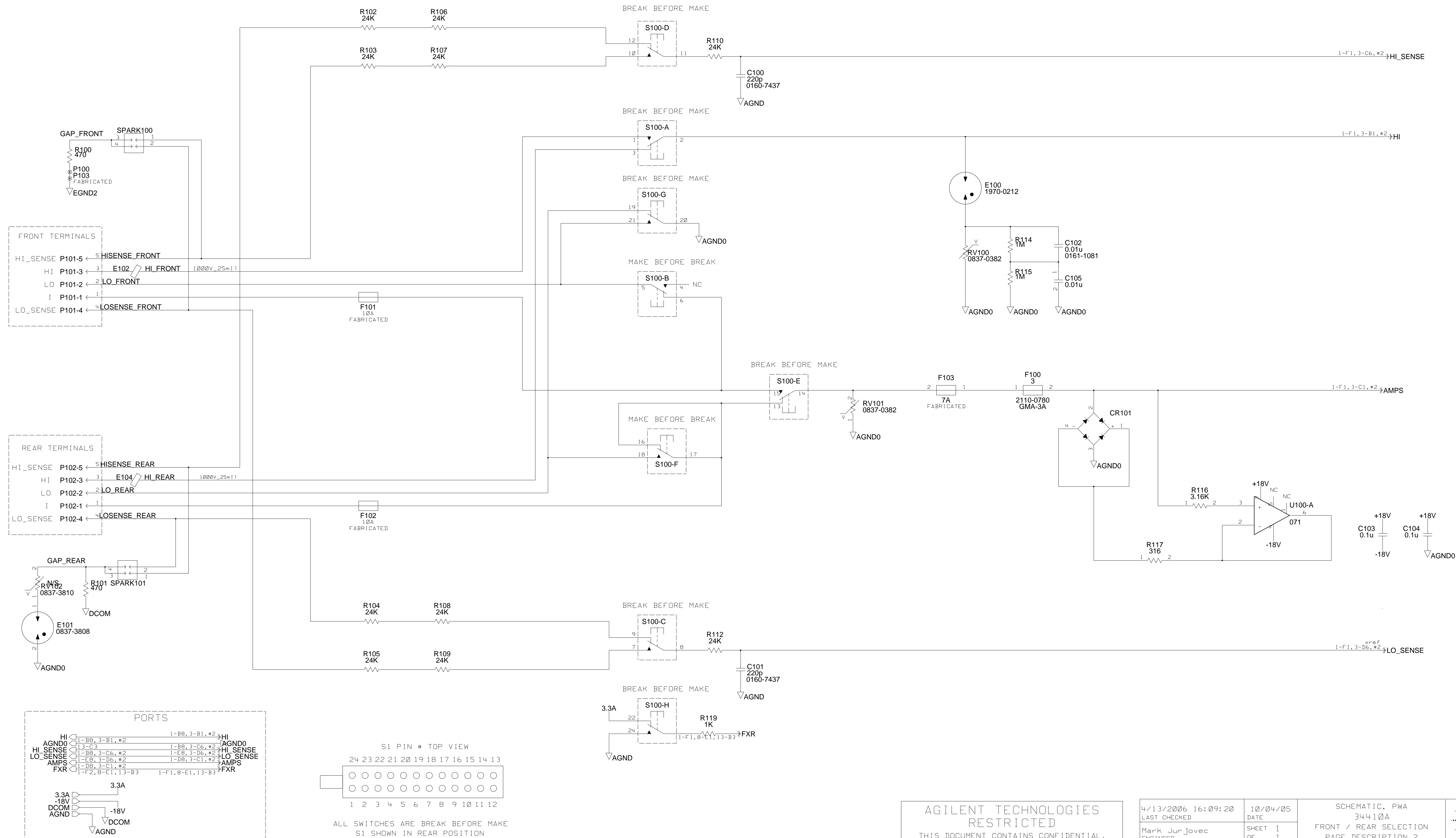


FRONT/REAR SELECTION

C-34410-66521-1

REV	INFORMATION	APPROVED	DATE
D			

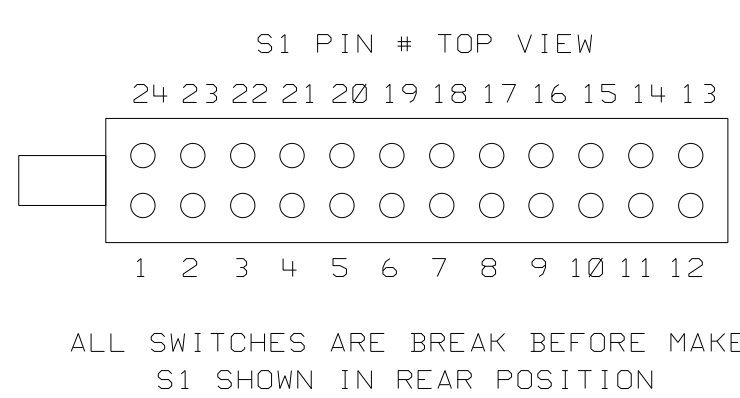
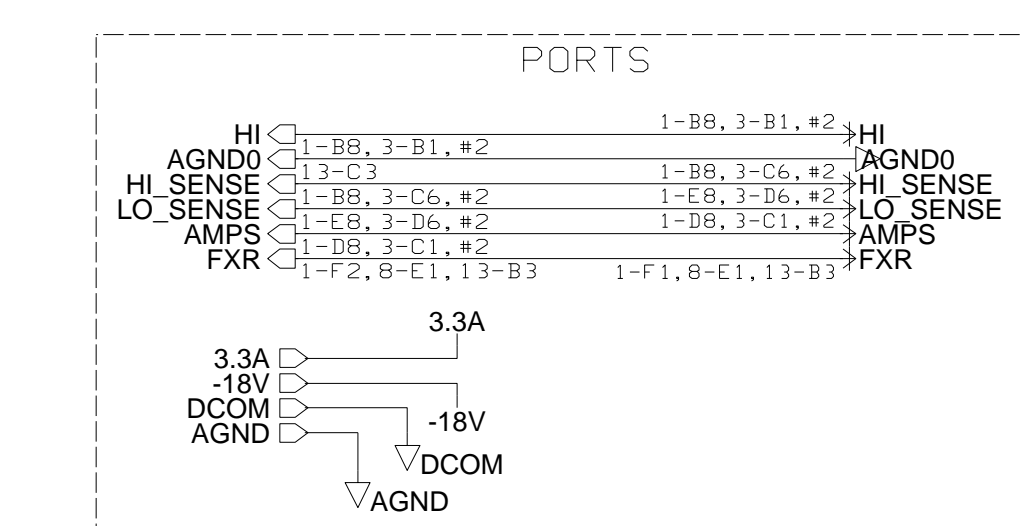


FRONT TERMINALS

HI_SENSE	P101-5	5	HISENSE_FRONT
HI	P101-3	3	E102 HI_FRONT
LO	P101-2	2	LO_FRONT
I	P101-1	1	
LO_SENSE	P101-4	4	LOSENSE_FRONT

REAR TERMINALS

HI_SENSE	P102-5	5	HISENSE_REAR
HI	P102-3	3	E104 HI_REAR
LO	P102-2	2	LO_REAR
I	P102-1	1	
LO_SENSE	P102-4	4	LOSENSE_REAR

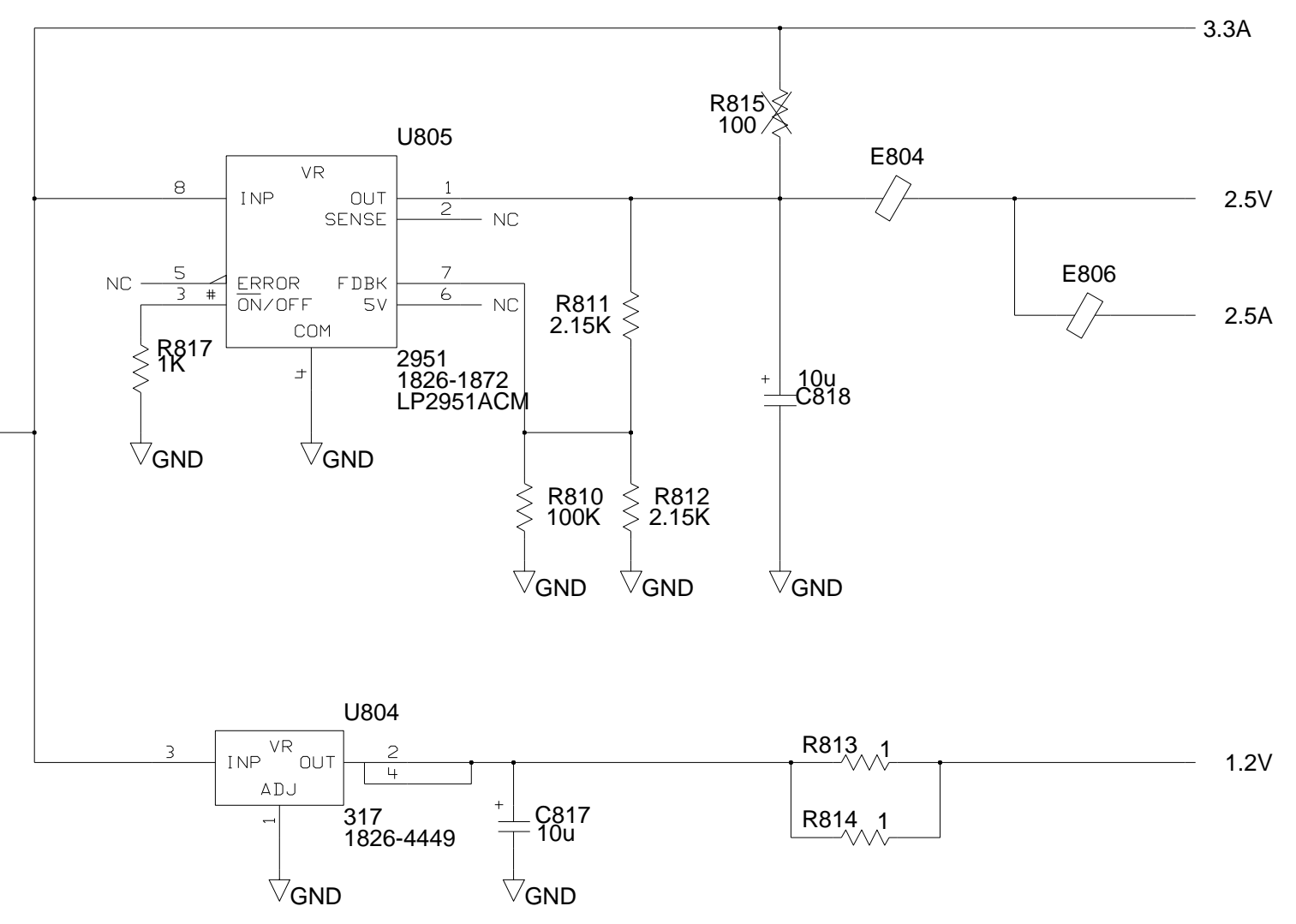
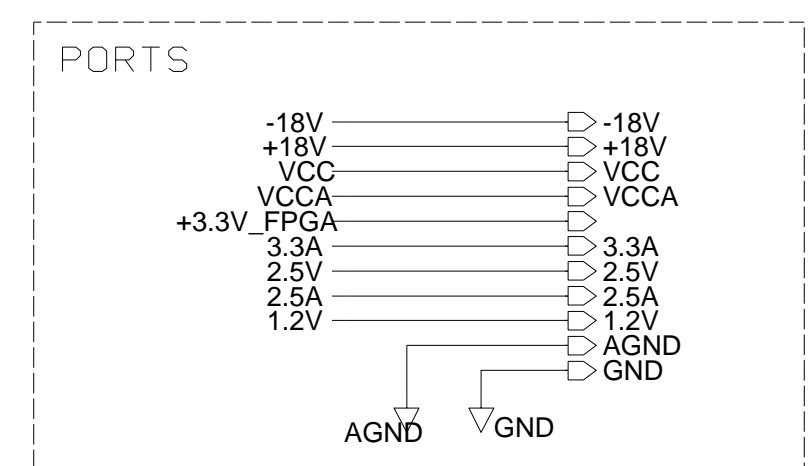
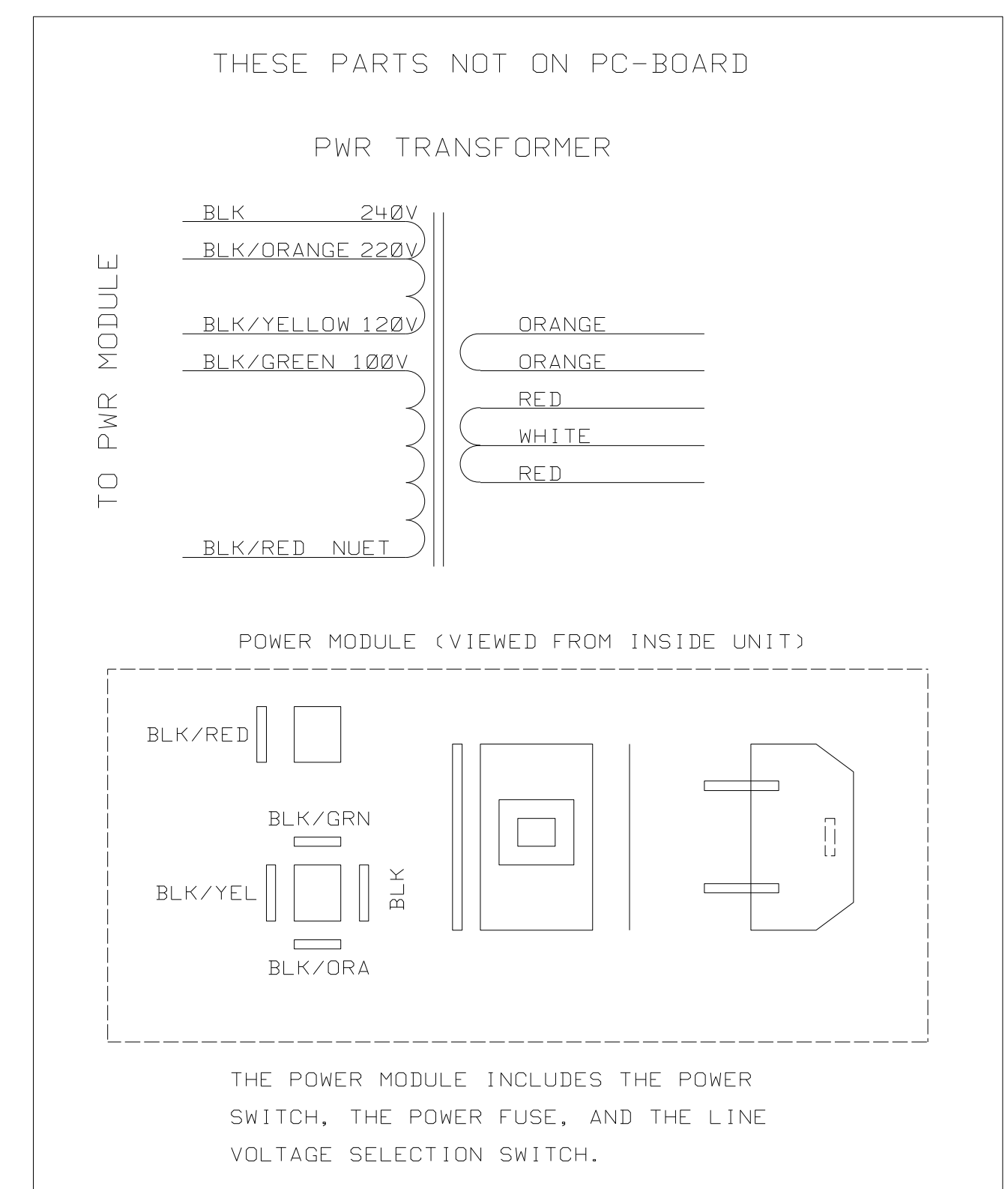
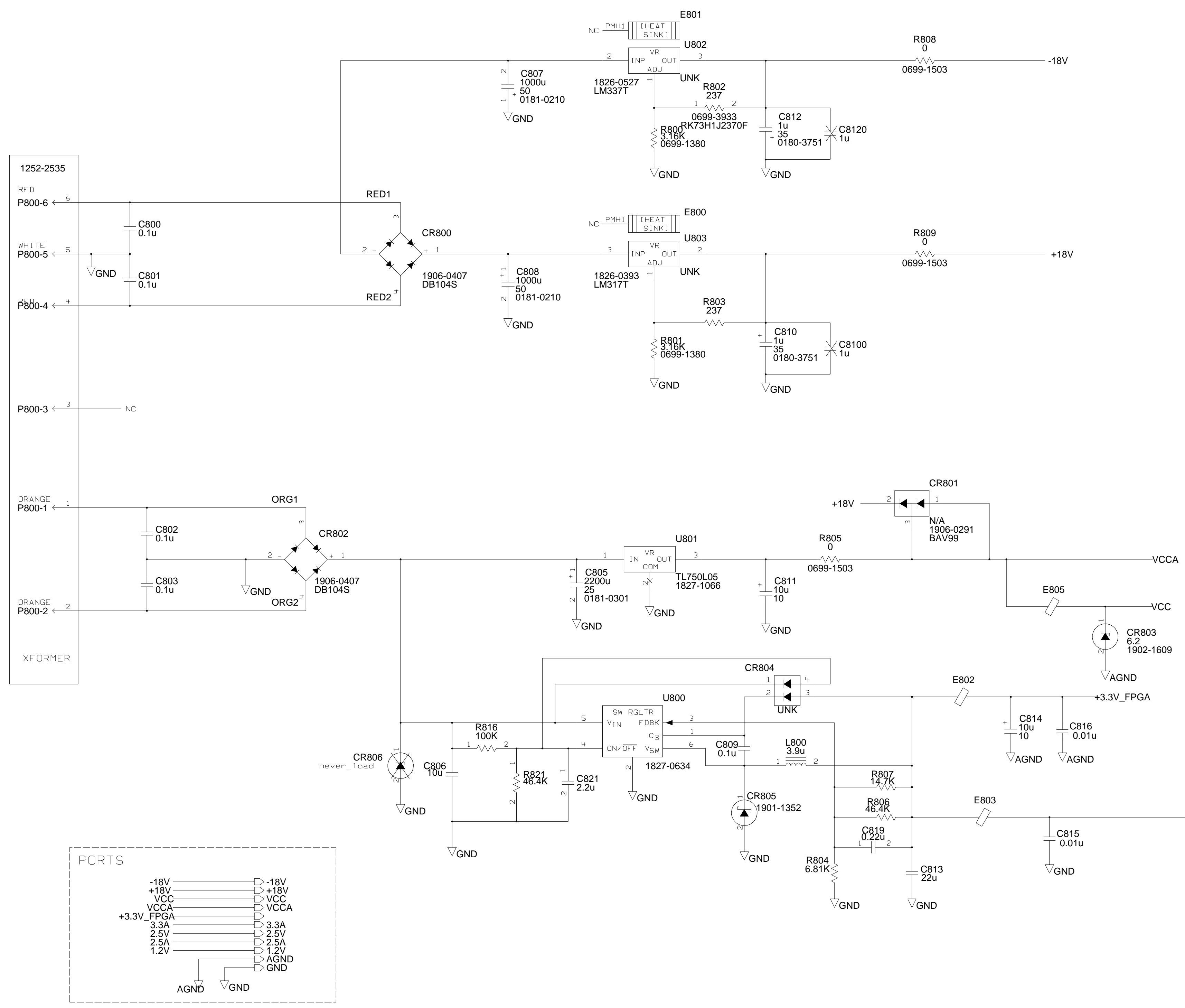


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4/13/2006 16:09:20	10/04/05	SCHEMATIC, PWA		
LAST CHECKED	DATE	34410A		
Mark Jurjovec	SHEET 1	FRONT / REAR SELECTION		34410-66521 PART NUMBER
ENGINEER	OF 1	PAGE DESCRIPTION 2		
Mark Jurjovec	SIZE C	TITLE		C-34410-66521-1 DWG. NO.
DRAWN BY		\$LVL/D/gandalf/34410-66521/current/ front_rear_sheet1		
	ASSY. REV	BRD. REV	PAGE 13	

ISOLATED POWER SUPPLY

REVISIONS	
SEE PAGE 1 FOR REVISION HISTORY	



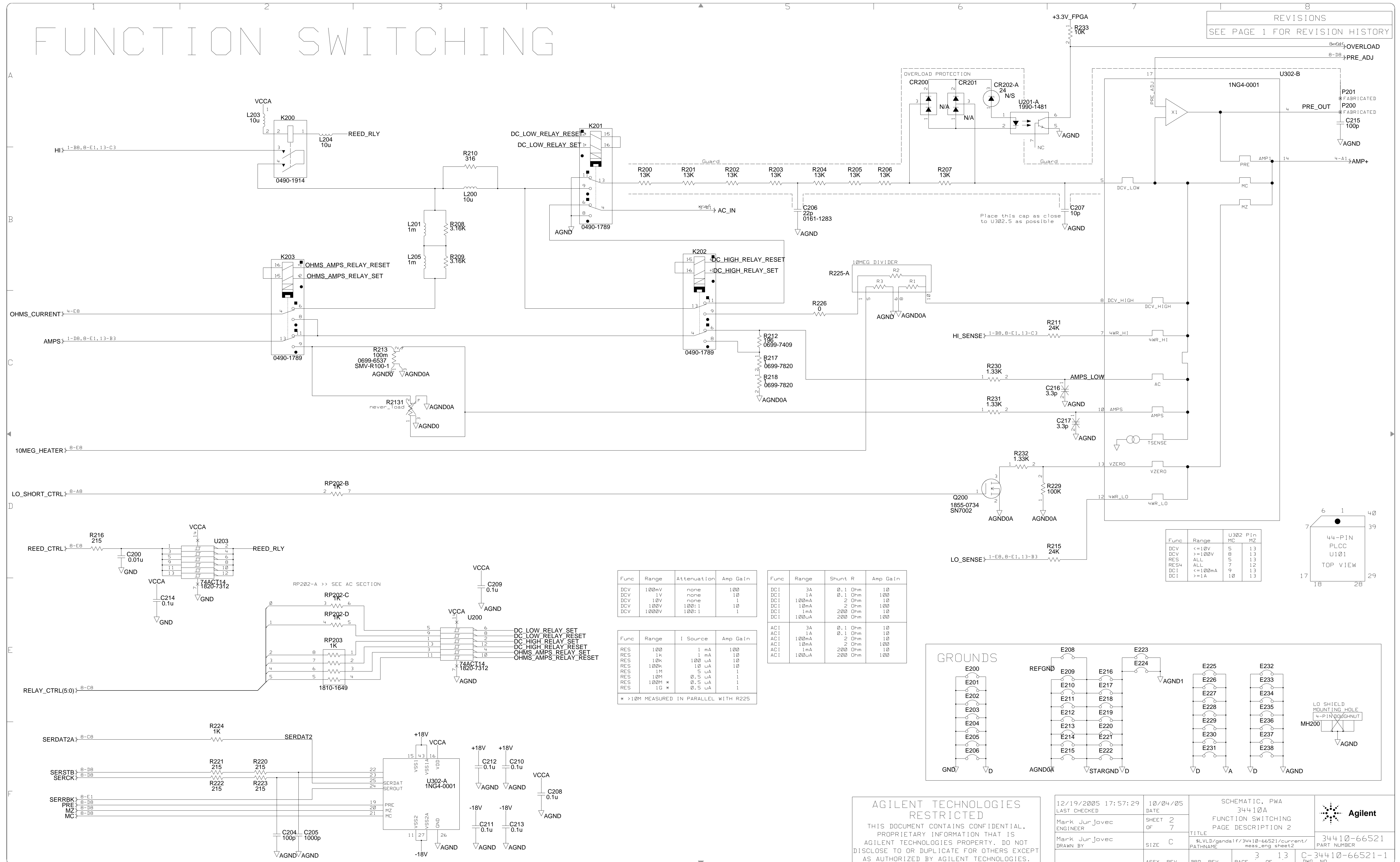
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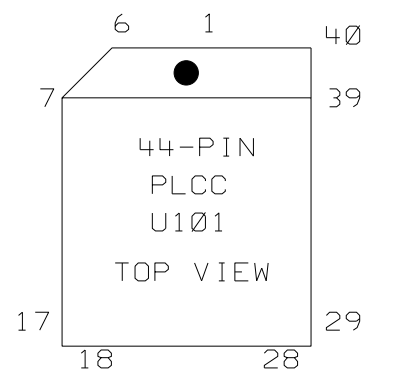
2/17/2006 10:52:03 LAST CHECKED	10/04/05 DATE	SCHMATIC, PWA 34410A POWER SUPPLY PAGE DESCRIPTION 2	
Mark Jurjovec ENGINEER	SHEET 2 OF 2	TITLE \$SLVD/genda1f/34410-66521/current/ 1g_power_sheetB	
Mark Jurjovec DRAWN BY	SIZE C	34410-66521 PART NUMBER	34410-66521-1 DWG. NO.
ASSY. REV	BRD. REV	PAGE 2 OF 13	

FUNCTION SWITCHING

REVISIONS
SEE PAGE 1 FOR REVISION HISTORY



Func	Range	U302 Pin
DCV	<=10V	5 13
DCV	>=100V	8 13
RES	ALL	5 13
RES	ALL	7 12
DCI	<=100mA	9 13
DCI	>=1A	10 13

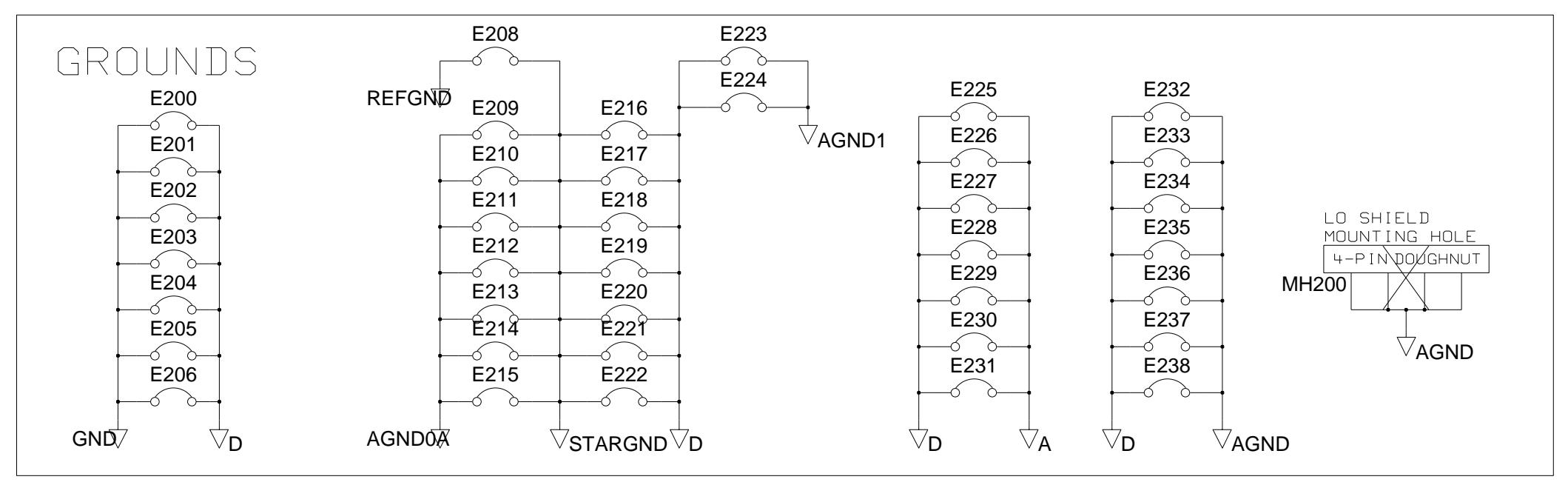


Func	Range	Attenuation	Amp Gain
DCV	100mV	none	100
DCV	1V	none	10
DCV	10V	none	1
DCV	100V	100:1	10
DCV	1000V	1000:1	1

Func	Range	Shunt R	Amp Gain
DCI	3A	0.1 Ohm	10
DCI	1A	0.1 Ohm	100
DCI	100mA	2 Ohm	10
DCI	10mA	2 Ohm	100
DCI	1mA	200 Ohm	10
DCI	100uA	200 Ohm	100

Func	Range	I Source	Amp Gain
RES	100	1 mA	100
RES	1k	1 mA	10
RES	10k	100 uA	10
RES	100k	10 uA	10
RES	1M	5 uA	1
RES	10M	0.5 uA	1
RES	100M *	0.5 uA	1
RES	1G *	0.5 uA	1

* >10M MEASURED IN PARALLEL WITH R225



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12/19/2005 17:57:29
LAST CHECKED

10/04/05
DATE

Mark Jurjovec
ENGINEER

Mark Jurjovec
DRAWN BY

SHEET 2
OF 7

SIZE C

ASSY. REV

SCHMATIC, PWA
34410A
FUNCTION SWITCHING
PAGE DESCRIPTION 2

TITLE

34410-66521
PART NUMBER

C-34410-66521-1
DWG. NO.

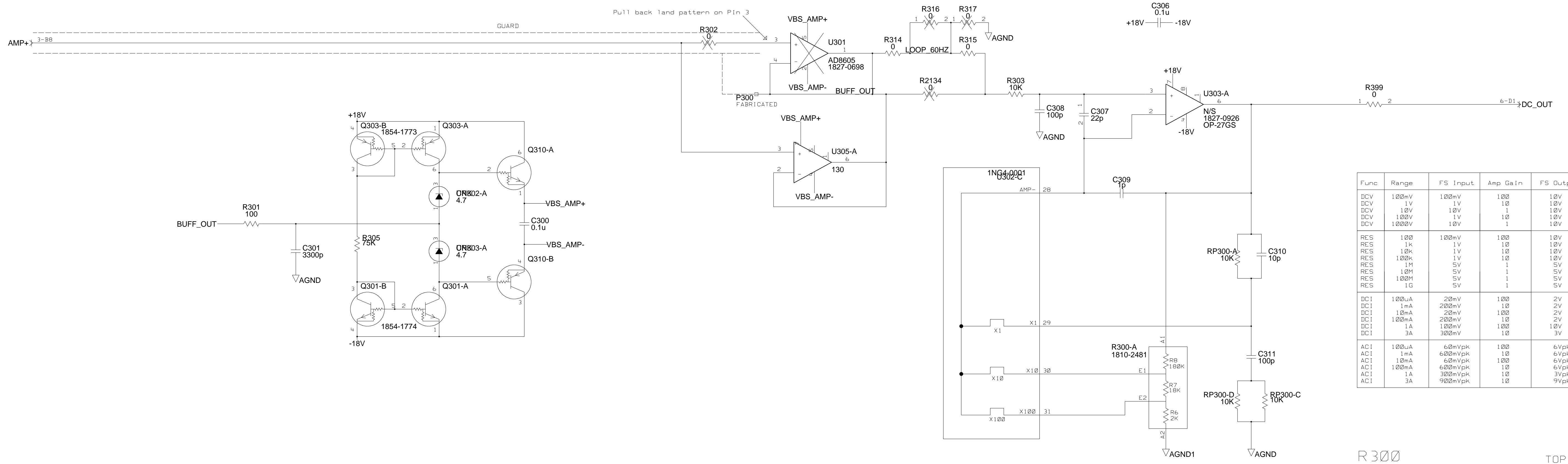
INPUT AMPLIFIER/OHMS

60HZ LOOP COMPENSATION

	R2134	R314	R315	R316	R317
BIG 60HZ LOOP	LOAD	LOAD	LOAD	LOAD	
SMALL 60HZ LOOP		LOAD	LOAD	LOAD	
NO 60HZ LOOP					LOAD

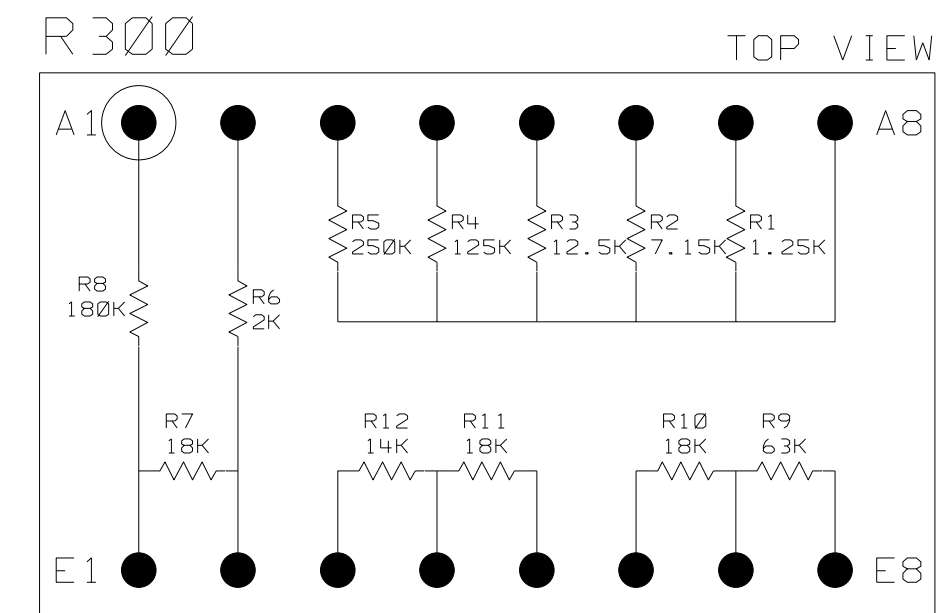
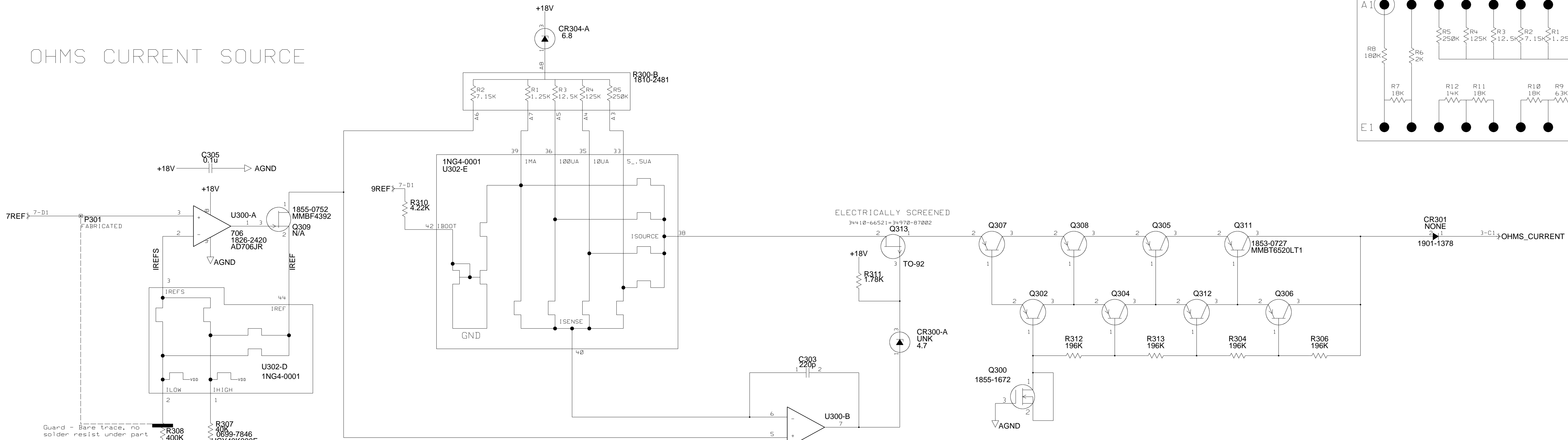
RESISTORS ARE NO-LOAD UNLESS SPECIFIED

8	REVISIONS
SEE PAGE 1 FOR REVISION HISTORY	



Func	Range	FS Input	Amp Gain	FS Output
DCV	100mV	100mV	100	10V
DCV	1V	1V	10	10V
DCV	10V	10V	1	10V
DCV	100V	1V	1	10V
DCV	1000V	10V	1	10V
RES	100	100mV	100	10V
RES	1k	1V	10	10V
RES	10k	1V	10	10V
RES	100k	1V	10	10V
RES	1M	5V	1	5V
RES	10M	5V	1	5V
RES	100M	5V	1	5V
RES	1G	5V	1	5V
DCI	100uA	20mV	100	2V
DCI	1mA	200mV	10	2V
DCI	10mA	20mV	100	2V
DCI	100mA	200mV	10	2V
DCI	1A	100mV	100	10V
DCI	3A	300mV	10	3V
ACI	100uA	60mVpk	100	6Vpk
ACI	1mA	600mVpk	10	6Vpk
ACI	10mA	60mVpk	100	6Vpk
ACI	100mA	600mVpk	10	6Vpk
ACI	1A	300mVpk	10	3Vpk
ACI	3A	900mVpk	10	9Vpk

OHMS CURRENT SOURCE

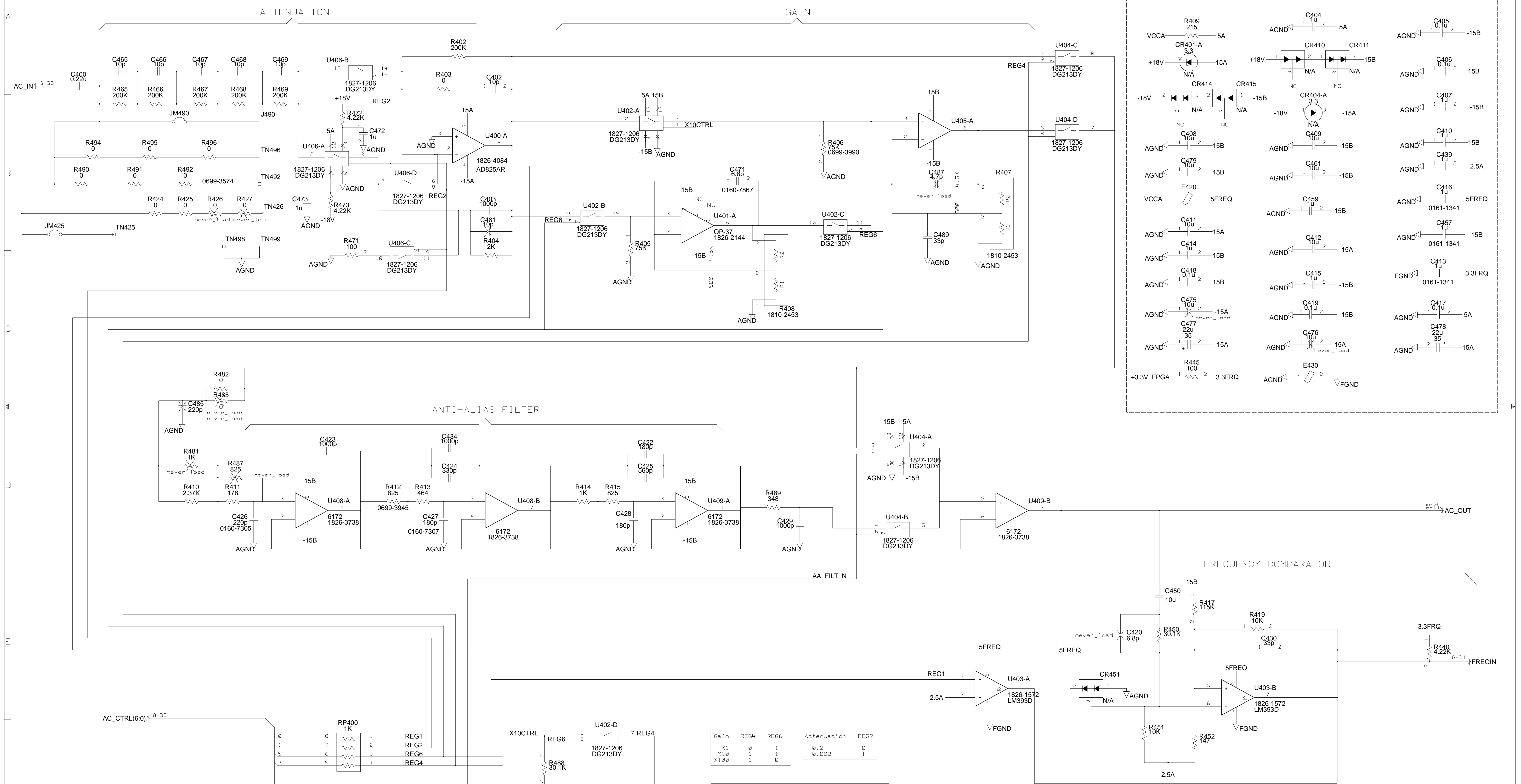


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12/20/2005 14:33:14	10/04/05	SCHEMATIC, PWA		
LAST CHECKED	DATE	34410A		
Mark Jurjovec	SHEET 3	INPUT AMPLIFIER		34410-66521
ENGINEER	OF 7	OHMS CURRENT SOURCE		
Mark Jurjovec	SIZE C	<small>\$\backslash\$LVLD/genda1f/34410-66521/current/ PATHNAME meas_eng_sheet3</small>		PART NUMBER
DRAWN BY	ASSY. REV	BRD. REV	PAGE 4 OF 13	DWG. NO. C-34410-66521-1

AC SIGNAL CONDITIONING

REVISIONS
SEE PAGE 1 FOR REVISION HISTORY



Gain	REG4	REG6	Attenuation	REG2
X1	0	1	0.2	0
X10	1	1	0.002	0
X100	1	0		1

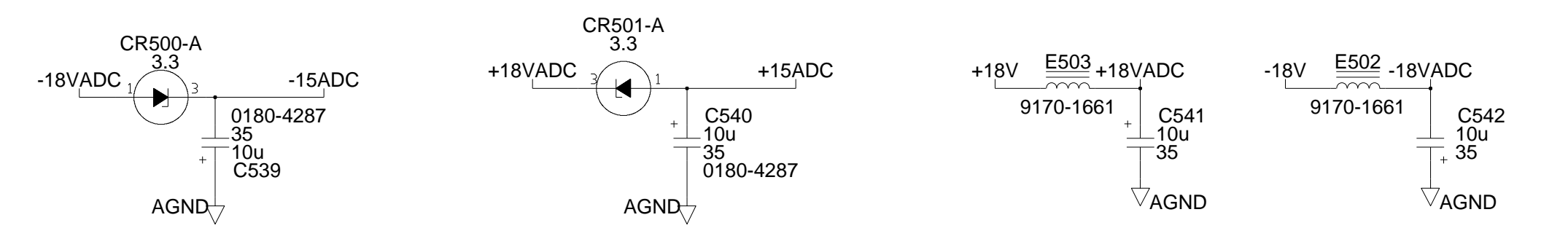
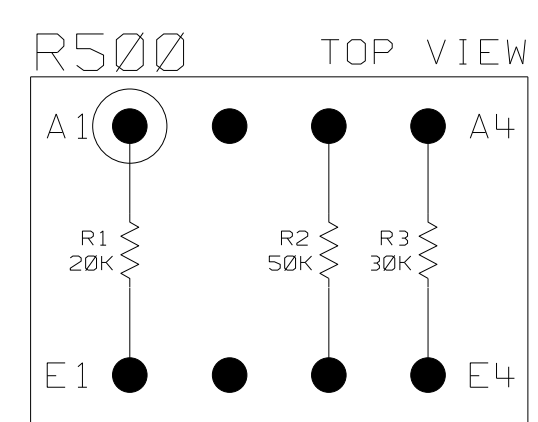
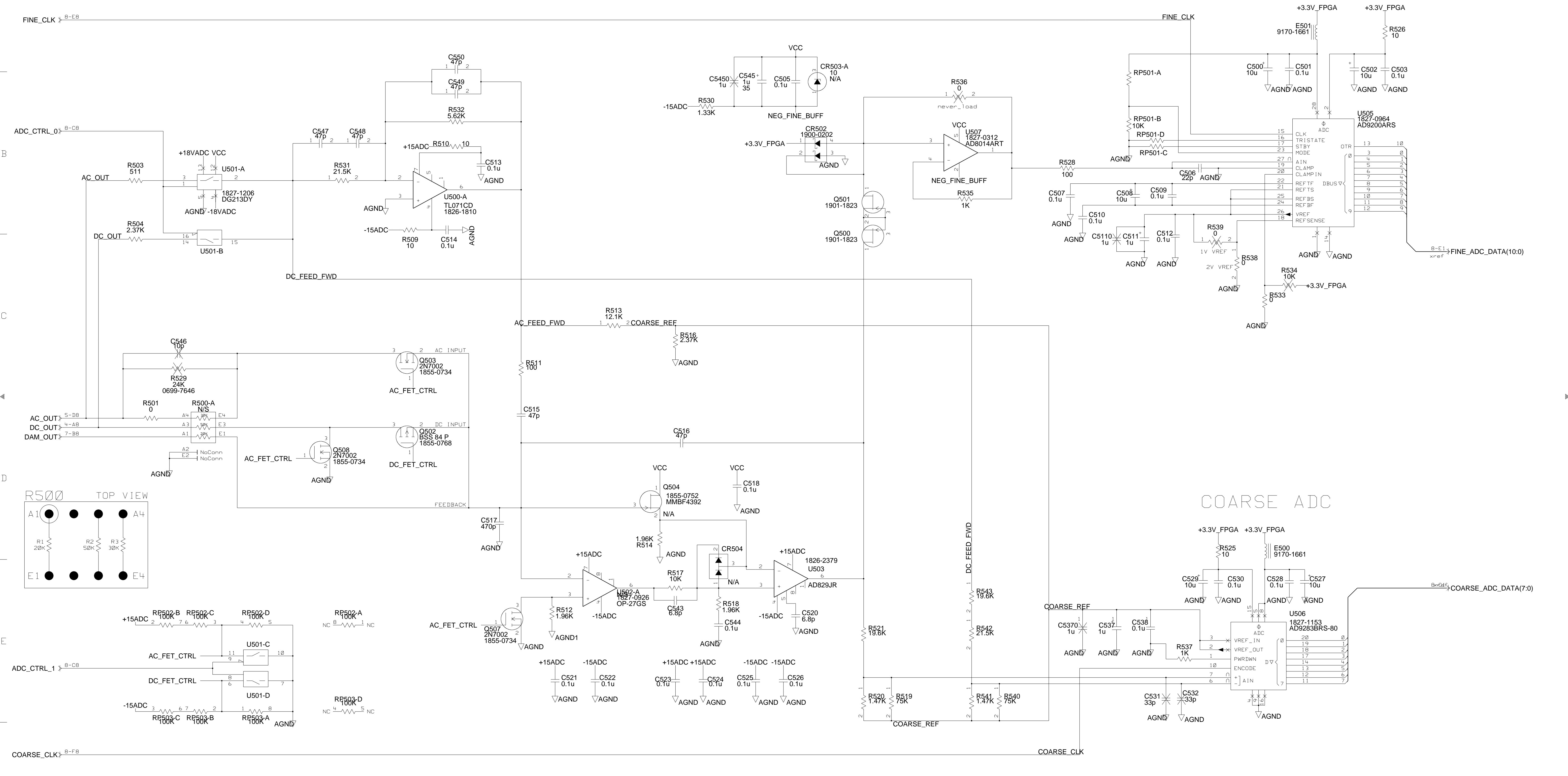
Range	Attenuation	Gain	REG2	REG4	REG6
100mV	0.2	X100	0	1	0
1V	0.2	X10	0	1	1
10V	0.2	X1	0	0	1
100V	0.002	X10	1	1	1
750V	0.002	X1	1	0	1

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12/5/2005 11:31:34 LAST CHECKED	10/04/05 DATE	SCHMATIC, PWA 34410A	
Mark Jurjovec ENGINEER	SHEET 4 OF 7	AC SIGNAL CONDITIONING PAGE DESCRIPTION 2	
Mark Jurjovec DRAWN BY	SIZE C	SLVLD/ganda1f/34410-66521/current/ PATHNAME meas_eng sheet4	34410-66521 PART NUMBER
ASSY. REV	BRD. REV	PAGE 5 OF 13	C-34410-66521-1 DWG. NO.

A/D CONVERTER

REVISIONS	
SEE PAGE 1 FOR REVISION HISTORY	

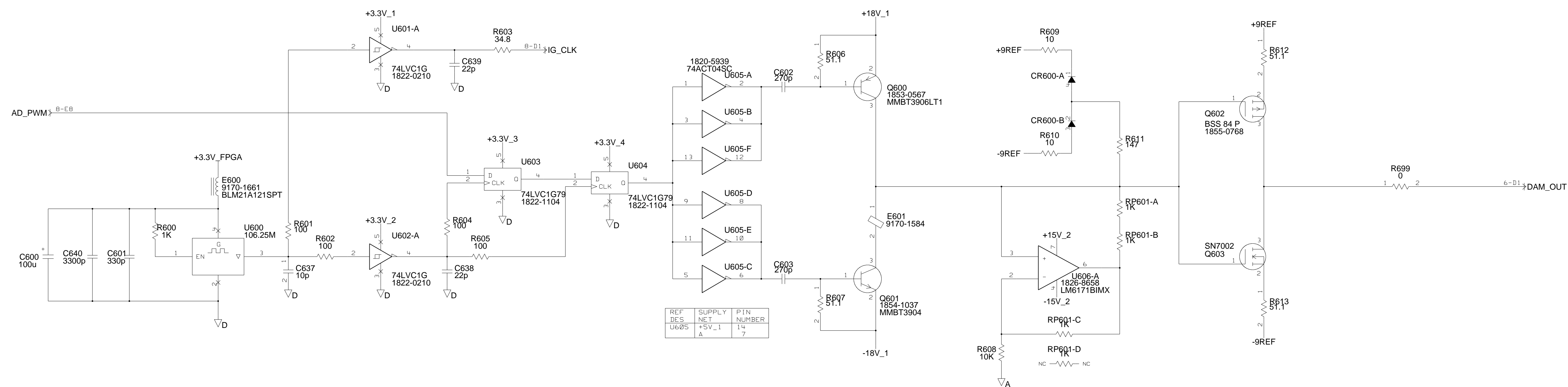


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3/4/2005 12:17:06 LAST CHECKED	10/04/05 DATE	SHEET 5 OF 7	SCHEMATIC, PWA 34410A A/D Converter PAGE DESCRIPTION 2	
Mark Jurjovec ENGINEER	Mark Jurjovec DRAWN BY	SIZE C	TITLE \SLVLD\gandalf\34410-66521\current\ meas_eng_sheet5	
ASSY. REV		BRD. REV	PAGE 6 OF 13	C-34410-66521-1 DWG. NO.

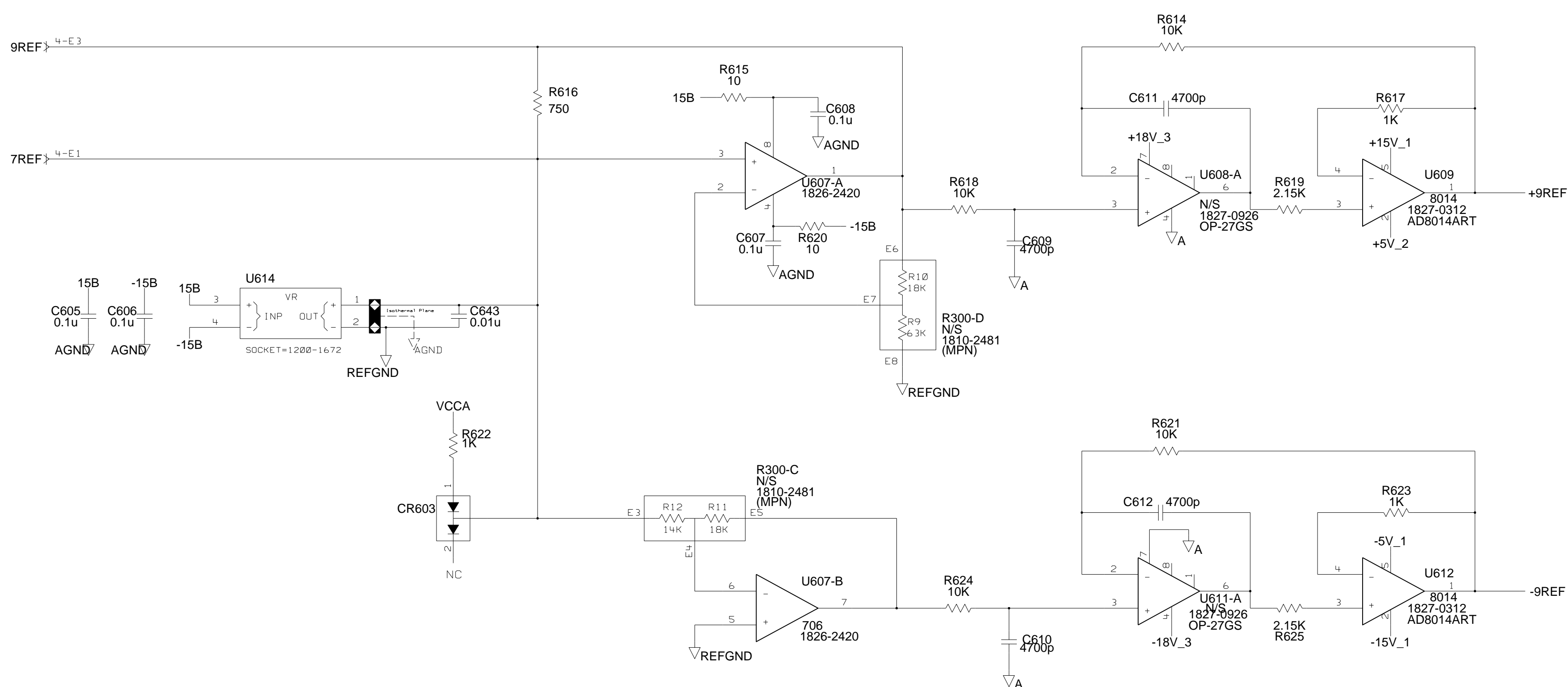
DAM SWITCH

REVISIONS
SEE PAGE 1 FOR REVISION HISTORY

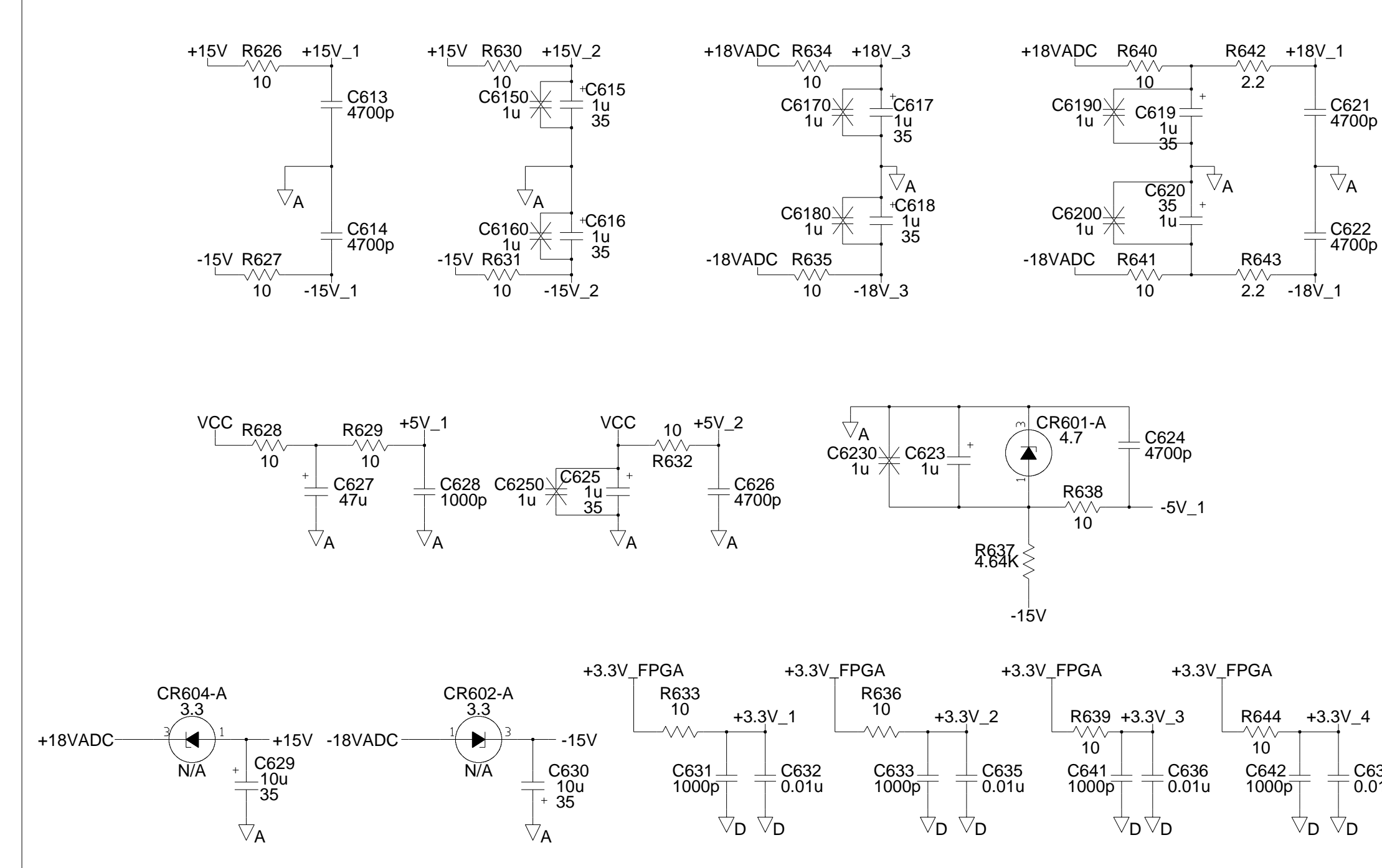


REF	SUPPLY	PIN
DES	NET	NUMBER
U605	+5V_1	14
A	A	7

REFERENCES



POWER SUPPLIES

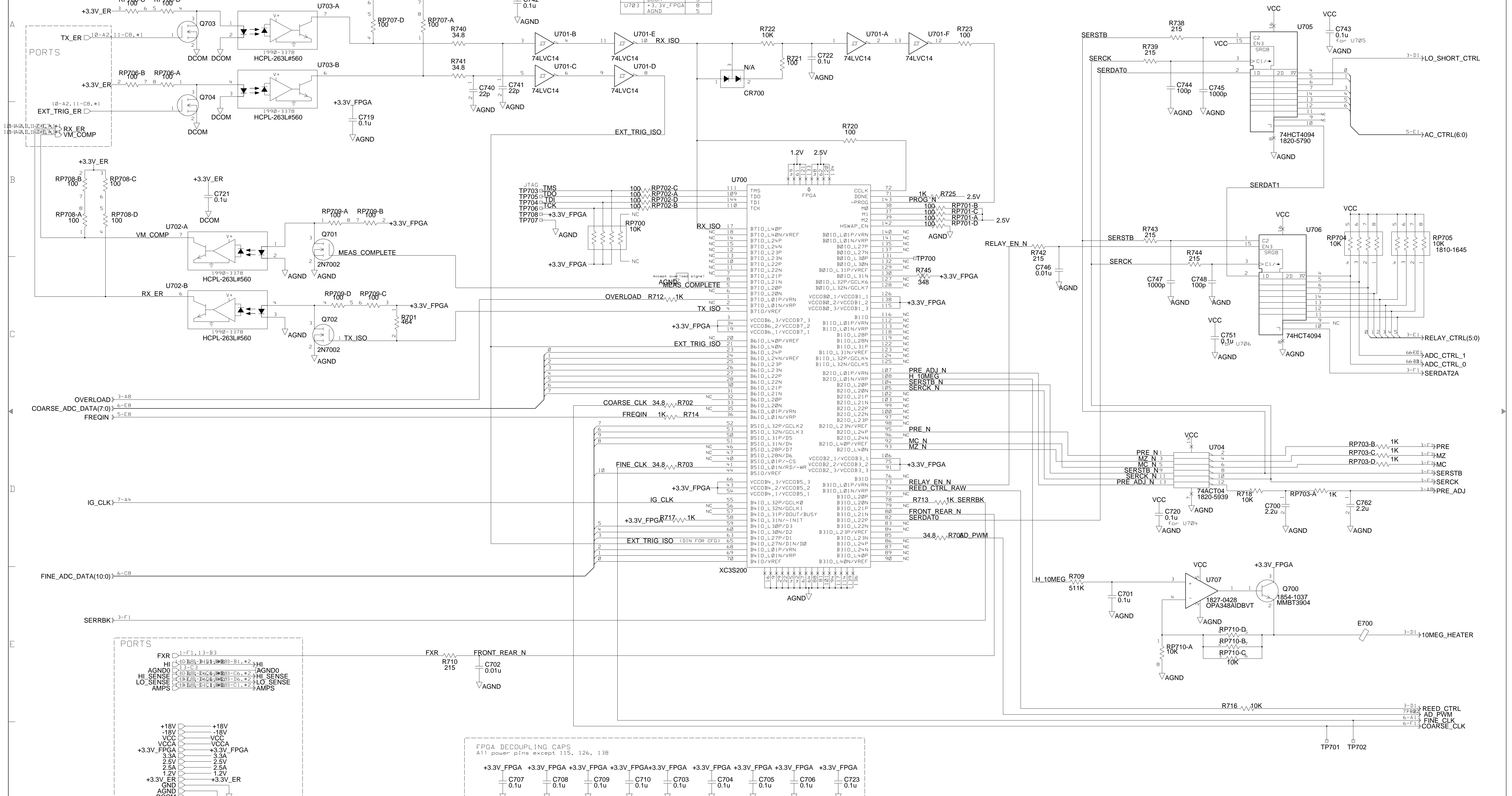


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DRAWN BY Mark Jurjovec		ASSY. REV	BRD. REV	PAGE 7 OF 13	34410-66521 PART NUMBER C-34410-66521-1 DWG. NO.

FPGA

REVISIONS
SEE PAGE 1 FOR REVISION HISTORY

REF	SUPPLY	PIN
DES	NET	NUMBER
U701	+3.3V_FPGA	14
U702	+3.3V_ER	8
U703	+3.3V_FPGA	5



PORTS

FXR	1-F1, 13-B3	HI	10-B3, 11-B1, 20-B3, B1, #2
HI	13-B3	AGND0	10-B3, 14-C6, 20-B3, C6, #2
HI SENSE	18-B3, 14-D6, 20-B3, D6, #2	HI SENSE	18-B3, 14-D6, 20-B3, D6, #2
LO SENSE	18-B3, 14-D6, 20-B3, D6, #2	LO SENSE	18-B3, 14-D6, 20-B3, D6, #2
AMPS	18-B3, 14-D6, 20-B3, D6, #2	AMPS	18-B3, 14-D6, 20-B3, D6, #2

+18V	+18V
-18V	-18V
VCC	VCC
VCCA	VCCA
+3.3V_FPGA	+3.3V_FPGA
3.3A	3.3A
2.5V	2.5V
2.5A	2.5A
1.2V	1.2V
+3.3V_ER	+3.3V_ER
GND	GND
AGND	AGND
DCOM	DCOM

FPGA DECOUPLING CAPS
All power pins except 115, 126, 138

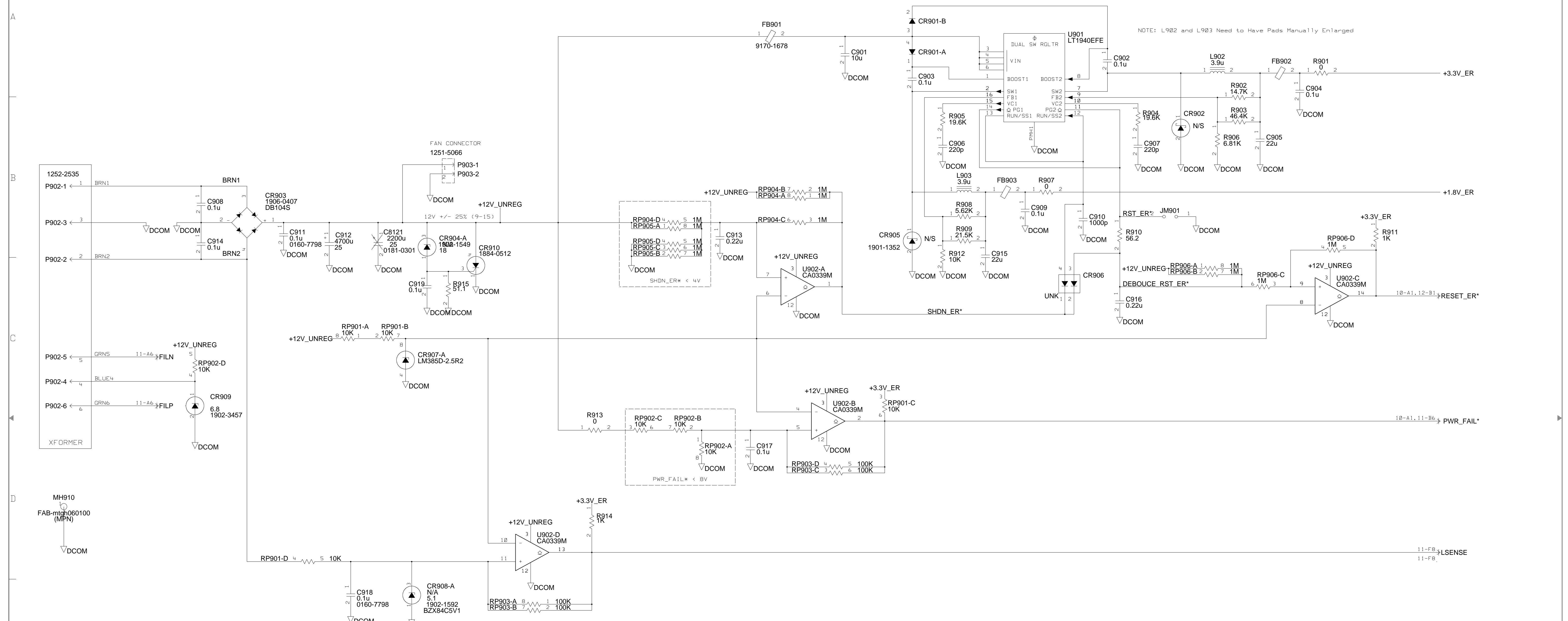
+3.3V_FPGA	+3.3V_FPGA	+3.3V_FPGA	+3.3V_FPGA	+3.3V_FPGA	+3.3V_FPGA	+3.3V_FPGA	+3.3V_FPGA
C707	C708	C709	C710	C703	C704	C705	C706
0.1u	0.1u	0.1u	0.1u	0.1u	0.1u	0.1u	0.1u
AGND	AGND	AGND	AGND	AGND	AGND	AGND	AGND
2.5V	2.5V	2.5V	2.5V	1.2V	1.2V	1.2V	1.2V
C711	C712	C713	C714	C715	C716	C717	C718
0.1u	0.1u	0.1u	0.1u	0.1u	0.1u	0.1u	0.1u
AGND	AGND	AGND	AGND	AGND	AGND	AGND	AGND

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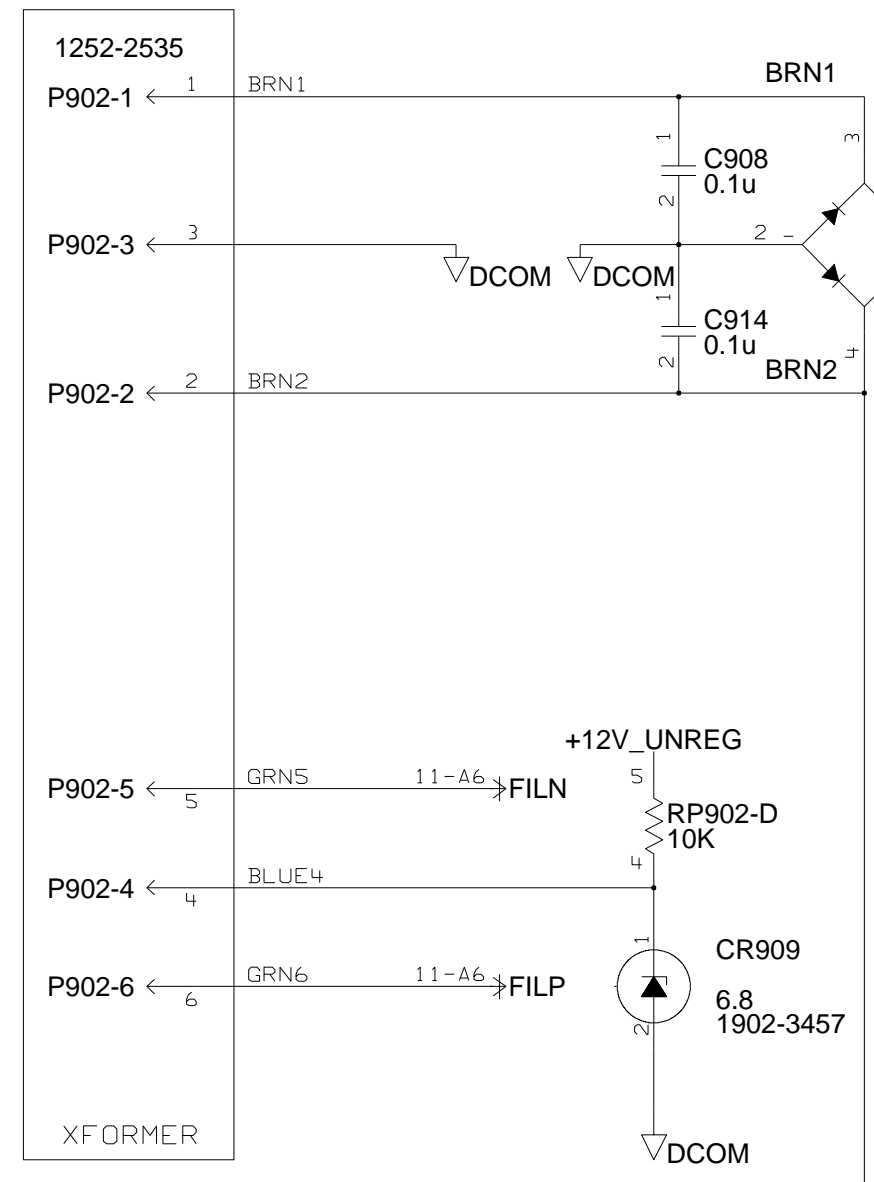
5/8/2006 16:59:27 LAST CHECKED	10/04/05 DATE	SCHMATIC, PWA 34410A INGUARD LOGIC	
Mark Jurjovec ENGINEER	SHEET 7 OF 7	PAGE DESCRIPTION 2	
Mark Jurjovec DRAWN BY	SIZE C	TITLE SLVLD/ganda1f/34410-66521/current/ meas_eng_sheet7	34410-66521 PART NUMBER
ASSY. REV	BRD. REV	PAGE 8 OF 13	C-34410-66521-1 DWG. NO.

EARTH-REFERENCED POWER SUPPLY

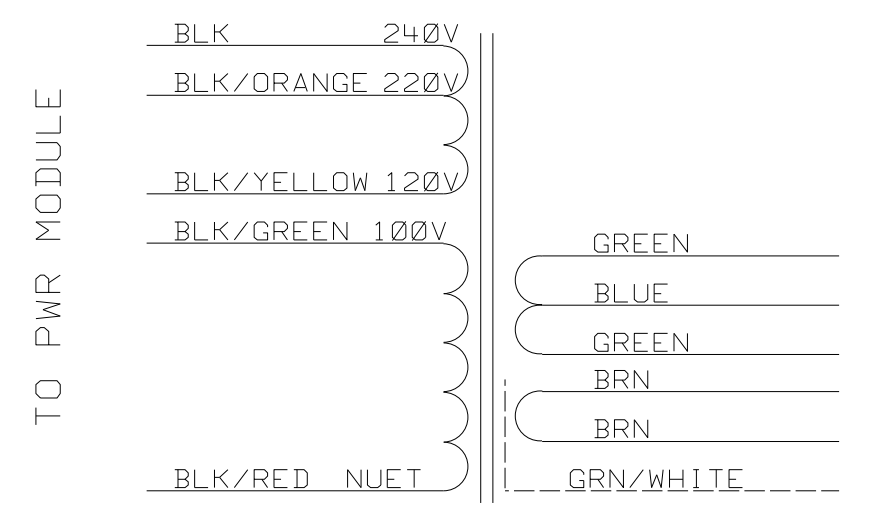
REVISIONS
SEE PAGE 1 FOR REVISION HISTORY



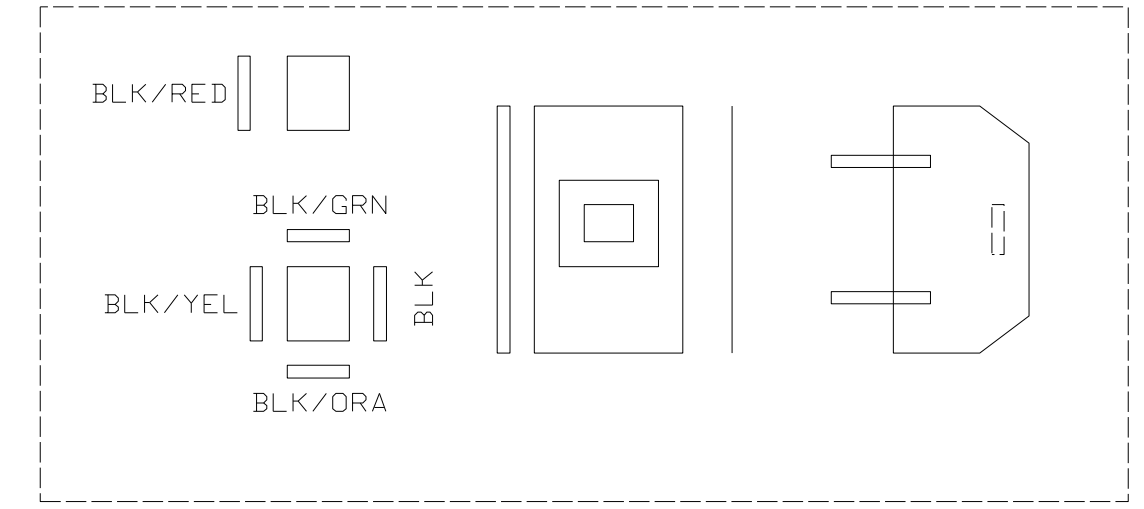
NOTE: L902 and L903 Need to Have Pads Manually Enlarged



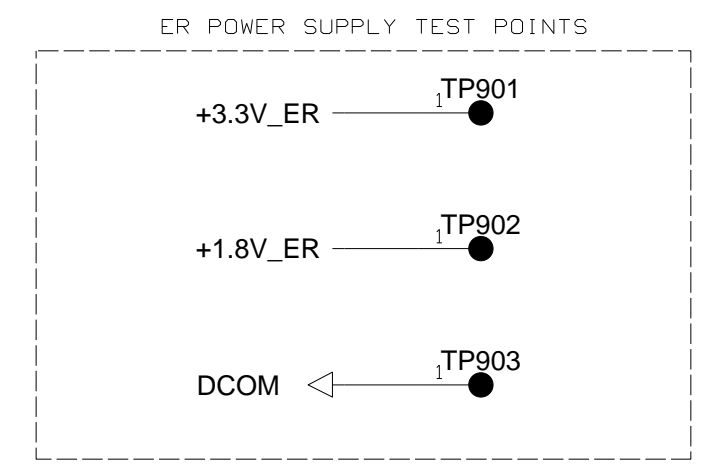
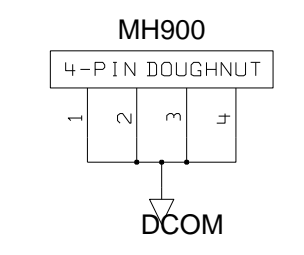
THESE PARTS NOT ON PC-BOARD
PWR TRANSFORMER



POWER MODULE (VIEWED FROM INSIDE UNIT)

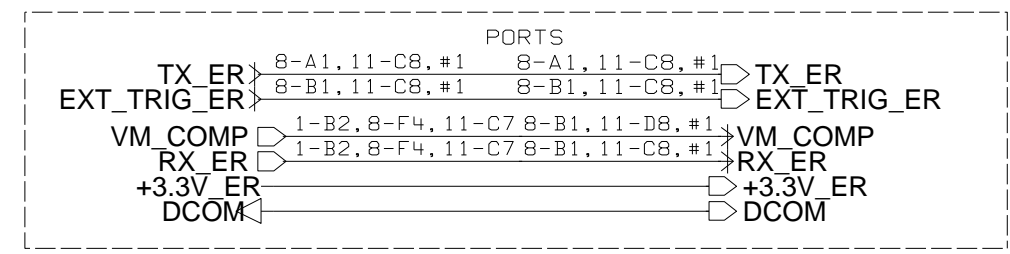


THE POWER MODULE INCLUDES THE POWER SWITCH, THE POWER FUSE, AND THE LINE VOLTAGE SELECTION SWITCH.

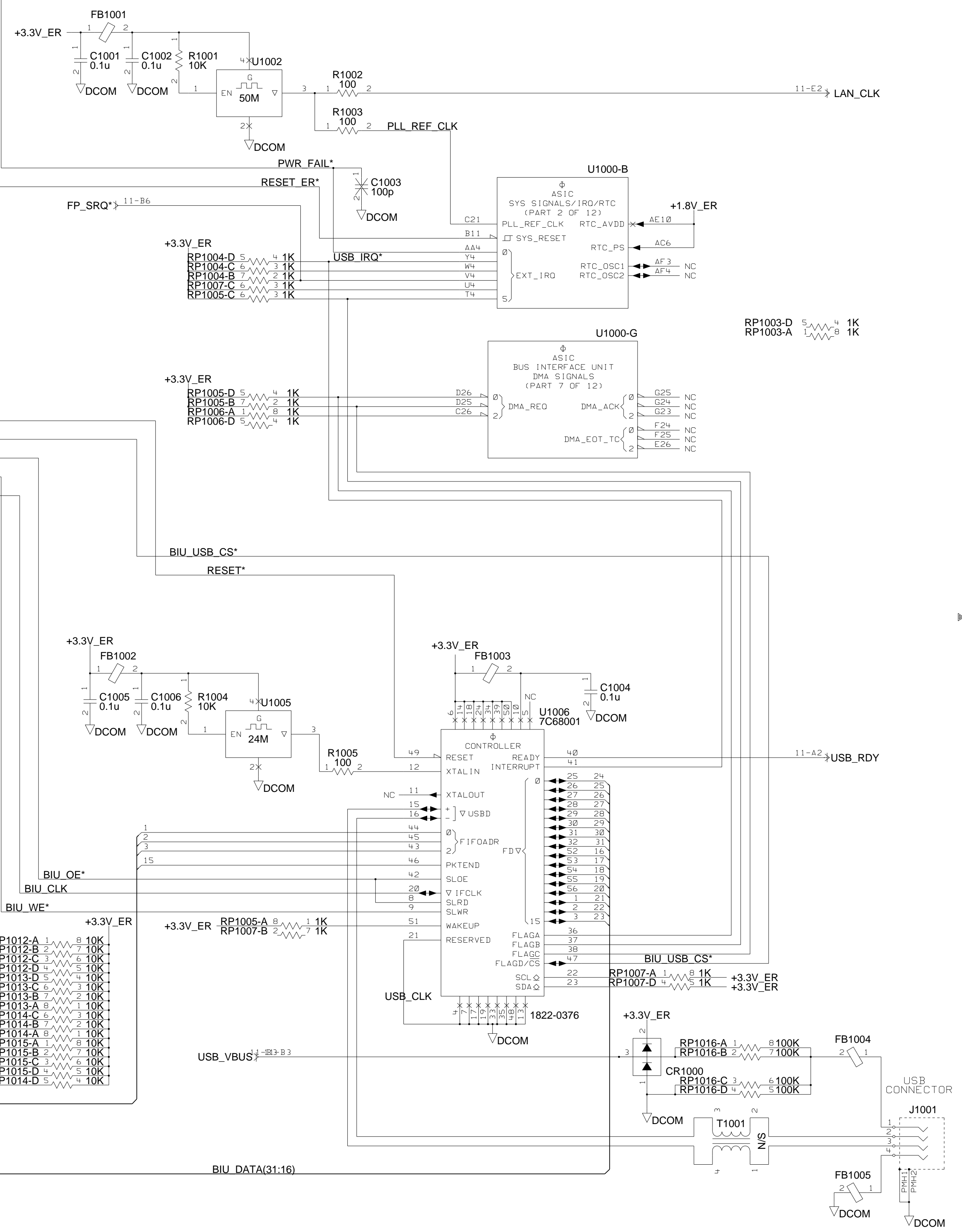
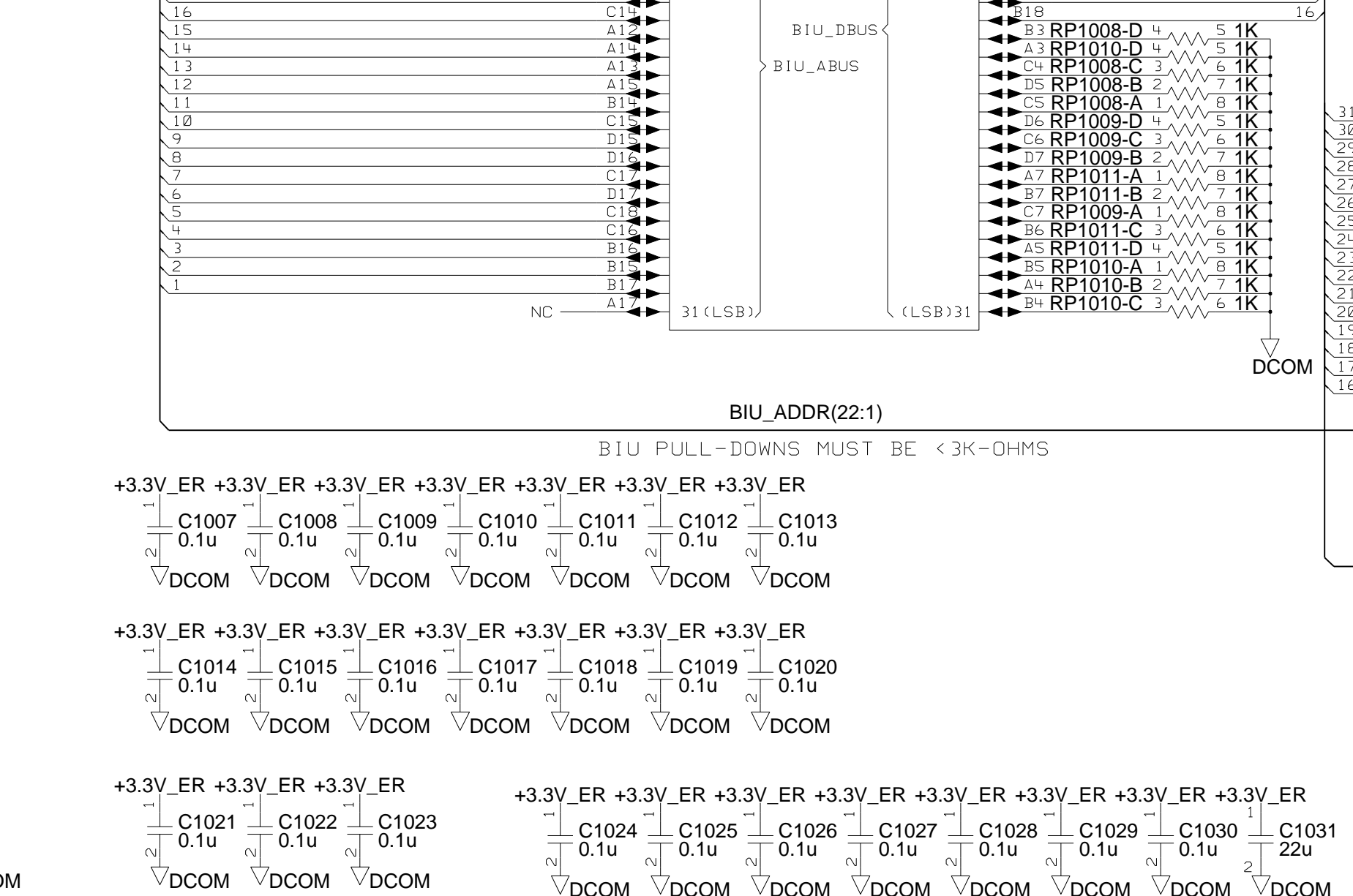
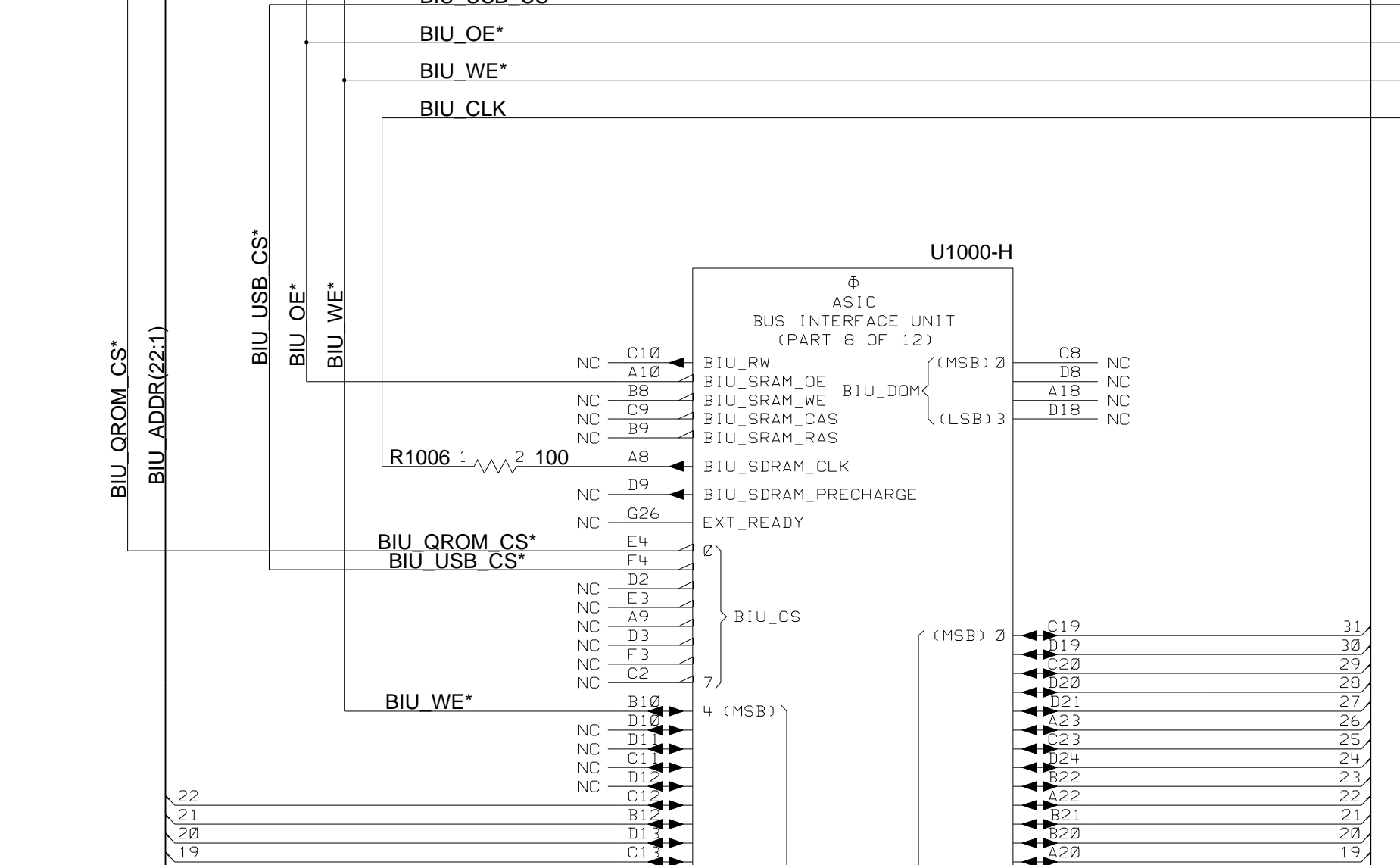
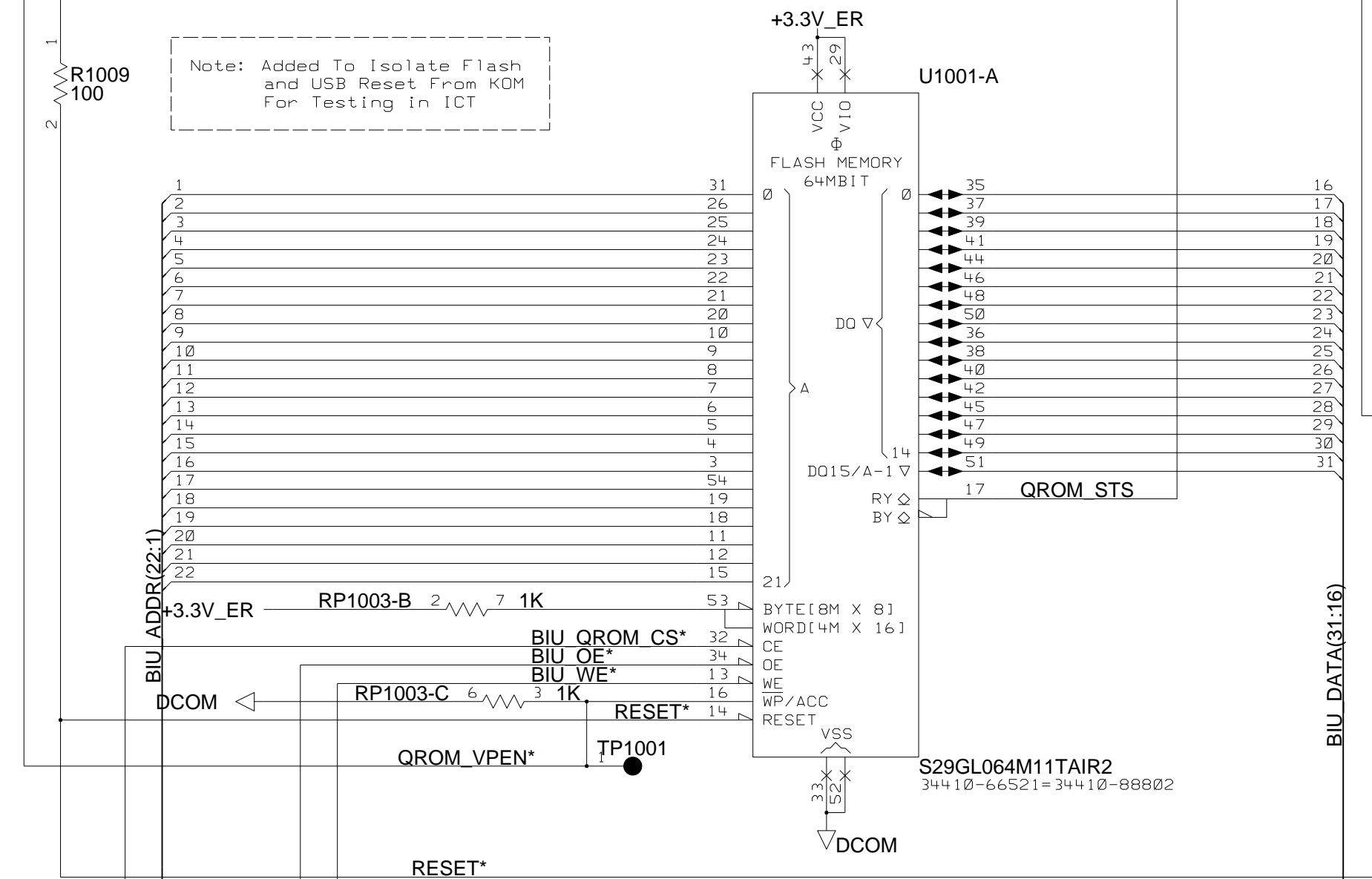
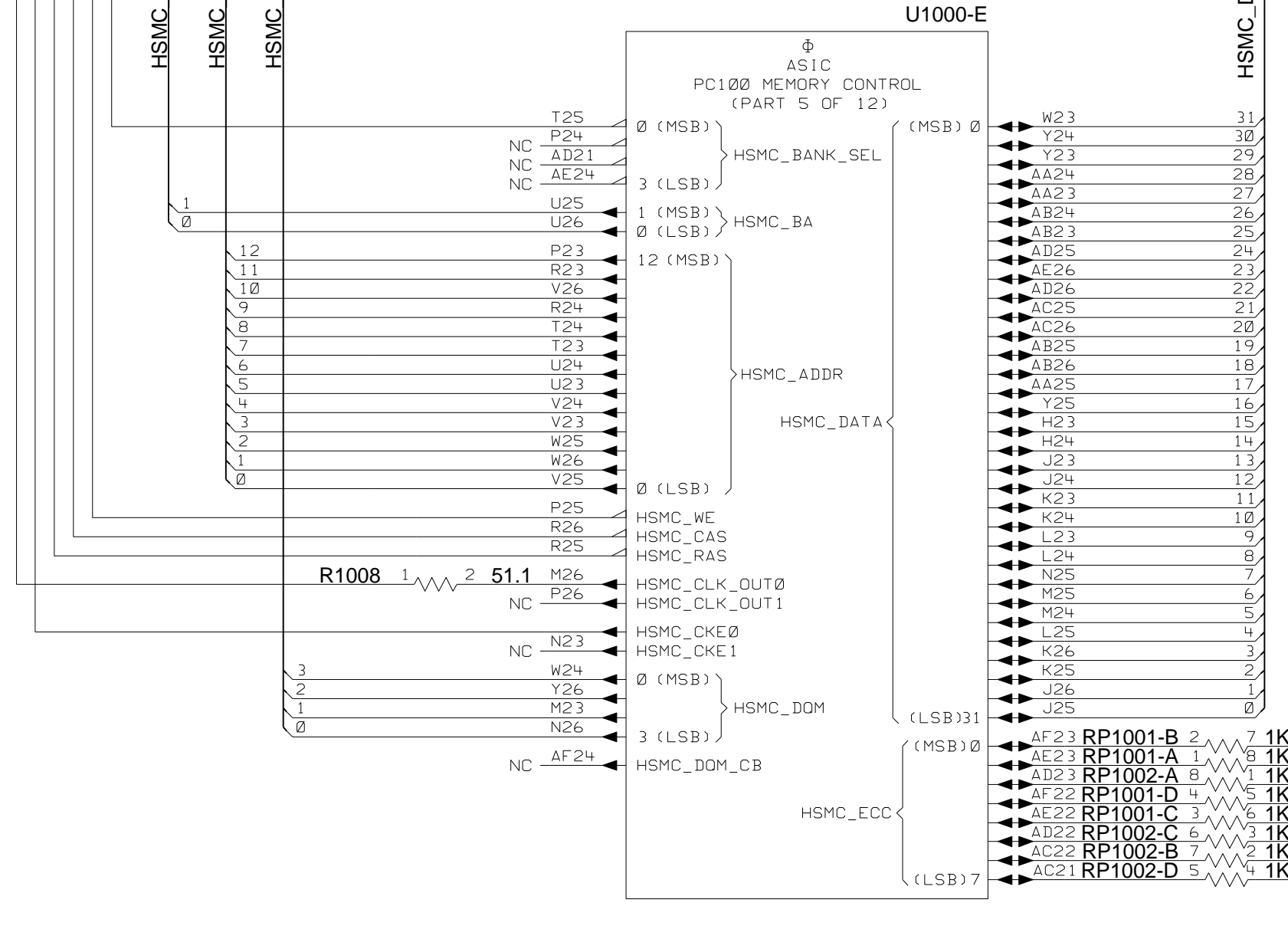
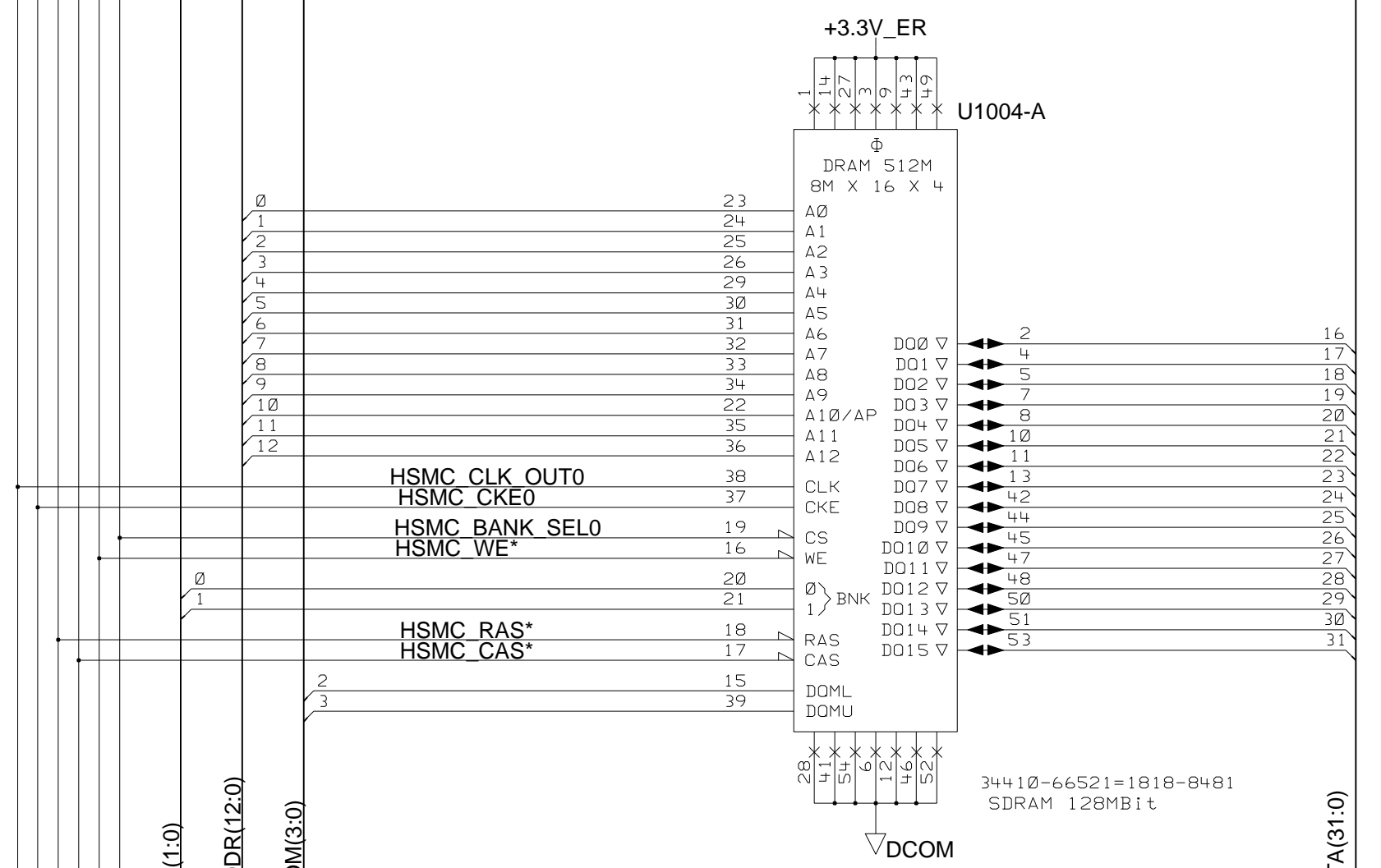
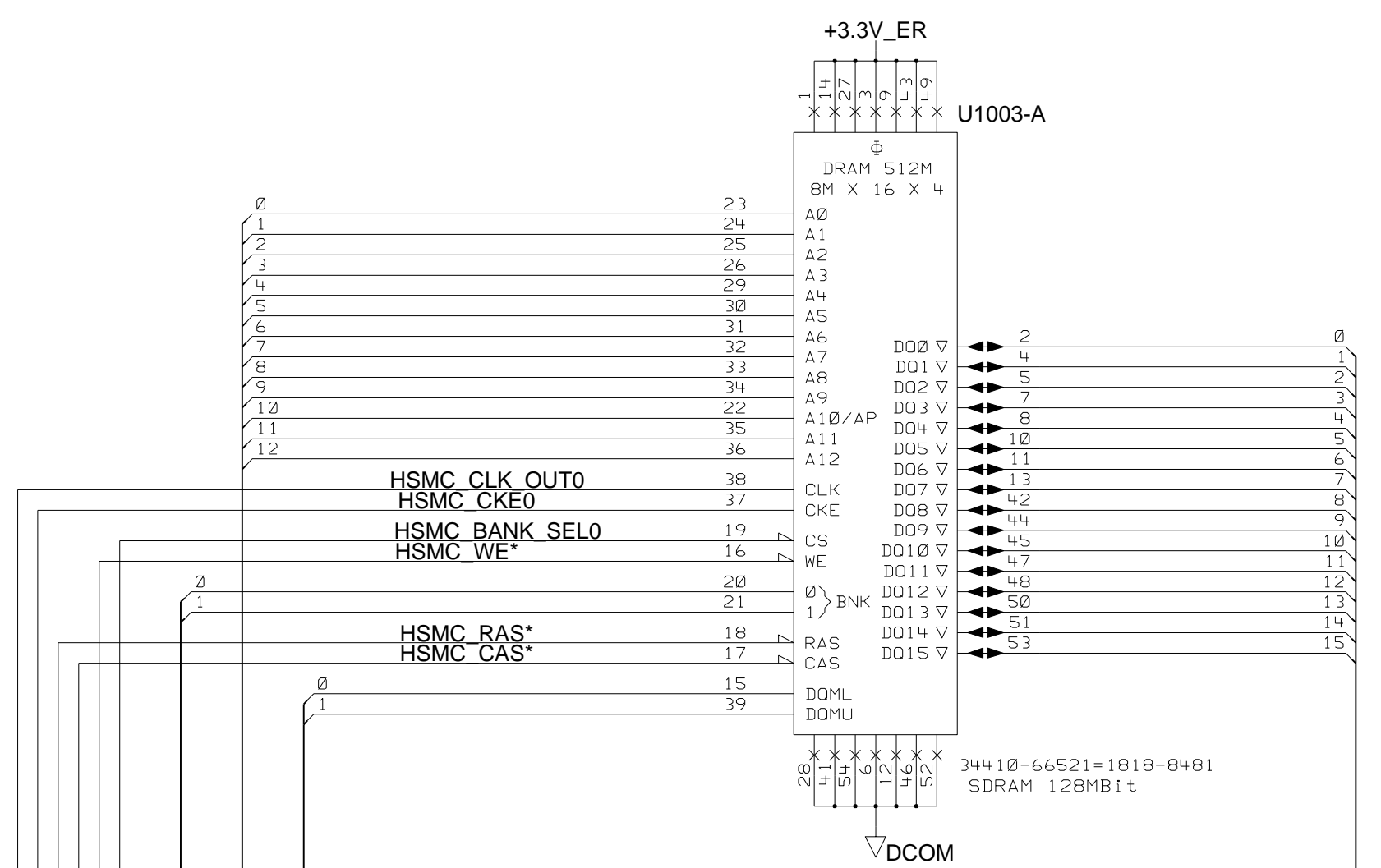


AGILENT TECHNOLOGIES RESTRICTED		2/14/2005 12:09:33 LAST CHECKED	10/04/05 DATE	SCHEMATIC, PWA 34410A EARTH-REFERENCED POWER SUPPLY		Agilent
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Mark Jurjovec DRAWN BY	SIZE C	ASSY. REV	BRD. REV	PAGE 9 OF 13	C-34410-66521-1 DWG. NO.	

RESET_ER* 9-C8,12-B1
PWR_FAIL* 9-D8,11-B6
QROM_STS 11-A2
QROM_VPEN* 11-A3

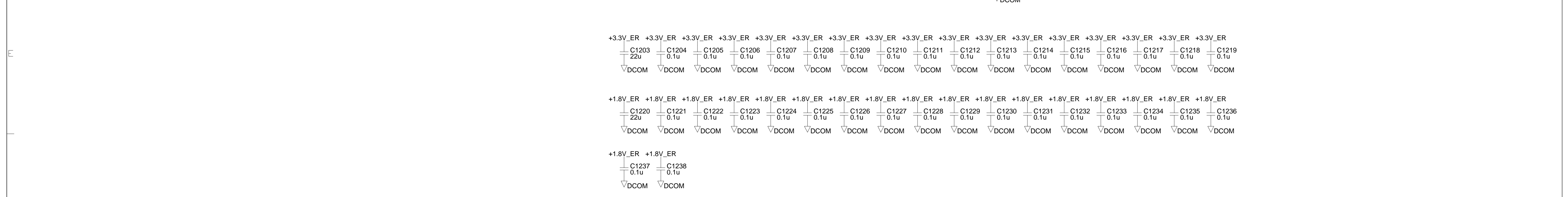
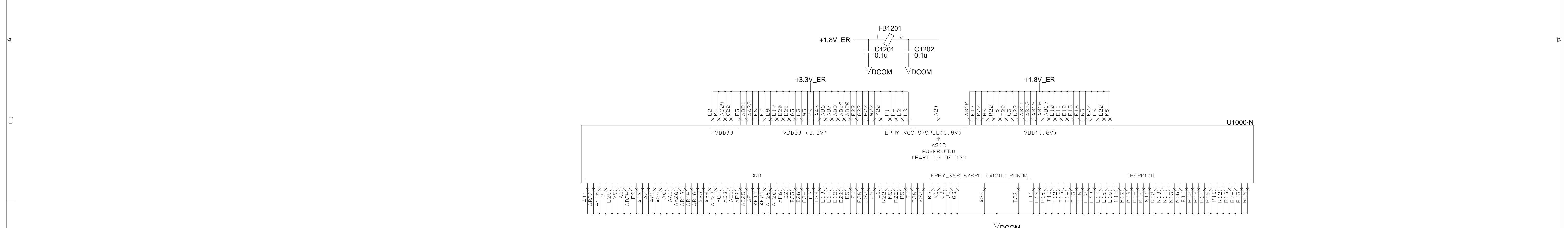
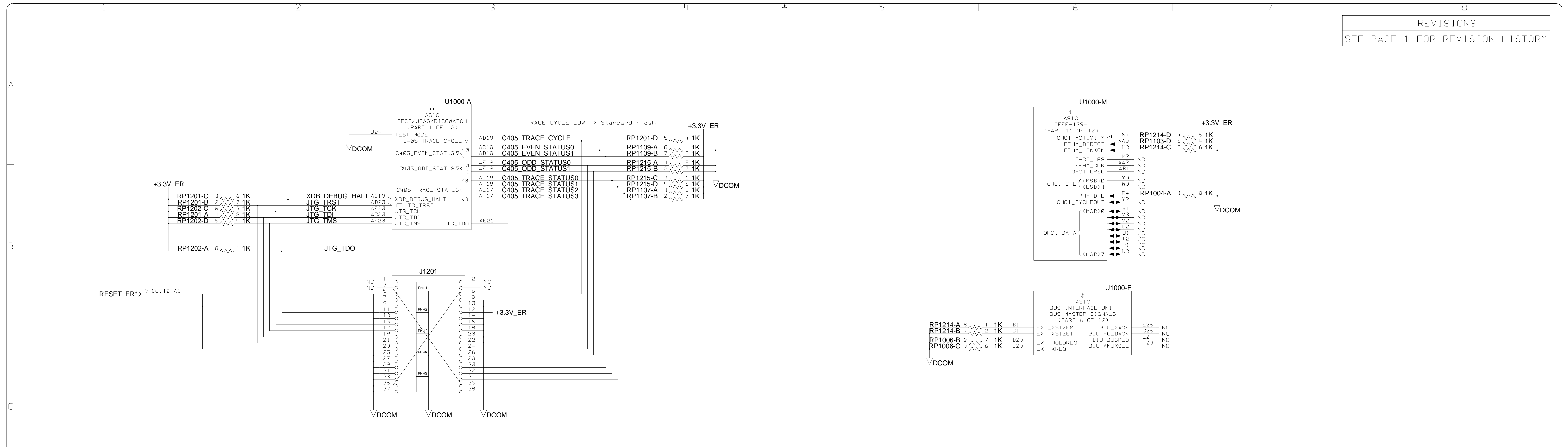


Note: Added To Isolate Flash and USB Reset From KDM For Testing in ICT



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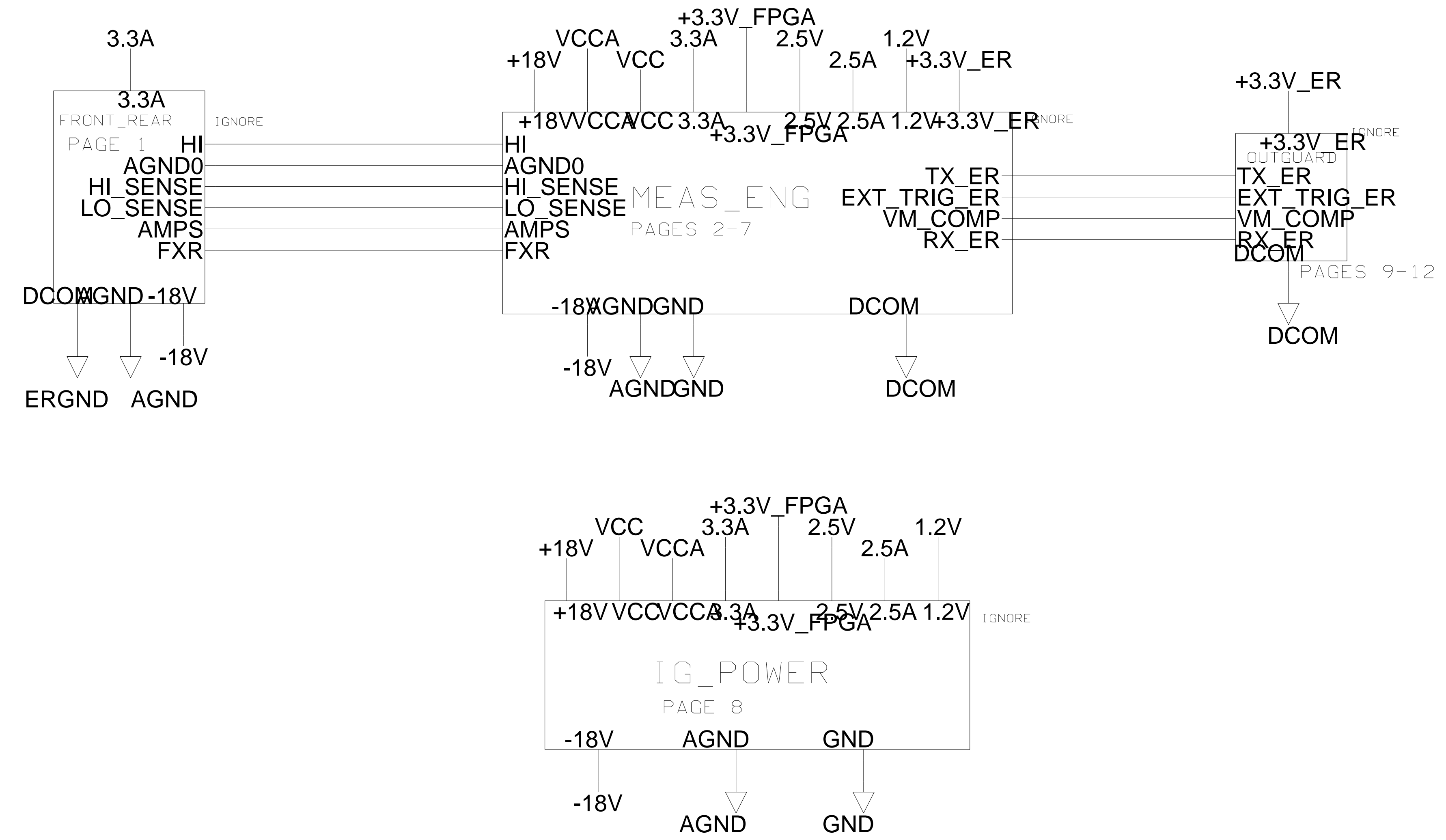
12/19/2005 13:49:12 LAST CHECKED	10/04/05 DATE	SCHEMATIC, PWA 34410A CONTROLLER: CLOCKS, IROS RAM, ROM, USB	
Mark Jurjovec ENGINEER	SHEET 3 OF 5	TITLE 34410-66521 PART NUMBER	
Mark Jurjovec DRAWN BY	SIZE D	10 13 PAGE OF	34410-66521-1 DWG. NO.



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S/20/2004 13:11:16 LAST CHECKED	10/04/05 DATE	SCHMATIC, PWA 34410A	
Mark Jurjovec ENGINEER	SHEET 5 OF 5	CONTROLLER: DEBUG INTERFACE, UNUSED SECTIONS, POWER	
Mark Jurjovec DRAWN BY	SIZE C	#LVLID/gandalf/34410-66521/current/ outguard sheet12	34410-66521 PART NUMBER
ASSY. REV	BRD. REV	PAGE 13 OF	C-34410-66521-1 DWG. NO.

REV	INFORMATION	APPROVED	DATE
D			



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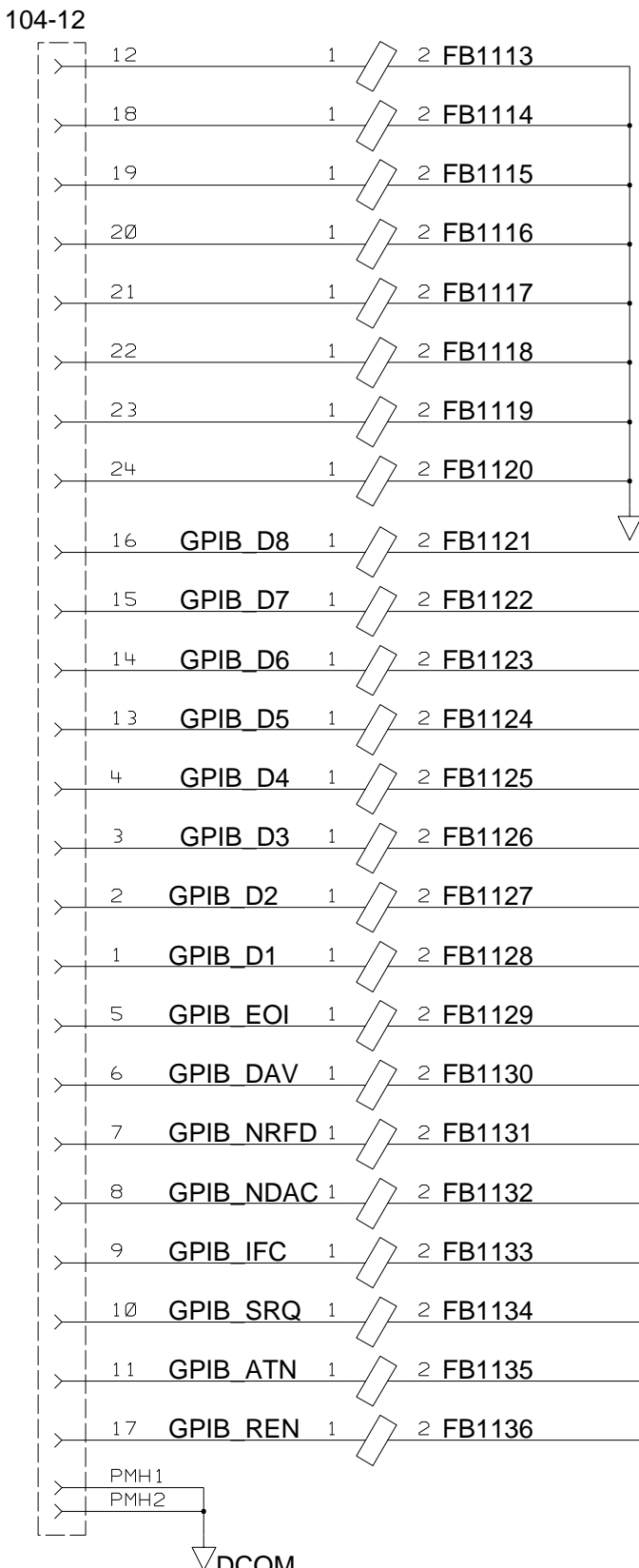
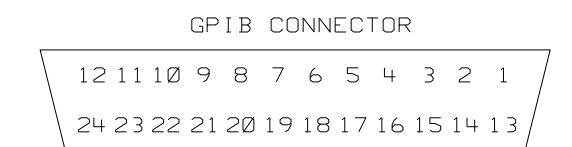
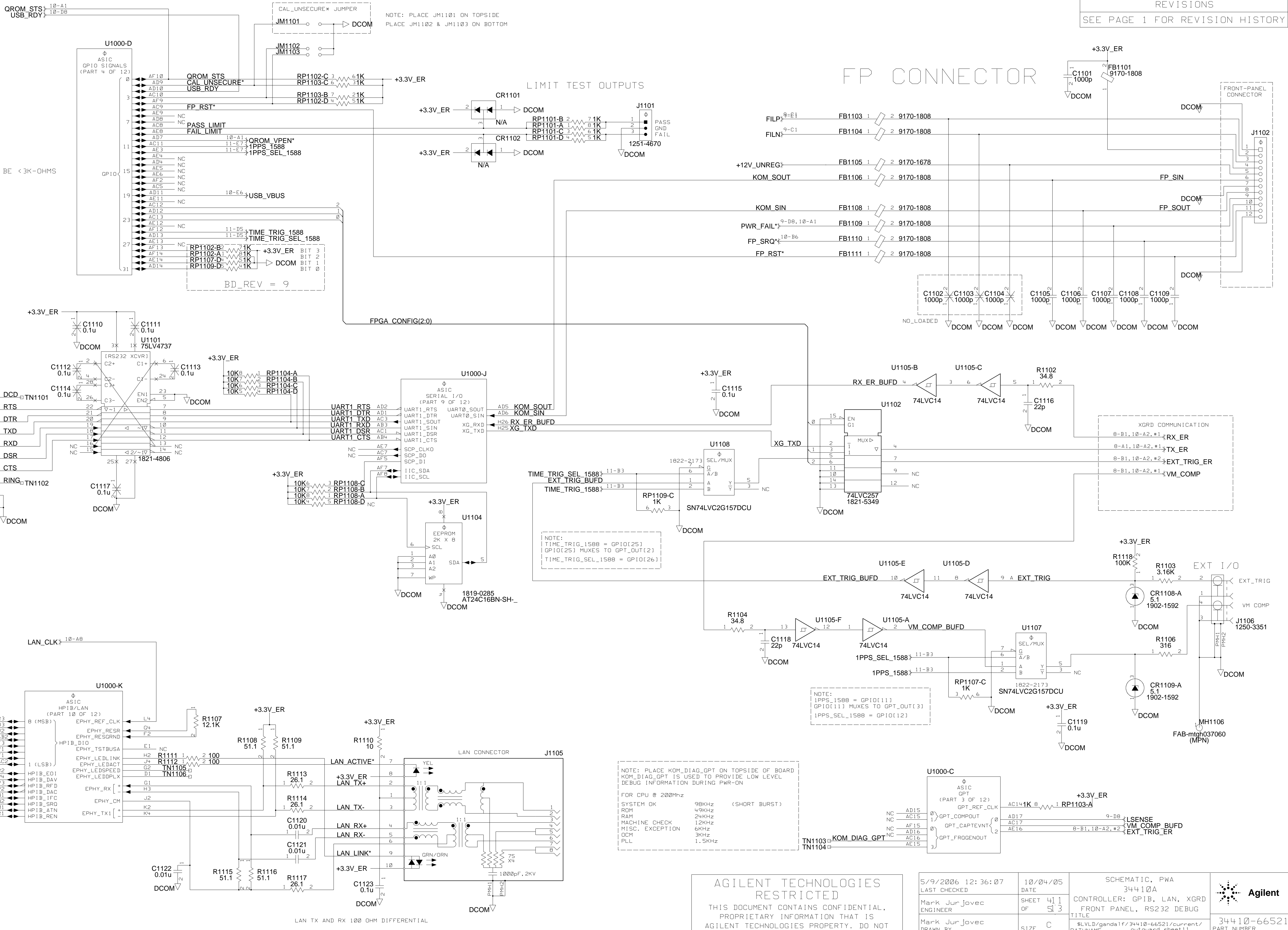
6/5/2006 14:45:15 LAST CHECKED	10/04/05 DATE	SCHEMATIC, PWA 34410A Gandalf		
Mark Jurjovec ENGINEER	SHEET 1 OF 1	TOP-LEVEL BLOCK DIAGRAM		
Mark Jurjovec DRAWN BY	SIZE A	TITLE \$LVL/D/gandalf/34410-66521/current/top sheet1		34410-66521 PART NUMBER
	ASSY. REV	BRD. REV	PAGE 13 OF 13	A-34410-66521-1 DWG. NO.

NOTE: PLACE JM1101 ON TOPSIDE
PLACE JM1102 & JM1103 ON BOTTOM

FP CONNECTOR

BD_REV	NAME	PCB REV	PCA REV	BD_NUM
000	BB1	002	013	34410-66501
001	EP1	003	020	34410-66501
002	EP2	004	027	34410-66501
003	EP3	005	028	34410-66501
004	PP1	006	030	34410-66501
006	FFR	007	035	34410-66501
007	SMT2	002	003	34410-66511
008	SMT3	003	004	34410-66511
009	SMT4	004	005	34410-66511

GPIO PULL-DOWNS MUST BE <3K-OHMS



NOTE:
TIME_TRIG_1588 = GPIO[25]
GPIO[25] MUXES TO GPT_OUT[2]
TIME_TRIG_SEL_1588 = GPIO[26]

NOTE:
1PPS_1588 = GPIO[11]
GPIO[11] MUXES TO GPT_OUT[3]
1PPS_SEL_1588 = GPIO[12]


NOTE: PLACE KOM_DIAG_GPT ON TOPSIDE OF BOARD
KOM_DIAG_GPT IS USED TO PROVIDE LOW LEVEL
DEBUG INFORMATION DURING PWR-ON


FOR CPU @ 200Mhz
SYSTEM OK 98KHz (SHORT BURST)
ROM 49KHz
RAM 24KHz
MACHINE CHECK 12KHz
MISC. EXCEPTION 6KHz
DCM 3KHz
PLL 1.5KHz


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

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
S/9/2006 12:36:07 LAST CHECKED	10/04/05 DATE	SCHEMATIC, PWA 34410A	
Mark Jurjovec ENGINEER	SHEET 41 OF 53	CONTROLLER: GPIB, LAN, XGRD FRONT PANEL, RS232 DEBUG	
Mark Jurjovec DRAWN BY	SIZE C	#LVL/D/ganda1r/34410-66521/current/ PATHNAME outward sheet11	34410-66521 PART NUMBER
ASSY. REV	BRD. REV	PAGE 11 OF 13	C-34410-66521-1 DWG. NO.


+18V  xref


VCC  xref


VCCA  xref

3.3A  xref +3.3V_FPGA  xref


2.5V  xref

2.5A  xref

1.2V  xref

-18V  xref

AGND  xref

GND  xref