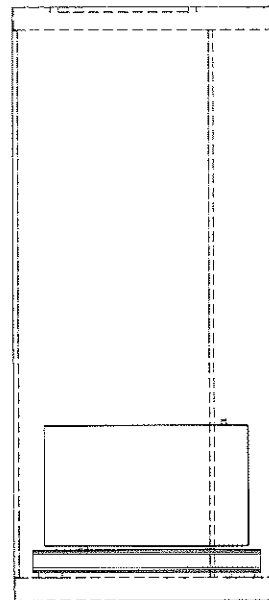
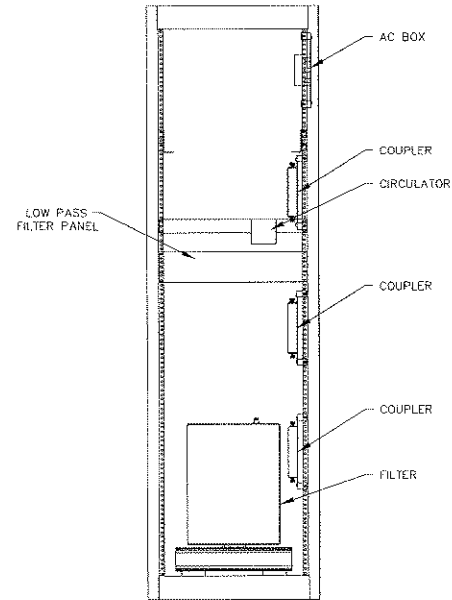


FRONT



SIDE VIEW

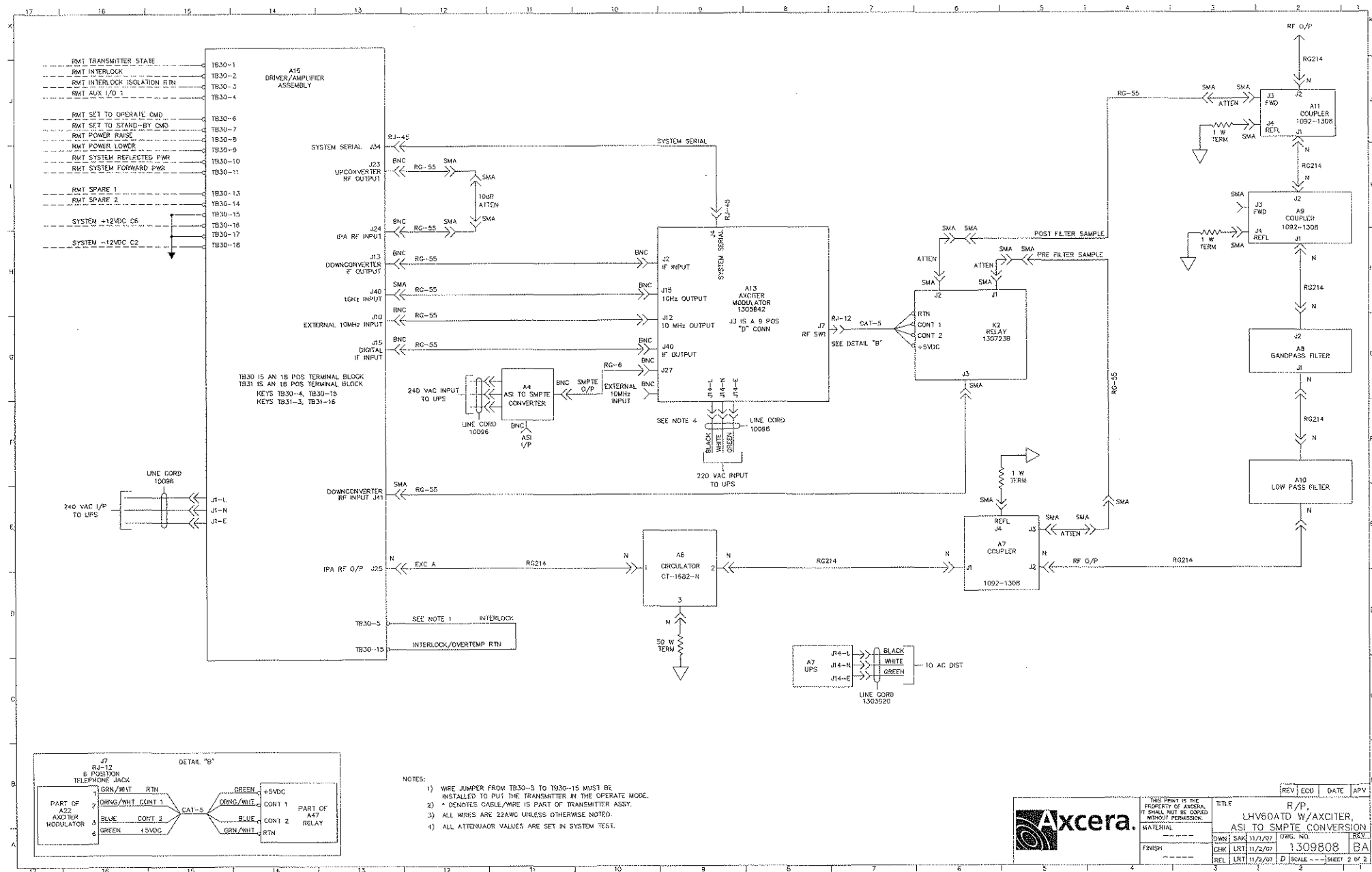
REAR



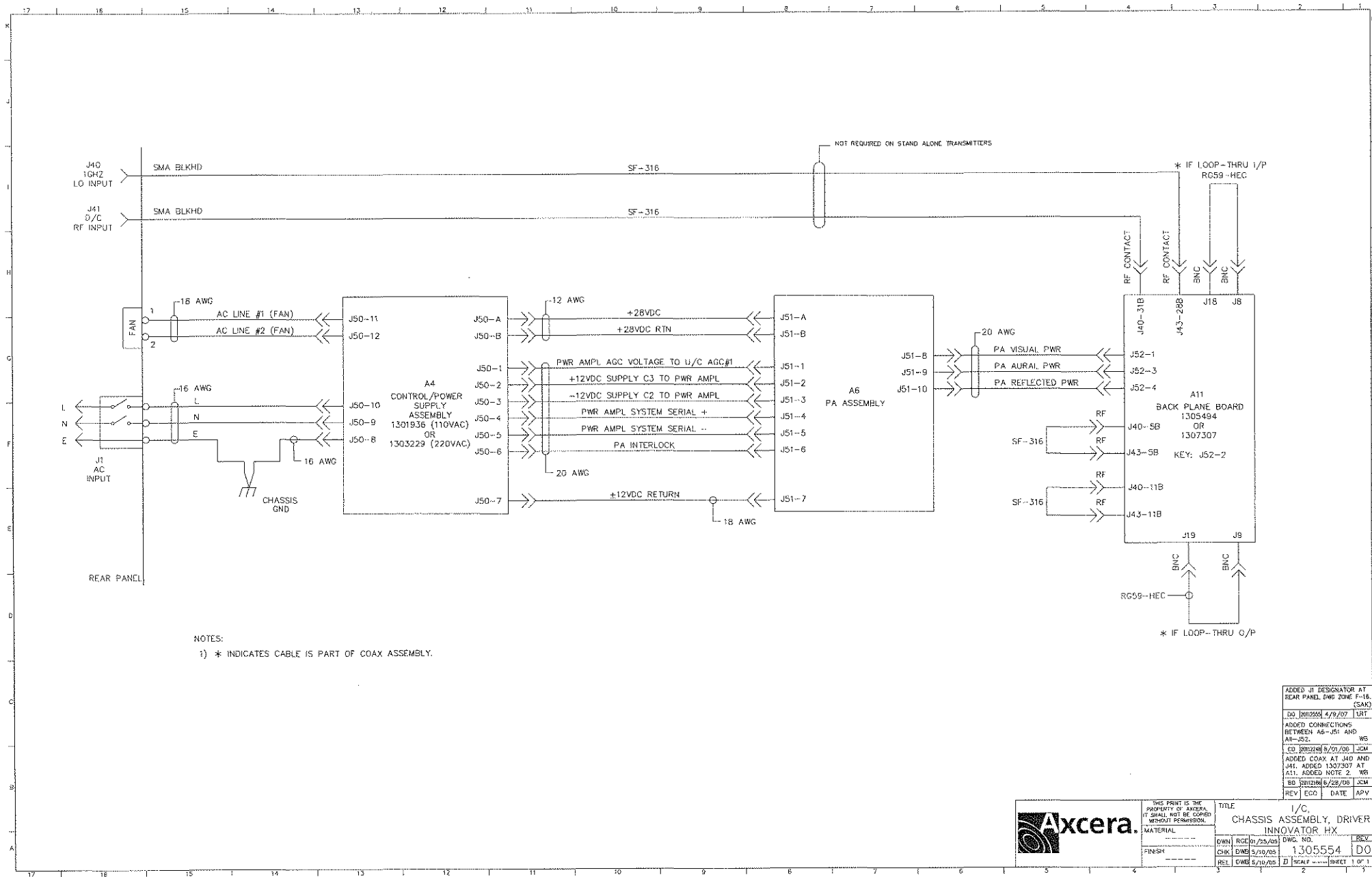
REAR VIEW

MOVED AXICTER, WTR, A CONVERTER DOWN 8.75" MOVED 8.75" BLANK PANEL ABOVE AXICTER: (SAR)			
BA	10/10/06	12/6/07	J.H.
REV	ECO	DATE	APV

		THIS PRINT IS THE PROPERTY OF AXICERA. IT SHALL NOT BE COPIED WITHOUT PERMISSION		TITLE R/P, LHV60ATD W/AXICTER, AS TO SMPTE CONVERSION	
		MATERIAL		DWG. NO. 1309808	
FINISH	---	DRAWN	SAH 11/1/07	CHKD	---
REL	---	CHKD	LRT 11/2/07	REL	---
SCALE 1 OF 2		BA			



REV				ECO	DATE	APV
Axcera.						
TITLE				R/P		
				LHV60ATD W/AXCITER, ASI TO SMPTC CONVERSION		
MATERIAL				OWN	SAK	11/1/97
FINISH				CHK	LR1	11/2/97
				REL	LR1	11/2/97
				D SCALE --- SHEET 2 OF 2		



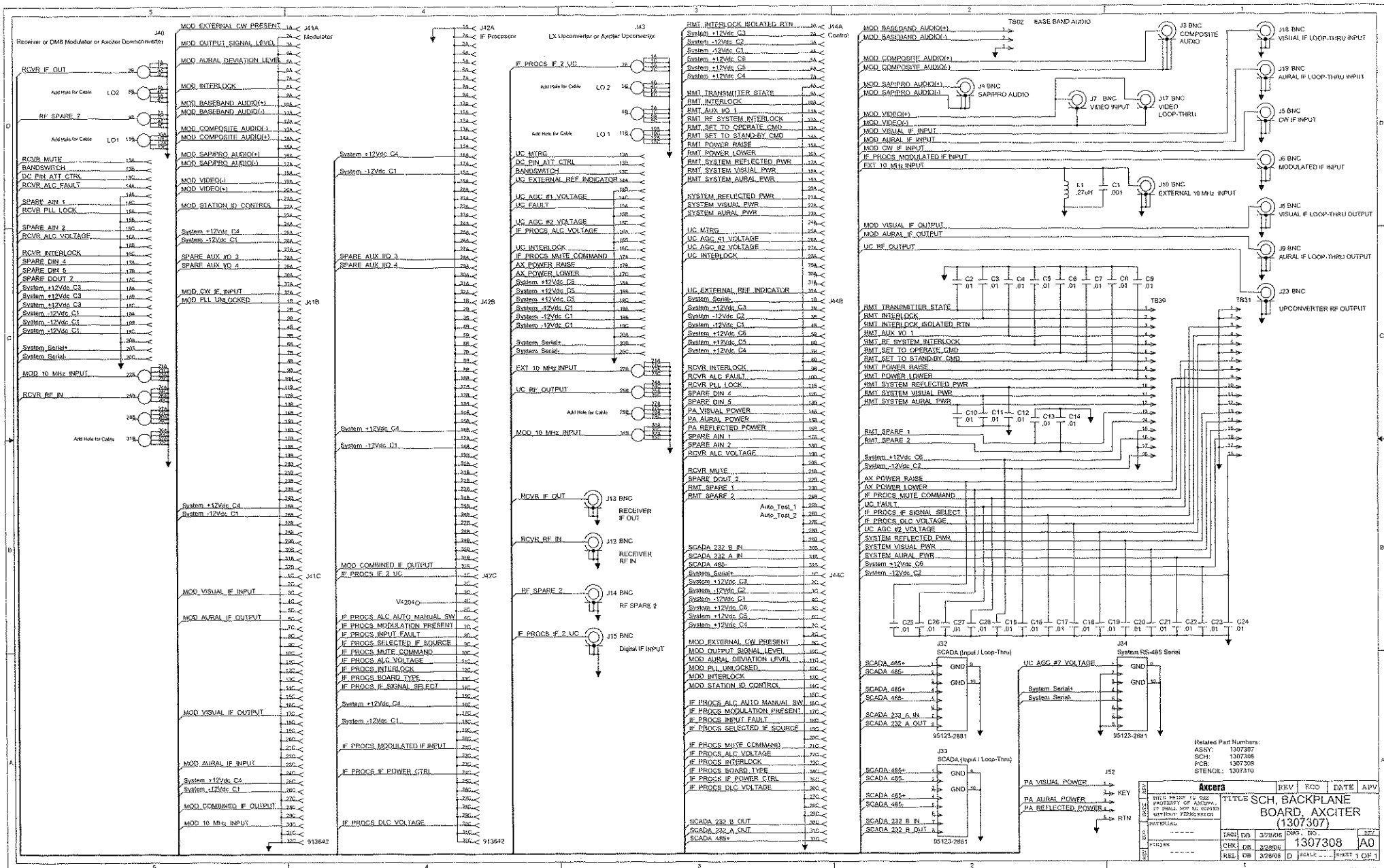
ADDED J1 DESIGNATOR AT REAR PANEL DWG ZONE F-18. (SAK)
DO 20120504 4/9/07 LRT
ADDED CONNECTIONS BETWEEN A6-J51 AND A6-J52. WB
DO 20120408 5/21/06 JCM
ADDED COAX AT J40 AND J41. ADDED 1307307 AT A11. ADDED NOTE 2. WB
DO 20120606 6/28/06 JCM
REV ECO DATE APV

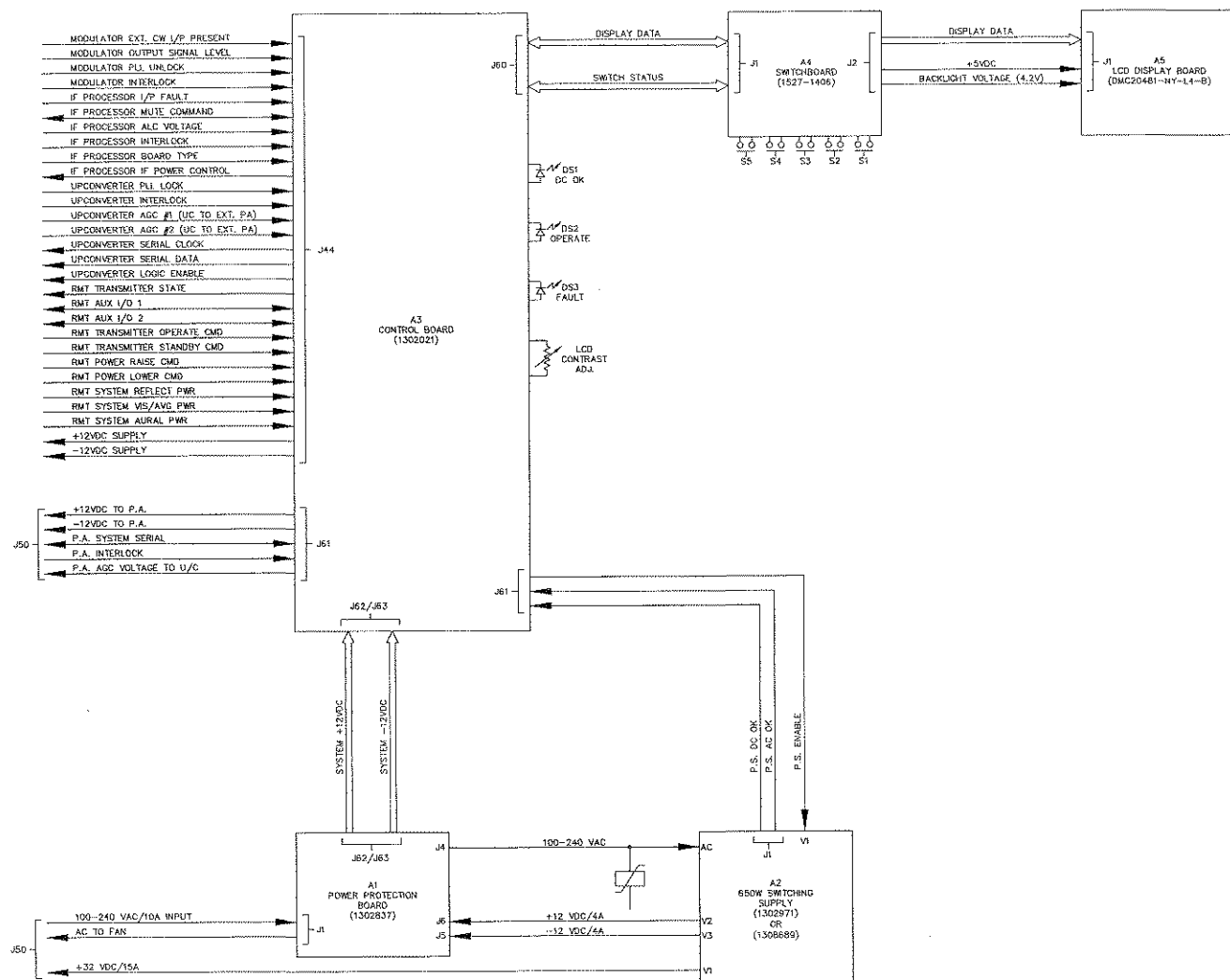


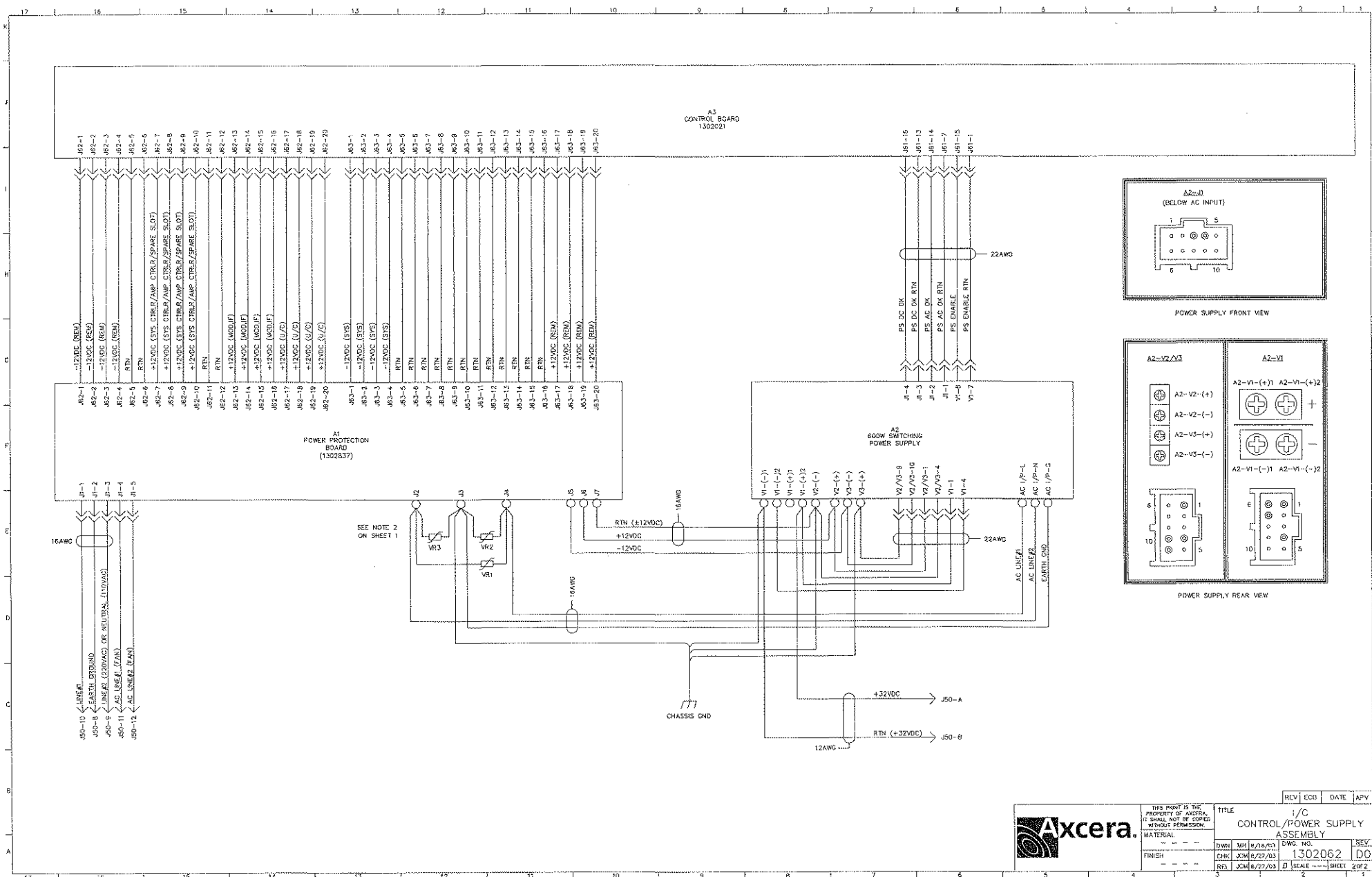
THIS PRINT IS THE PROPERTY OF AXCIERA. IT SHALL NOT BE COPIED WITHOUT PERMISSION.

TITLE		I/C,	
CHASSIS ASSEMBLY, DRIVER		INNOVATOR, HX	
MATERIAL	DRAWN	REV	REV
FINISH	DATE	NO.	NO.
	25/05/05	1305554	D0
	2/25/05		
	5/10/05		

1 OF 1







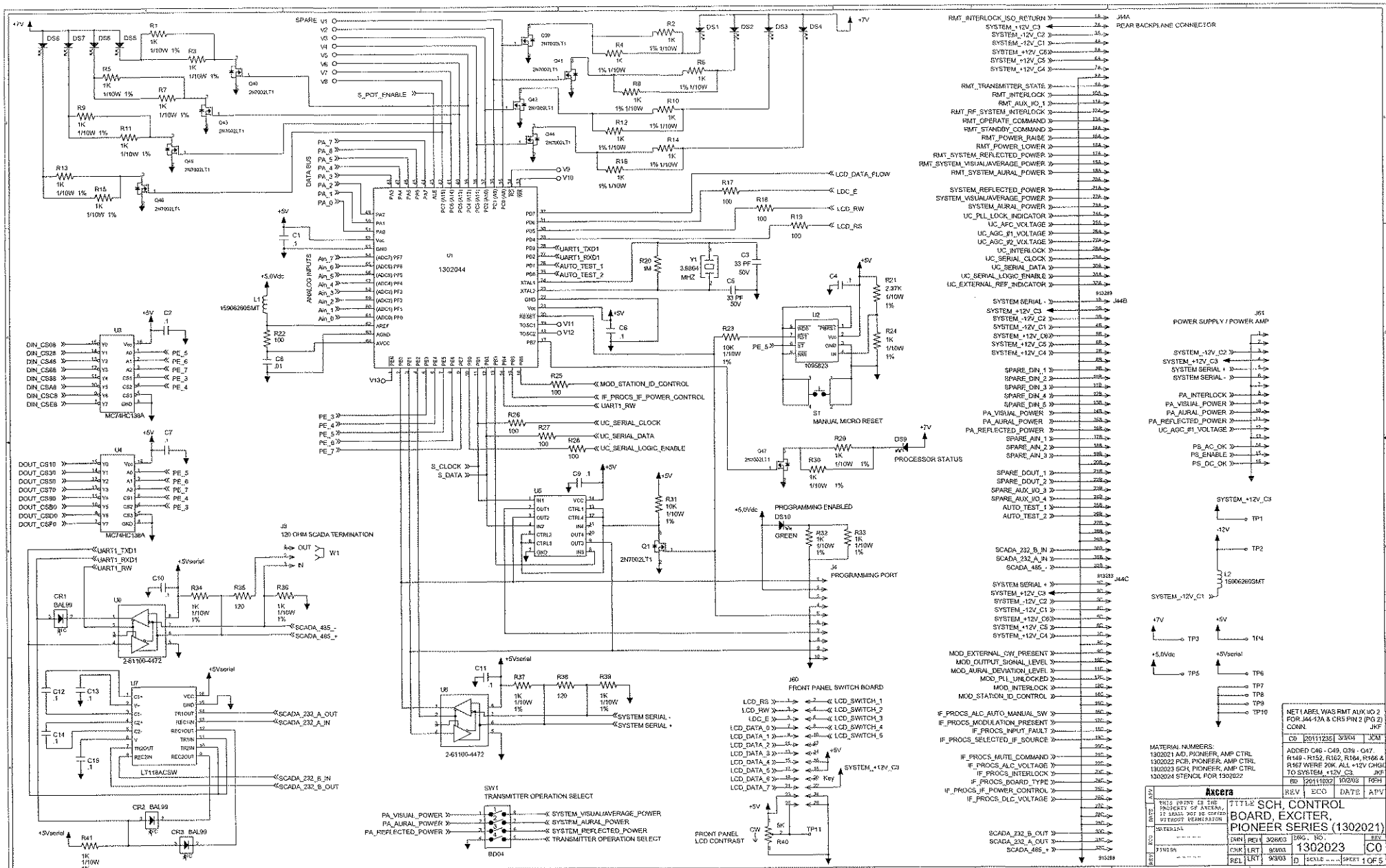
REV ECD DATE APV

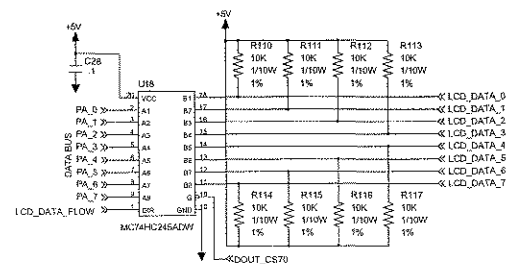
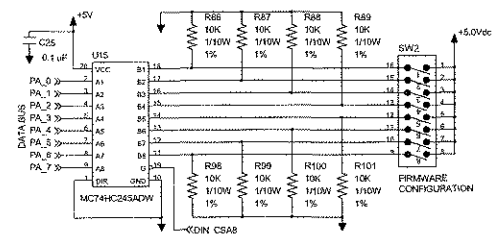
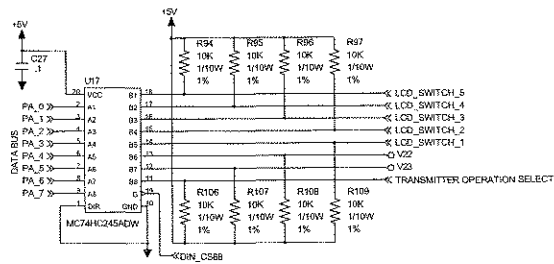
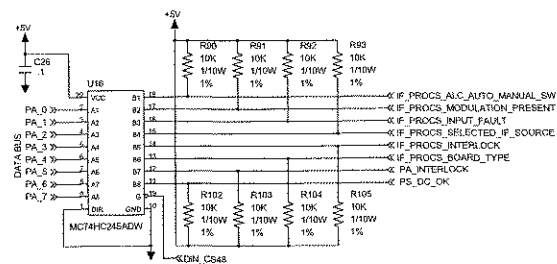
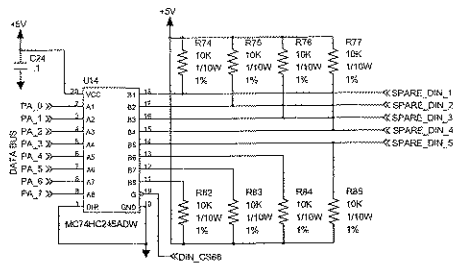
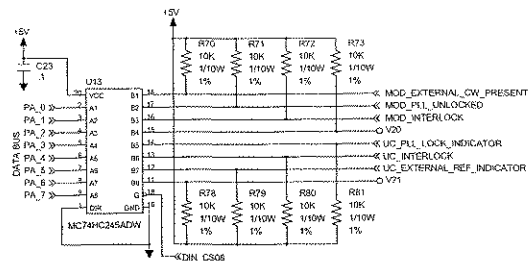
TITLE
I/C
CONTROL/POWER SUPPLY
ASSEMBLY

DWN MH 8/18/03 DWS NO. 1302062 REV. 00

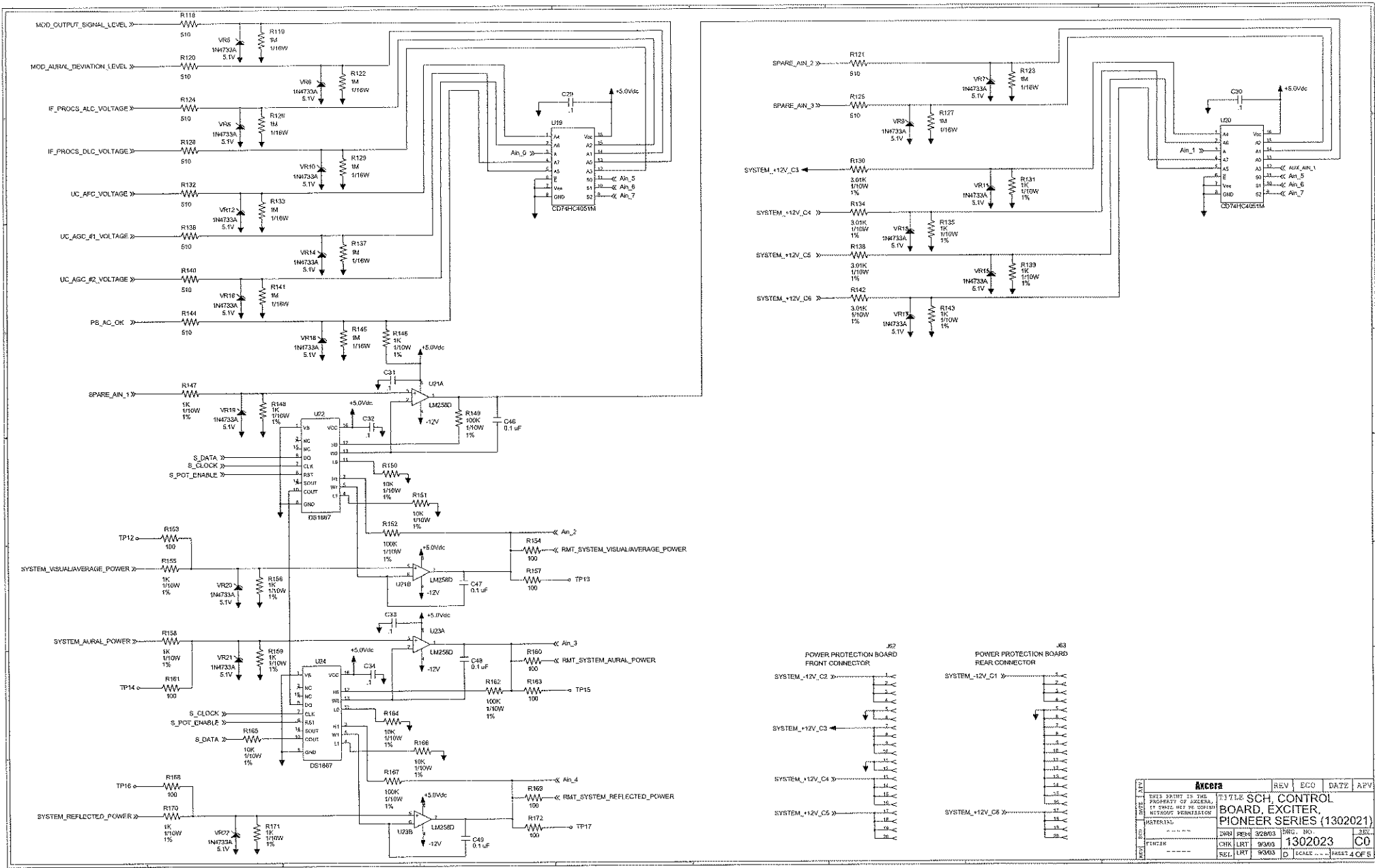
CHK JCW 6/27/03

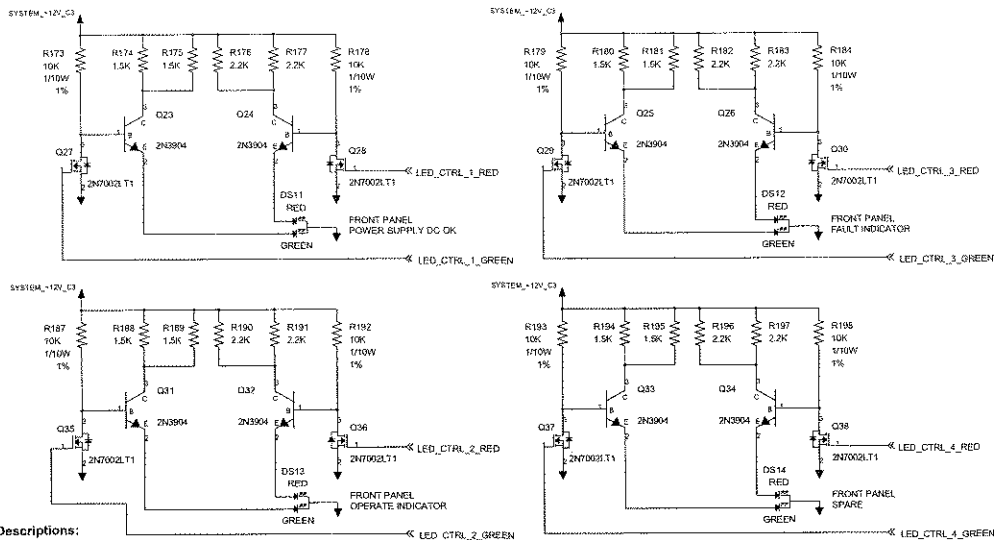
REL JCW 8/27/03 SCALE 1 SHEET 2 OF 2





Axcera		REV	ECO	DATE	APV
THIS DRAWING IS THE PROPERTY OF AXCERA. IT IS TO BE USED ONLY FOR THE PROJECT FOR WHICH IT WAS ISSUED WITHOUT PERMISSION.		TITLE SCH. CONTROL BOARD, EXCITER, PIONEER SERIES (1302021)			
MATERIAL		INQ	REV 4	32803	INC. NO.
PERIOD		CHK	LRT	03003	1302023
REL		REL	LRT	03003	1302023
		PAGE 3 OF 5			





Circuit Descriptions:

PAGE 1:

U1 is an Atmel Atmega128 microcontroller. This part is in-circuit programmed using the serial programming port. When the microcontroller is held in reset by either the programming port or the external watchdog IC, a transistor inverts the reset signal while serial programming lines are connected to U1 through analog switch U5.

U2 is a watchdog IC used to hold the microcontroller in reset if the supply voltage is less than 4.21 Vdc; (1.25 Vdc < Pin 4 (IN) < Pin 2 (Vcc)). The watchdog momentarily resets the microcontroller if Pin 6 (IST) is not clocked every second. A manual reset switch is provided but should not be needed.

Diodes DS1 through DS8 are used for display of auto test results. A test board is used to execute self test routines. When the test board is installed, Auto_Test_1 is held low and Auto_Test_2 is allowed to float at 5 Vdc. This is the signal to start the auto test routines.

U3 and U4 are used to selectively enable various input and output ICs found on page 2 and 3 of the schematic.

U1 has two serial ports available. In this application, one port is used to communicate with transmitter system components where U1 is the master of a RS-485 serial bus. The other serial port is used to provide serial data I/O where U1 is not the master of the data port. A dual RS-232 port driver IC and a RS-485 port driver is also in the second serial data I/O system. The serial ports are wired such that serial data input can come through one of the three serial port channels. Data output is sent out through each of the three serial port channels.

Switch SW1 is used to select either transmitter operation or exciter driver operation. When the switches of SW1 are on, transmitter operation is selected and the power monitoring lines of the transmitter's power amplifier are routed to the system power monitoring lines.

PAGE 2:

Digital output latches are used to control system devices. Remote output circuits are implemented using open drain FET's with greater than 60 Volt drain to source voltage ratings.

Remote digital inputs are diode protected with a 10khm pull-up resistor to 5Vdc. If the remote input voltage is greater than about 2 volts or floating, a FET is turned on and a logic low is applied to the digital input buffer. If the remote input voltage is less than the turn on threshold of the FET (about 2 Vdc), a logic high is applied to the digital input buffer.

Four of the circuits on page two are auxiliary I/O connections wired for future use. They are wired similar to the remote digital inputs but include a FET for digital output operation. To operate these signals as an input, the associated output FET must be turned off. These circuits are also connected to an analog input multiplexer IC.

PAGE 3:

Several ICs are used as input buffers to allow the microcontroller to monitor various digital input values. Most digital inputs use a 10 Kohm pull-up resistor. The buffer IC used for data transfer to the display is wired for read and write control.

PAGE 4:

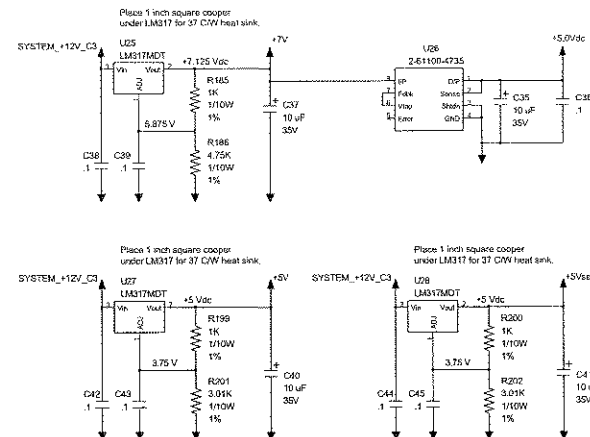
Each analog input is expected to be between 0 and 5 Vdc. If a signal exceeds 5.1 Vdc, a 0.225 Watt zener diode clamps the signals voltage. Most signals are calibrated at their source however two dual serial potentiometer ICs are used to calibrate four signals. For these four circuits, the input value is divided in half before it is applied to an op-amp. The serial potentiometer is used to adjust the input signal between 80 and 120% of the input signal. Serial data to the second serial potentiometer is transferred through the first IC. The wiper position of the digital potentiometer circuit is used to set the gain of the op-amp. Lower digital values for the wiper setting increases the gain of the op-amp. If N= 0, gain = 6.0. If N = 255, gain = 3.00. If Vin = 1.0 at spare_Ain_1 and N = 128, U21A out = 4.0V with gain = 4.

Two 20 position connectors are used to provide power to the backplane. J62 and J63 get power from the power supply after a nominal 3 amp resettable fuse. The Raychem polyswitch resettable fuses may open on a current as low as 2.43 amps at 50C, 3 amps at 25 C or 3.3 amps at 0C. They definitely will open when the current is 4.86 amps at 50C, 6 amps at 20C, or 6.6 amps at 0C. Trace widths of these circuits are 0.140" (designed for maximum current).

PAGE 5:

Each of the four LED circuits drive a dual element common cathode LED. To make a good amber color, the current applied to the green element is slightly greater than the red element.

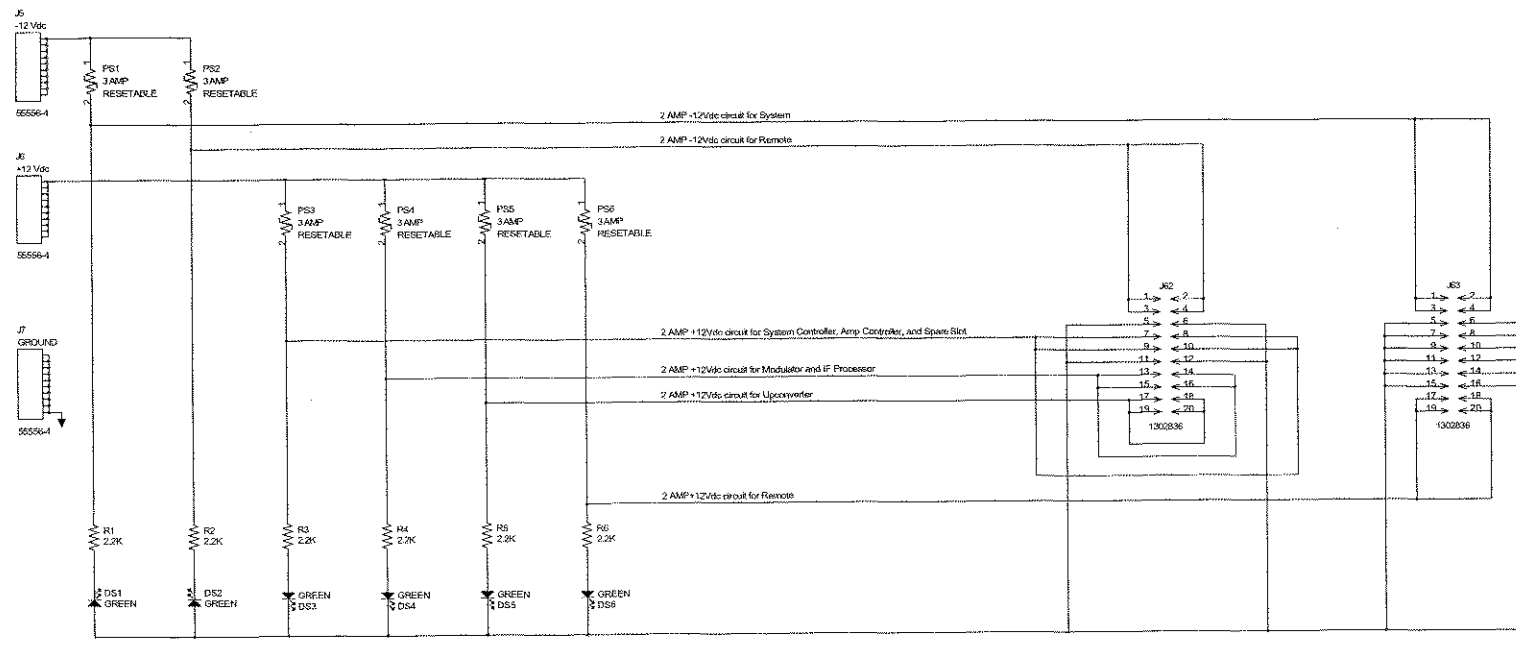
Several voltage regulators are used to power the board. Seven volts is typically applied to board LEDs and to the input of a precision 5.0 volt regulator. The 5.0 volt regulator is used for analog circuits and the microcontroller analog reference voltage. Another two 5 volt regulator circuits are used for most other board circuits.



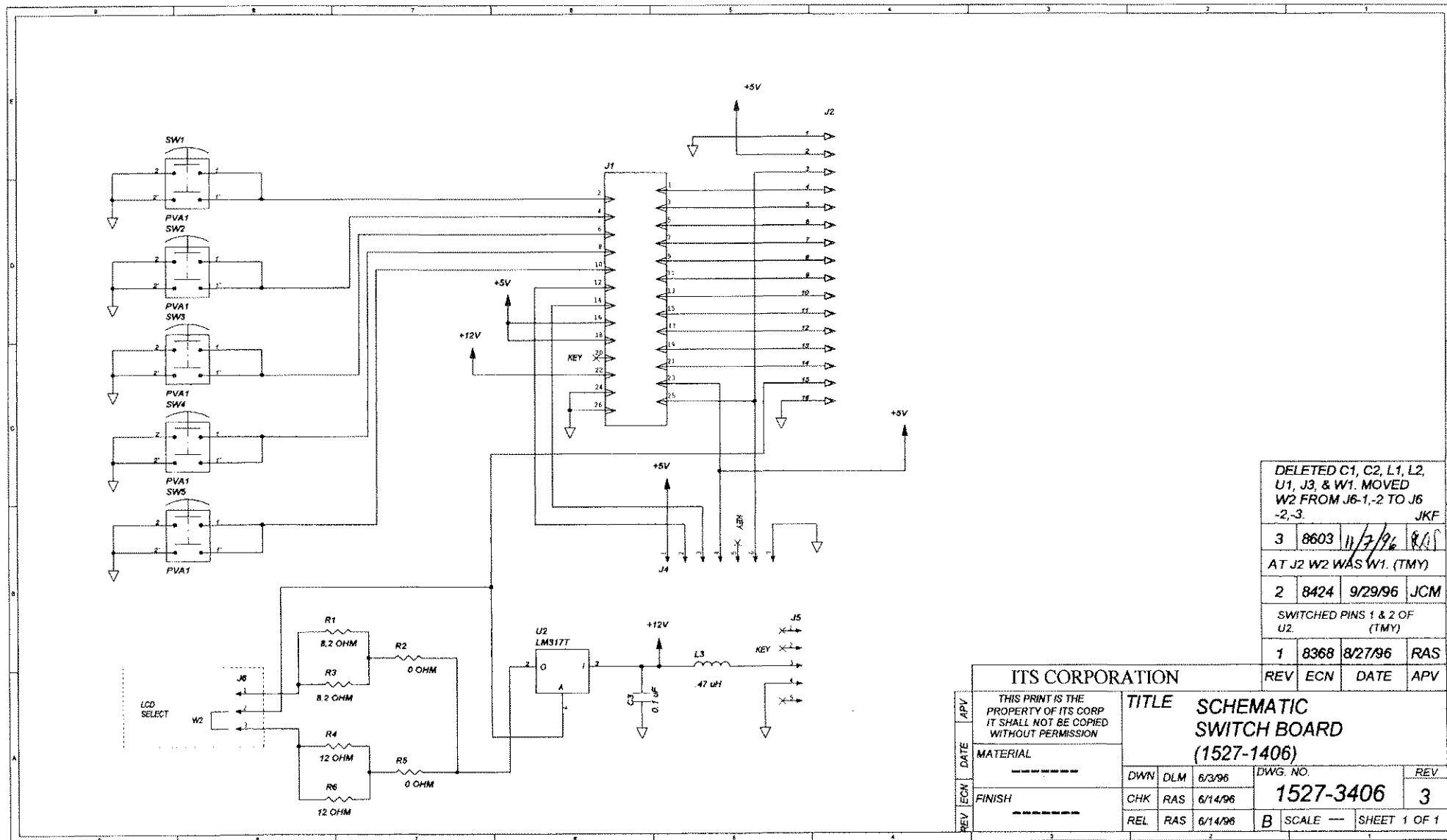
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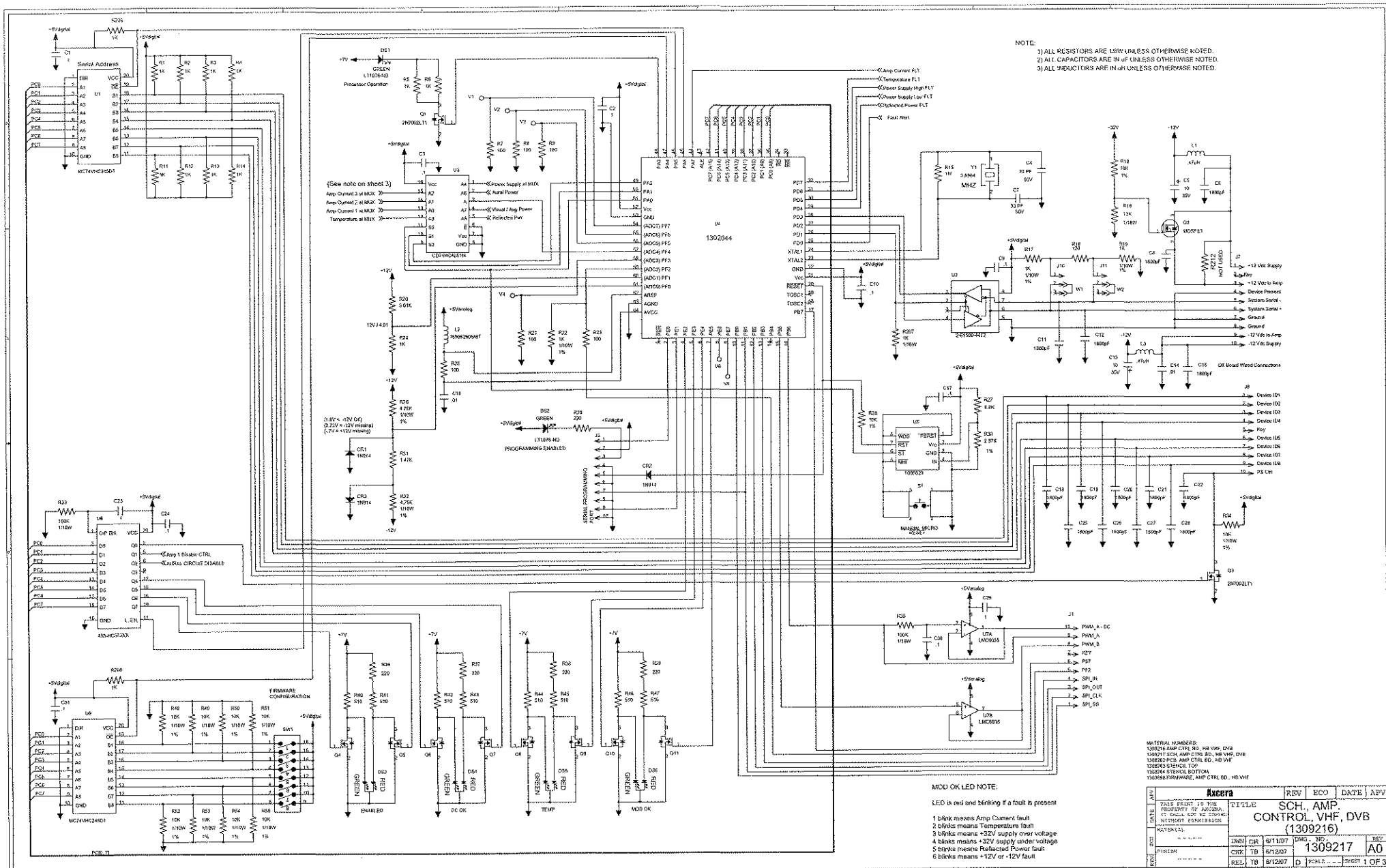
R202
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C37
DS14
U28
VR22
J63
TP17
V23
SW2
CR11
W2
Y1
L2
S1

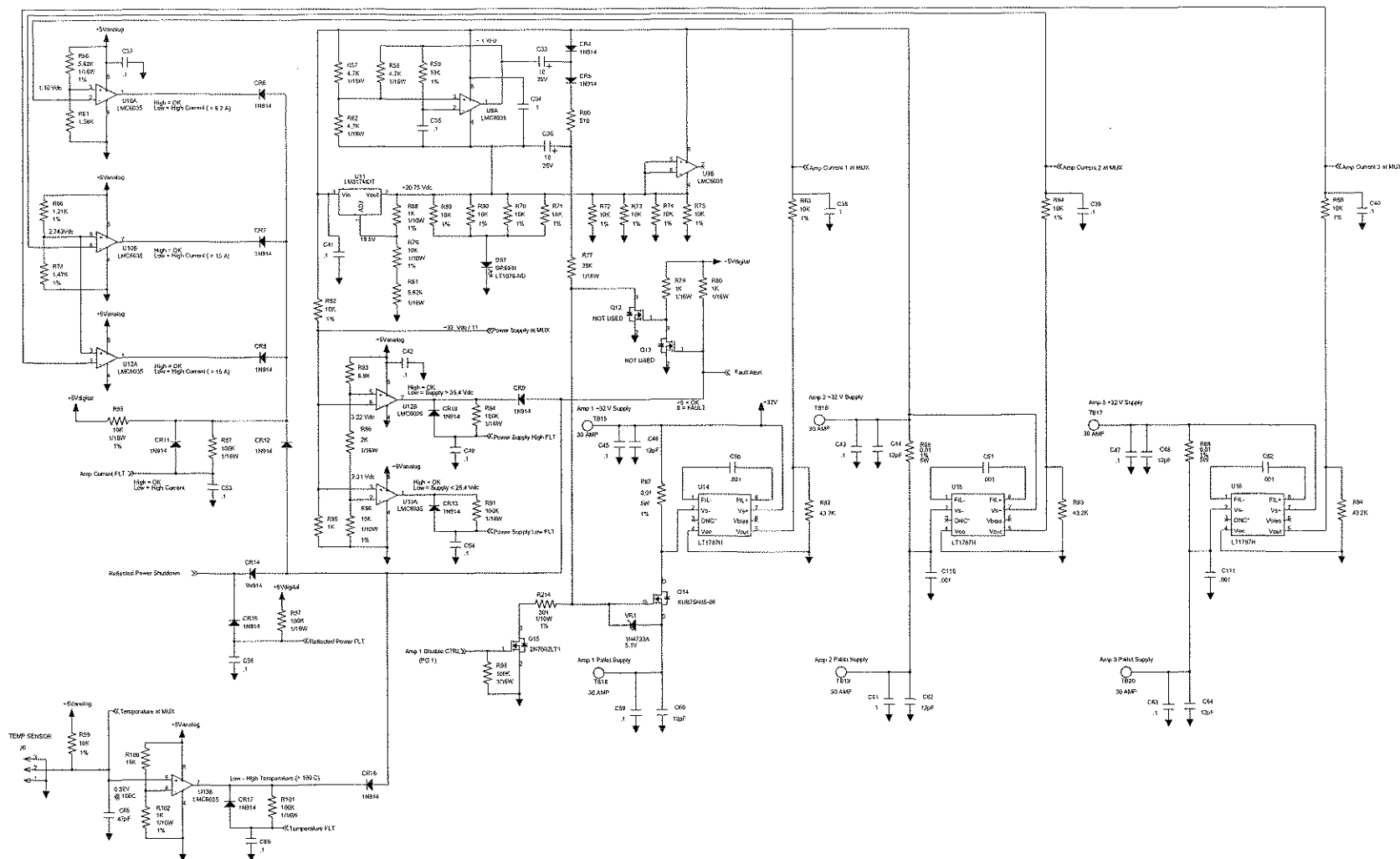
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REV	Axcera		REV	ECO	DATE	APP
DATE	THIS PROJECT IS THE PROPERTY OF AXCERA, IT WILL NOT BE LOANED WITHOUT PERMISSION		TITLE SCH. PIONEER, PWR PROTECT (1302837)			
NO	MATERIAL		QTY	REQ	SIZE	REV
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FINISH	-----		QTY	REQ	SIZE	REV
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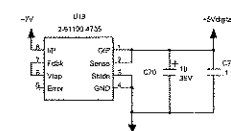
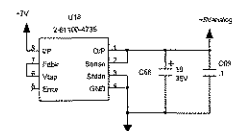
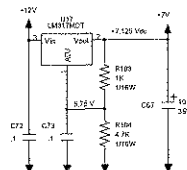






NOTE:

A track width of 0.3 inch is needed between power input vias and sense resistors R55,R56,R57. 0.3 inch track width is also needed between the output of the sense resistors and the output vias that provide power to the amplifier pallets.



Axcera				REV	ECO	DATE	APV
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DRAWN				CR	2/11/07	1309217	A0
CHECKED				TB	8/12/07		
REL				TB	8/12/07		
SCALE				FIRST 2 OF 3			

