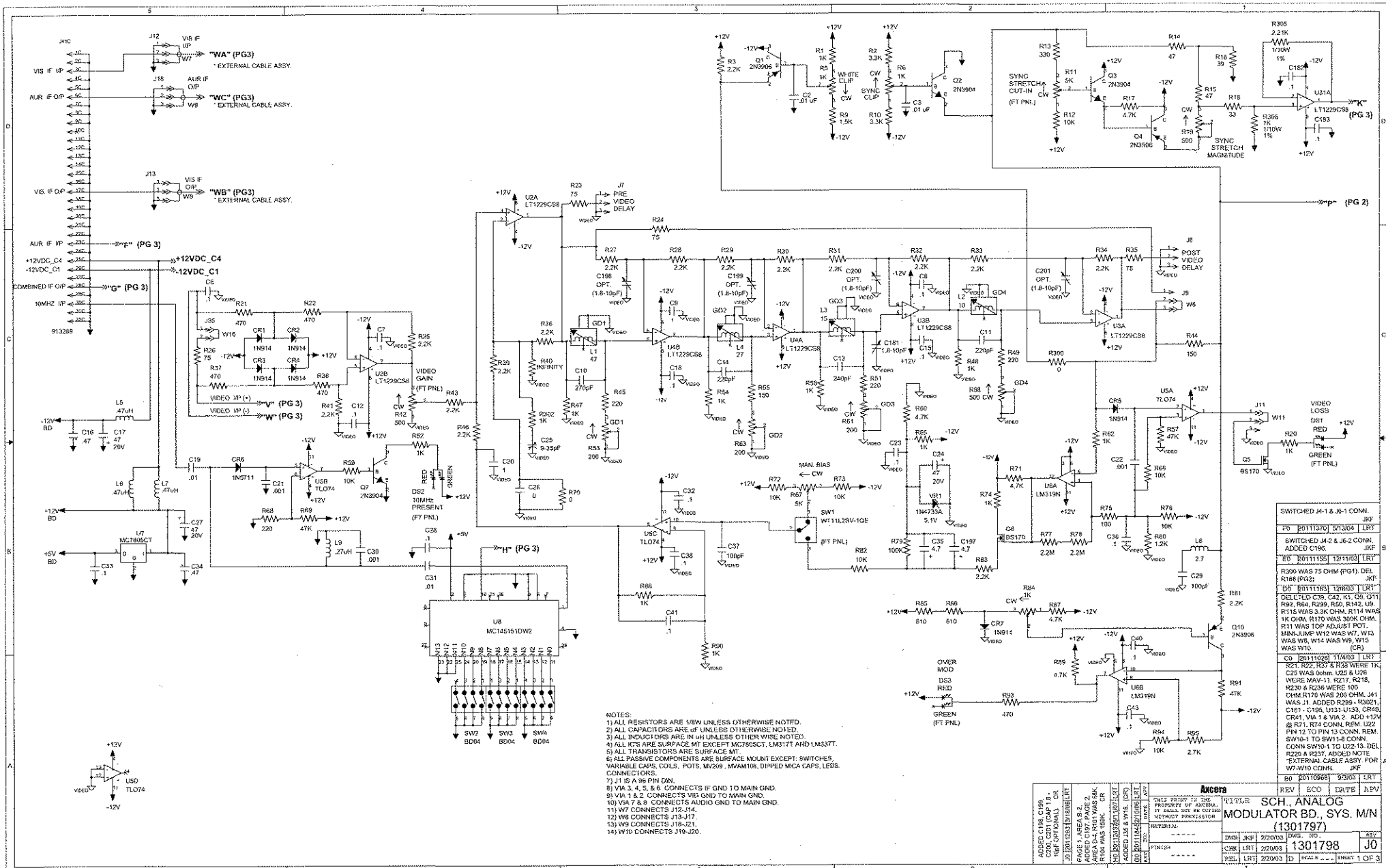
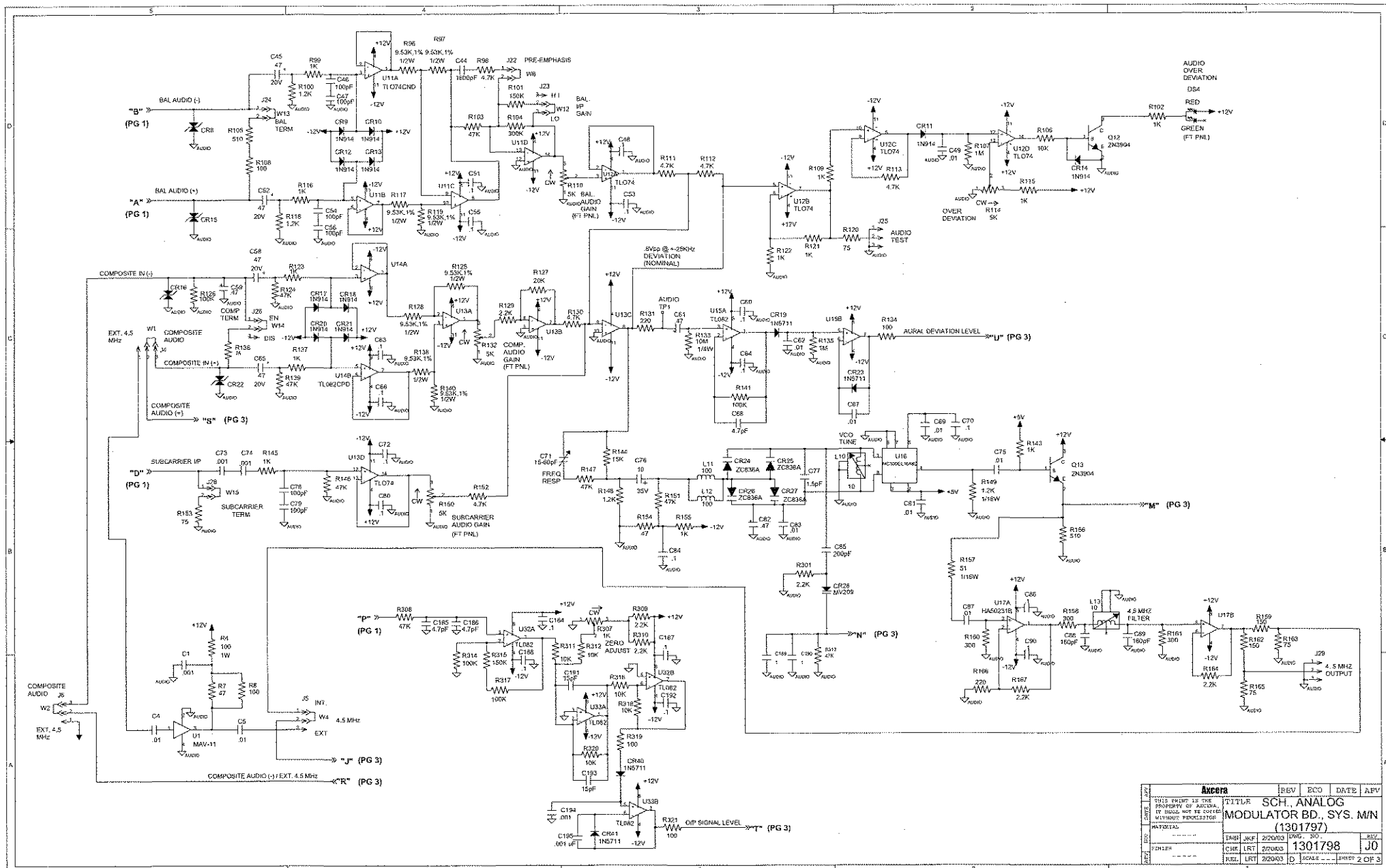
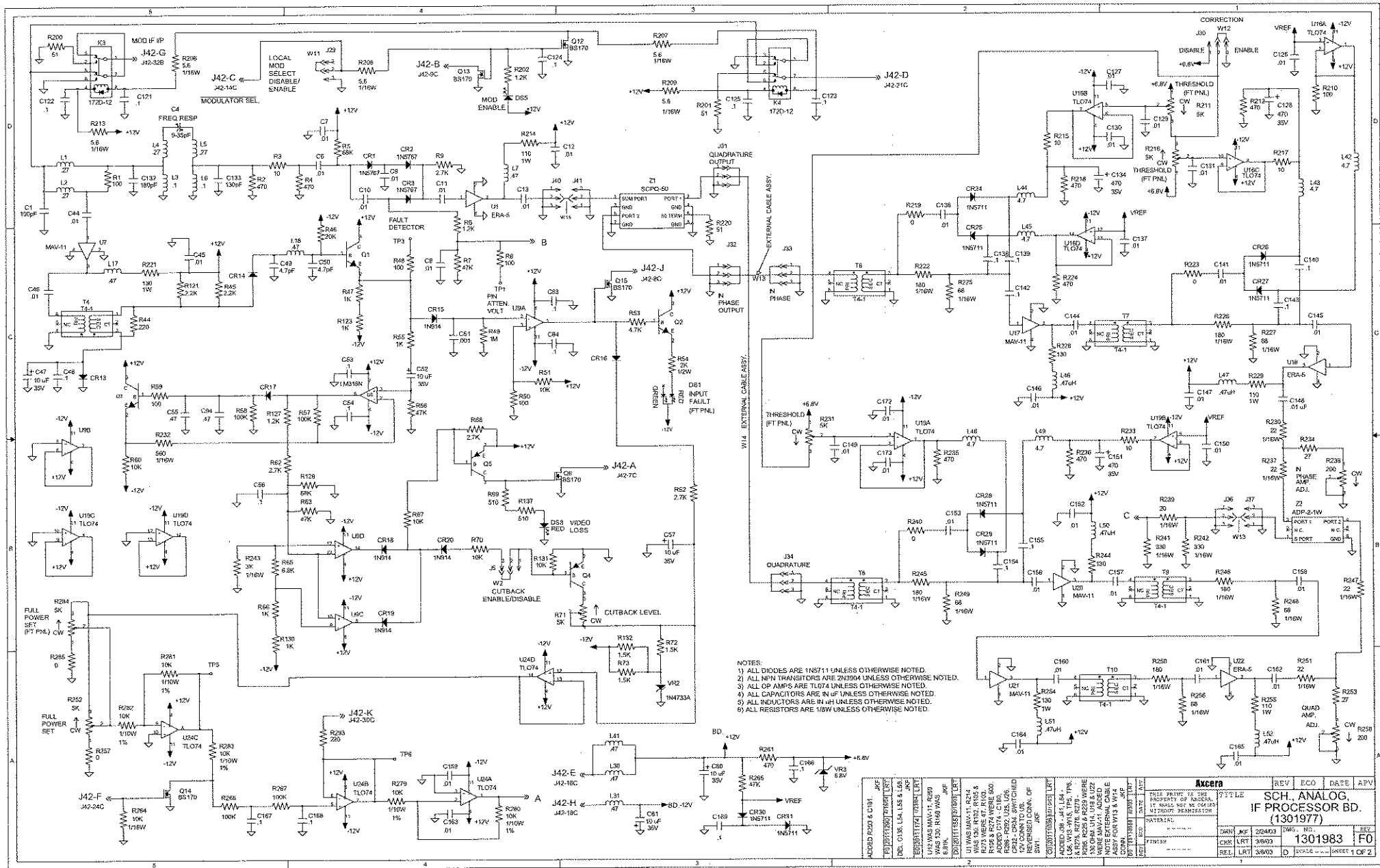


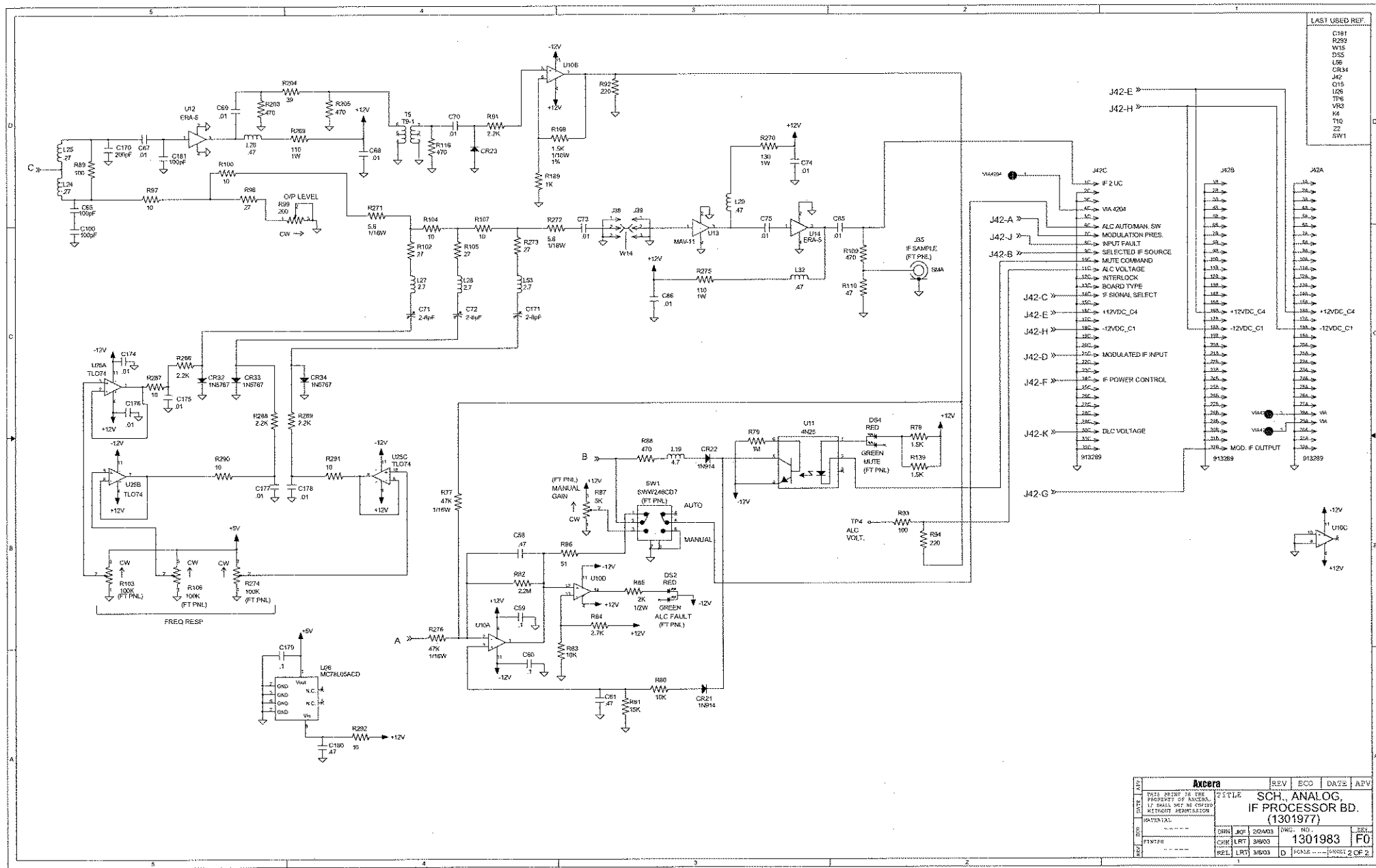




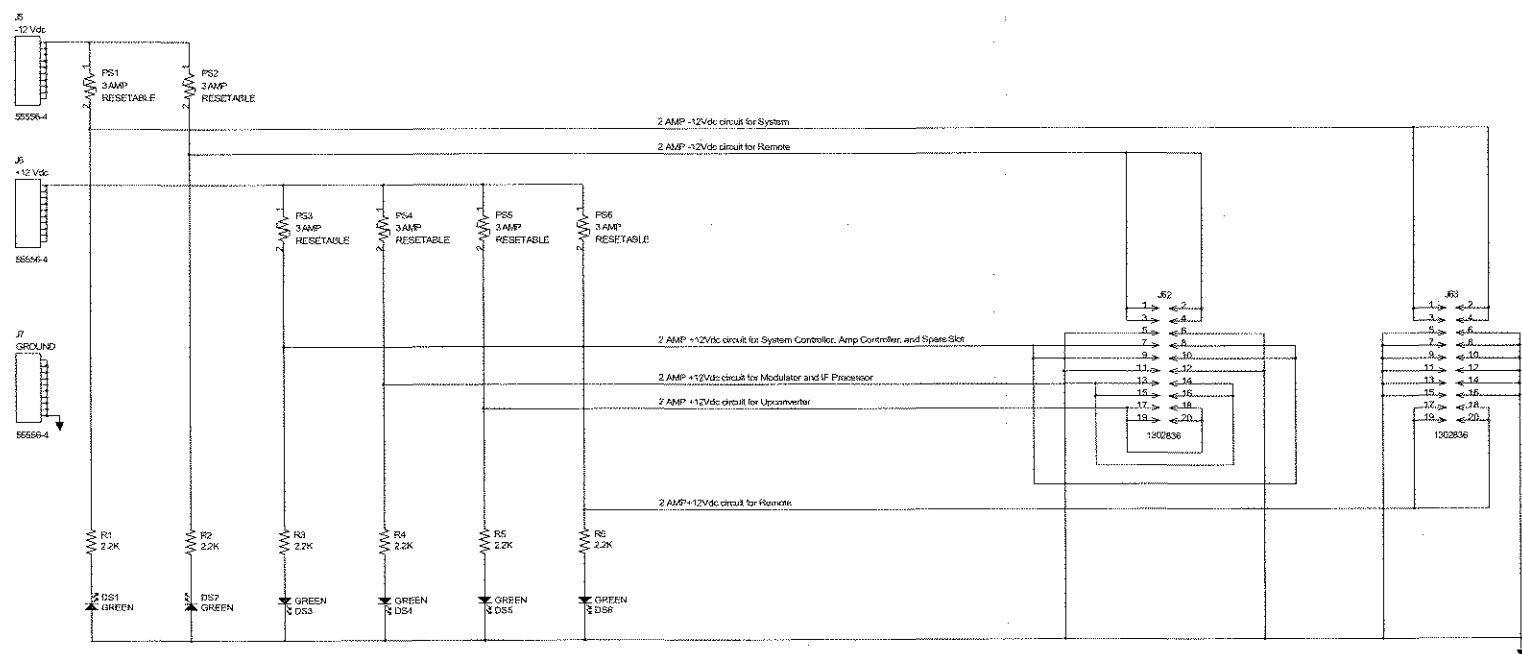
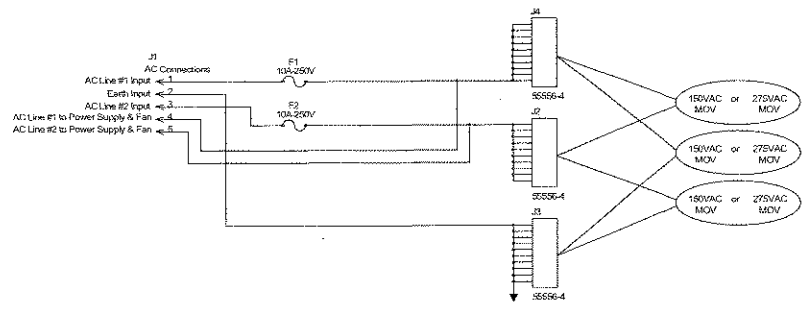
Ancora		REV	ECO	DATE	APV
TITLE		SCH. ANALOG			
MODULATOR BD. SYS. M/N		1301797			
PARTS LIST		1301798			
REV		J0			
REL		20003			
REL		20003			
REL		20003			



Axcera				REV	ECO	DATE	APV
SCH. ANALOG IF PROCESSOR BD. (1301977)							
DATE	REV	ECO	DATE	APV			
1301977	1		1301983	F0			
REL	LRT	39003	D	SCALE			



Axcera		REV	ECO	DATE	APV
THIS PRINT IS THE PROPERTY OF AXCERA. IT SHALL NOT BE COPIED WITHOUT PERMISSION.		TITLE			
DATE		SCH. ANALOG.			
PARTIAL		IF PROCESSOR BD.			
REV		(1301983)			
PARTIAL		DATE	2003	WKG. NO.	
REV		DATE	2003	1301983	F0
PARTIAL		REV	1.0	SCALE	2 OF 2



Circuit Design Notes:

1. Track widths of 0.140 inch minimum top and bottom of board shall be used to connections to J1, J2, J3, J4.
2. Track widths of 0.140 inch minimum top of board shall be used to connections to J5 and J6.
3. Track widths of 0.065 inch minimum shall be used to connections to J62 and J63.
4. Track widths of 0.020 inch minimum shall be used to connections between LEDs and resistors.
5. Board BOM needs the following items added to those exported from Orcad:

Part Number	Qty	Description
162071	4	Pulse Clip, PC BD Mnt., 15 Amp

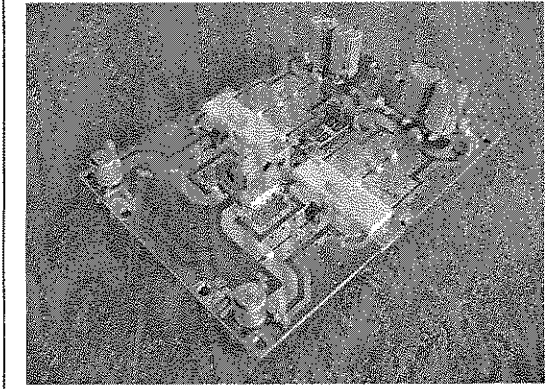
MATERIAL NUMBERS:
 1302837 PIONEER, POWER PROTECTION
 1302838 PCB, PIONEER, PWR PROTECT
 1302839 SCH, PIONEER, PWR PROTECT
 1302840 STENCIL FOR 1302838

Axcera		REV	ECO	DATE	APV
THIS PRINT IS THE PROPERTY OF AXCERA. IT SHALL NOT BE COPIED, REPRODUCED, OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM.					
TITLE SCH, PIONEER, PWR PROTECT (1302837)		DRN	REV	5/20/03	ENG. NO.
DRAWN		CHK	REV	5/20/03	1302839
FINISH		REL	REV	5/20/03	D
SHEET 1 OF 1					

600W pep -27dBc min LDMOS Technology

Designed for analog and digital TV transposers and transmitters, this amplifier incorporates micro-strip technology and push-pull LDMOS to enhance ruggedness and reliability. Patented bias control and matching circuit.

- 470 - 862 MHz
- (42 +50 Volt) 43 Nominal
- Input/Output 50Ω - 50Ω
- P_{out} : 600W pep -27 dBc min (2-tone test 100KHz spacing)
- Gain : 14 dB min; 16 dB typ
- Class AB
- Devices: BLF878 or equivalent
- Connectorized version available (SMA/N Output)
- No mechanical trimmers - maximizes MTBF



ABSOLUTE MAXIMUM RATINGS (Device Flange T = 70 °C)

Symbol	Parameter	Value	Unit
V _s	Drain-Source Voltage (without RF)	80	V dc
I _s	Current Supply	40	A dc
T _{stg}	Storage Temperature Range	-20 + 80	°C
T _c	Operating Base Plate Temperature ¹	0 + 75 ²	°C
ψ	VSWR max	3:1 all phase angle	-
	Max input power	See note ³	-
	Max cw output power	400	Watt

ELECTRICAL SPECIFICATIONS (Base Plate T_c = 45 °C, 50Ω loaded, V_d = 43 V)

Symbol	Parameter	Test Conditions	Value			Unit
			Min	Typ.	Max	
BW	Bandwidth	P _{out} = 300 W (CW)	470		862	MHz
G _p	Power gain	P _{ref} = 200 W (CW)	14	16	-	dB
1dB cp	Power Output @ 1dB cp	Referred to P _{out} = 80W (CW) ⁴	500	650	-	W
I _q *	Quiescent Current	P _{out} = 0 W - Total * ⁵	-	-	4.0	A
I _{tot}	@ P _{Max}	500W Ps Black Level Video + Audio	-	-	30	A
I _{rl}	Input return loss	P _{out} = 300 W CW	15	20	-	dB
ψ	Load mismatch	P _{ref} = 300 W CW, f = 862MHz, load VSWR = 2:1, all phase angles ⁶	No degradation in P _{out}			
G _r	Gain Flatness	P _{ref} = 300 W CW, BW: 470-862MHz		±0.5	±1.5	dB
η	Drain Efficiency	P _{out} = 400 W ⁷ (CW)	40	45	-	%
	P _{out} DVB-T	P _{out} 140Wrms without precorrection		140		W rms
	IMD (Inside the Channel)	P _{out} 450W ps common ampl. dual sound, with Red Field sound 1 @ -13dB and sound 2 @ -20dB without precorrection	-46	-50		dBc
	P _{out} common ampl	P _{out} 450W ps common ampl. dual sound, with Red Field sound 1 @ -13dB and sound 2 @ -20dB without precorrection	-46	-50		dBc
	Shoulders @ +/-4.2MHz	P _{out} 140Wrms (DVB-T) without precorrection	-28	-32		dBc

¹ A temperature sensor is mounted on the circuit to have an immediate working temperature measurement.

² Warning: The base plate temperature must be 75 °C max, using an appropriate heatsink.

³ Warning: The input power must not exceed +6dB, for 300 nanosecond, the nominal input power referred to the 1dBcp power output, or nominal input power to obtain 100W DVB-T Output. Power, See plot "A"

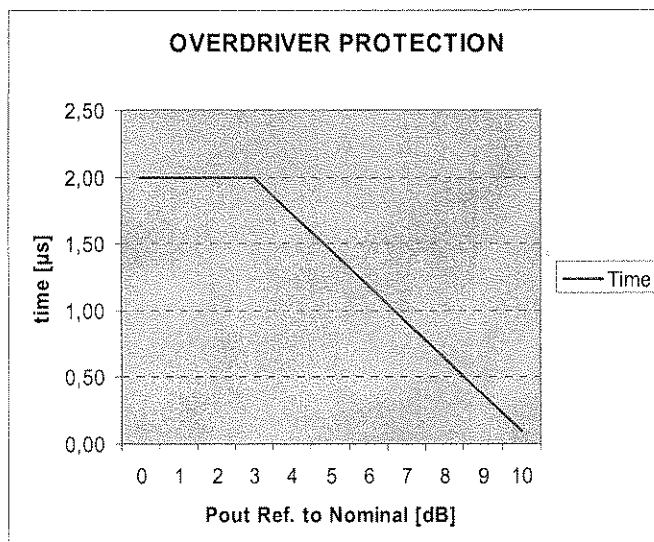
⁴ Max 400W CW continuous work

⁵ The Quiescent Current is set at optimal value, in factory. This parameter can be fine adjusted by means of the IR Bias Control Unit (option) depending on the applied signal and/or frequency and output power (See LDMOS Technology Note). (Warning: Do not exceed the specified max I_q value).

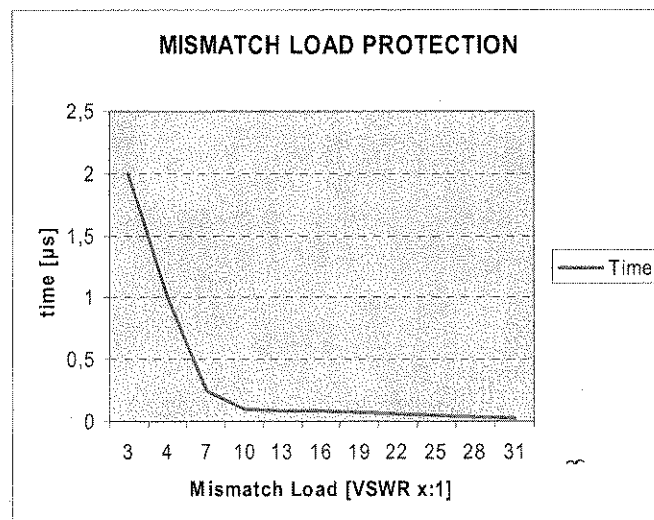
⁶ Warning: In case of DVB-T or DTV application nominal performance are warrant up to 1,8 : 1 load VSWR . If load mismatch exceed this value a specific protection circuit must be used, typical shutting down answer time is showed in the plot "B"

⁷ Do not keep the amplifier working at this P_{out} for more than one minute.

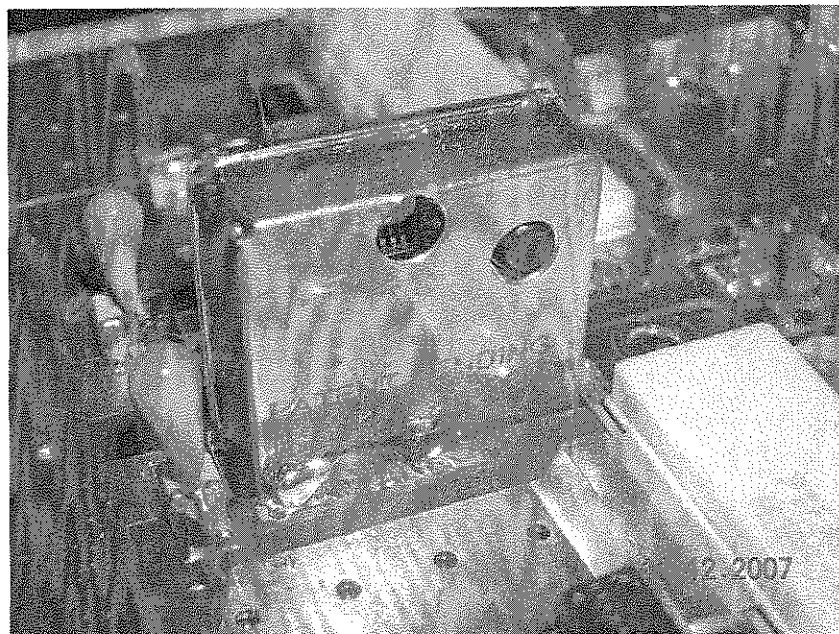
Contacts: Res-Ingenium, +39 0763 316333 Fax +39 0763316002- or visit www.res-ingenium.com



PLOT "A"



PLOT "B"



SMART BIAS SPECIAL FEATURES

- No mechanical trimmers to increase reliability
- Unmatched stability of the rest current (I_q) in the range of -30 to +100 deg.C (flange temperature)
- Built-in over temperature protection
- Built-in soft start for switch-on at extreme low temperatures (for outdoor application)
- Bias factory settings stored in memory

IR COMMANDS

- Current control (Left and right power device)
- Shut down (pallet switch-off)
- Look-up table bias values activation via IR port (Bias factory settings stored in memory)

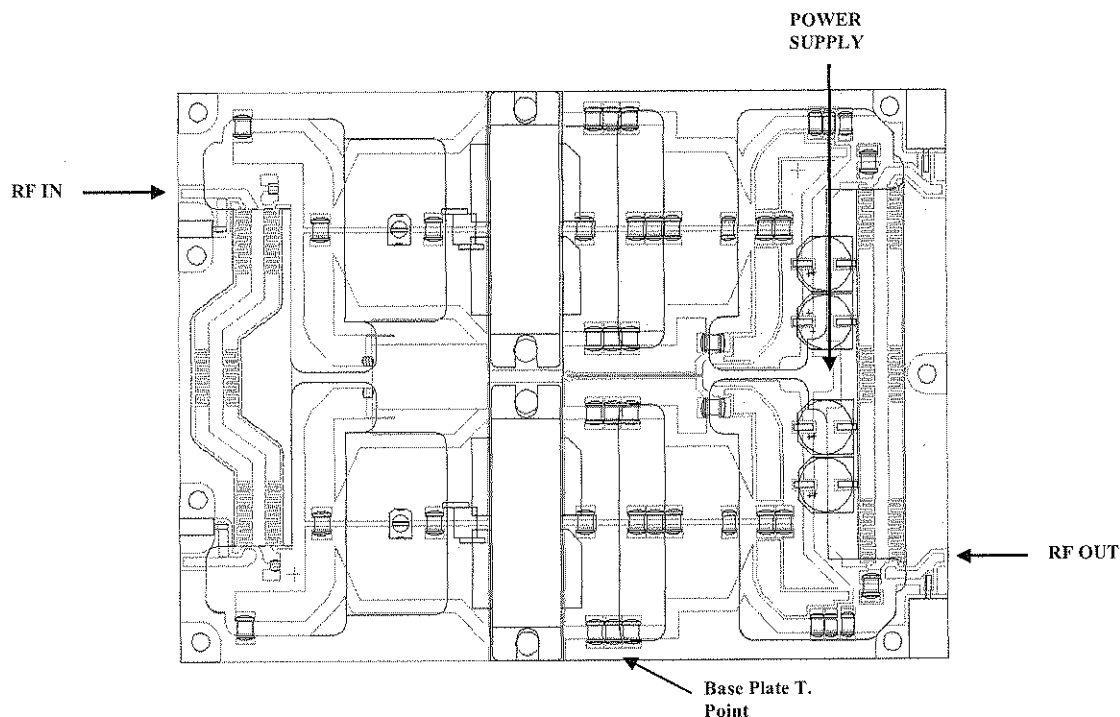
Note

IR bias control unit (shown above with LDU661C) is available upon request. (OPTIONAL)
The picture here above do not necessary represent the final version of the Ir Bias Control Unit

Contacts: Res-Ingenium, +39 0763 316333 Fax +39 0763316002- or visit www.res-ingenum.com

LDU661C	Issue: 0 Date: 31/03/2008	Rev: Date:	Pag. 3/6
---------	------------------------------	---------------	----------

LDU661C Layout and Connections⁸



NOTE. In response to customer request, this pallet has been designed to allow two different positions of IN/OUT connections: /TL = connection on the left side, /TR = connection on the right side.

HEATSINK MOUNTING/HARDWARE

1. HEATSINK TOOLING

- Planarity: typical value 0.8
- Roughness: better than 0.03 mm

2. THERMAL COMPOUND

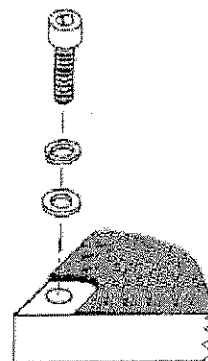
- Paste with silicones
- Thickness: optimum between 0.06 mm and 0.15 mm, on the whole back surface of the amplifier.

3. SCREWS

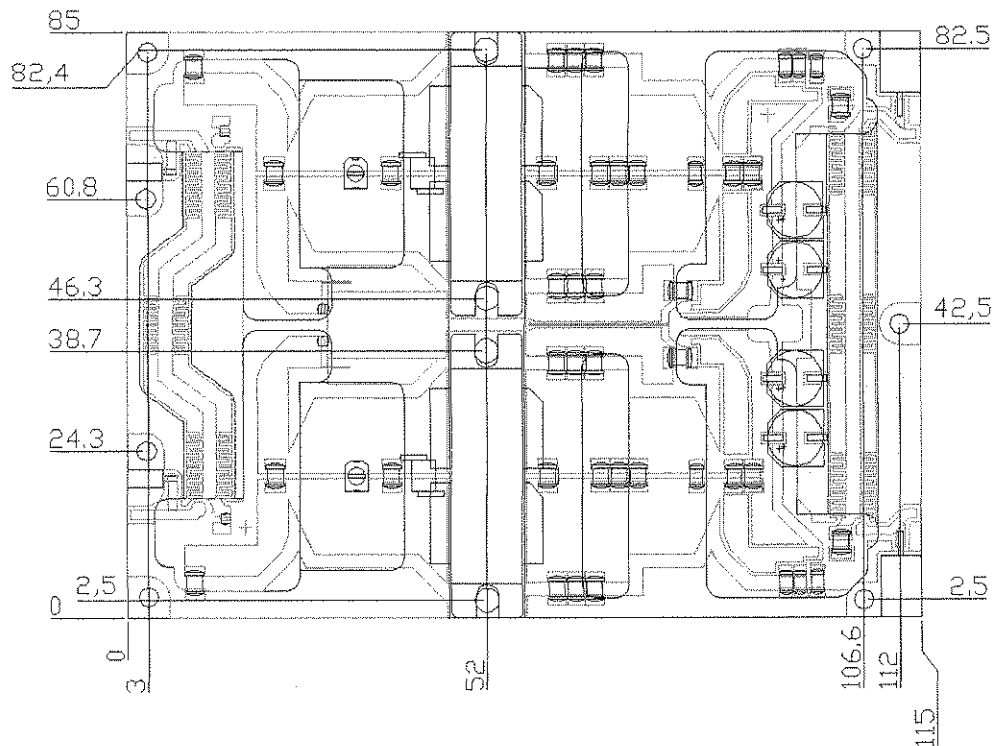
- 11 x M2.5 - Socket head cap screws.
- 8 Split lock washers WZ Ø3 + 8 Flat washers ZU Ø3.
- The recommended Torque is 12 Kg/cm for M3 type screws and 10 Kg/cm for M2.5 type screws.

4. TIGHTENING ORDER

- See next figure:



⁸ RES provides the pallet without unbalanced load resistors (input 50 Ohm 20W/output 50 Ohm 100W. Dimensions: 13 x 6.3mm, about, 1 hole).



Dimensions in mm.

WARNING

In the interest of continual product improvement all specifications are subject to change without notice

Res-Ingenium

Via dei Vasari, 17
Zona Industriale Fontanelle di Bardano
05018 Orvieto (TR)
Italy
Telephone: +39 0736 316333
Fax: +39 0763 316002
Internet: res-ingenium.com
E-Mail: map@res-ingenium.com

IMPORTANT NOTICE

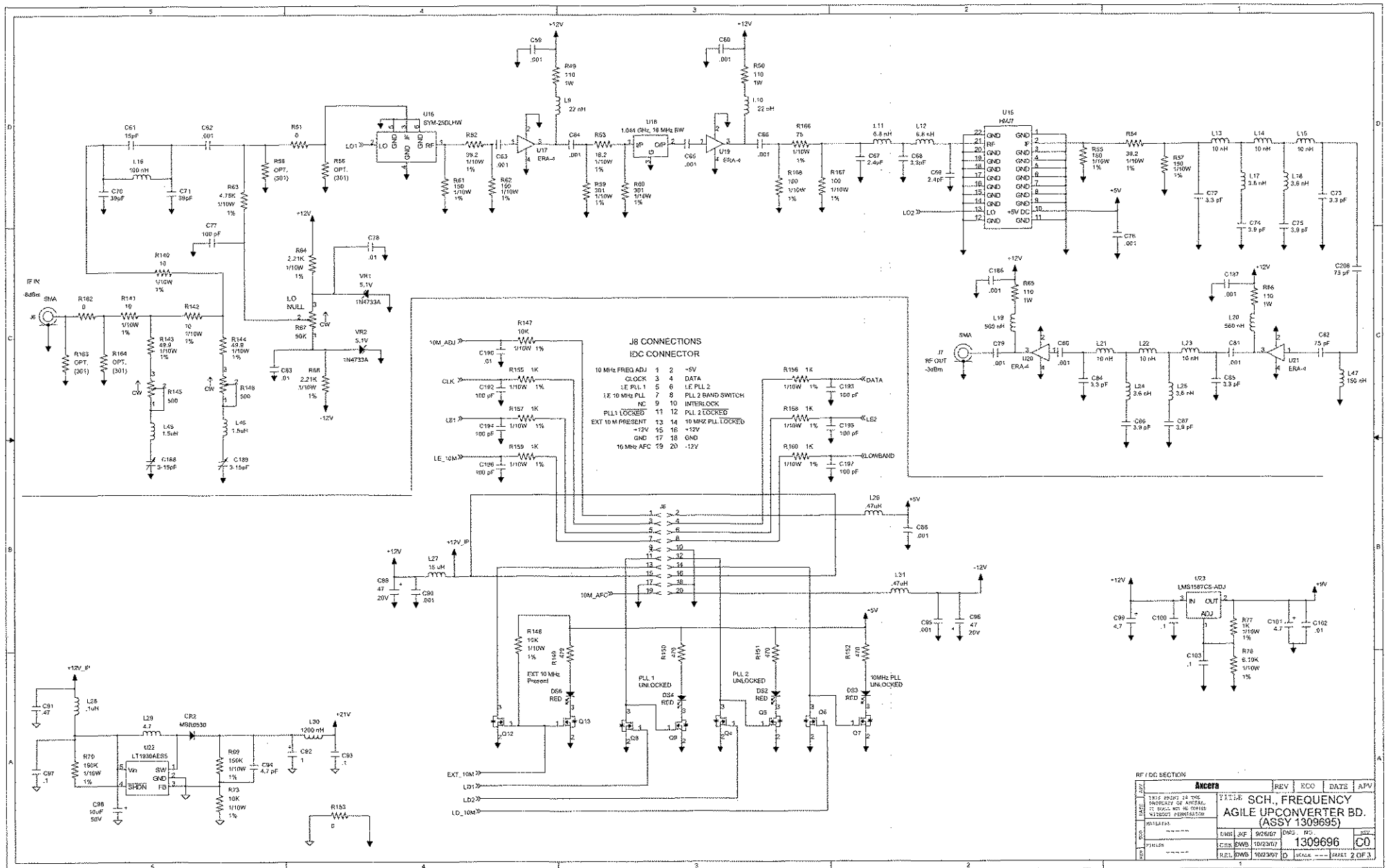
RES-INGENIUM RESERVE THE RIGHT TO MAKE CHANGES TO THE PRODUCT(S) OR INFORMATION CONTAINED HEREIN WITHOUT NOTICE. RES-INGENIUM ASSUMES NO RESPONSIBILITY FOR ANY ERRORS WHICH MAY APPEAR IN THIS DOCUMENT.

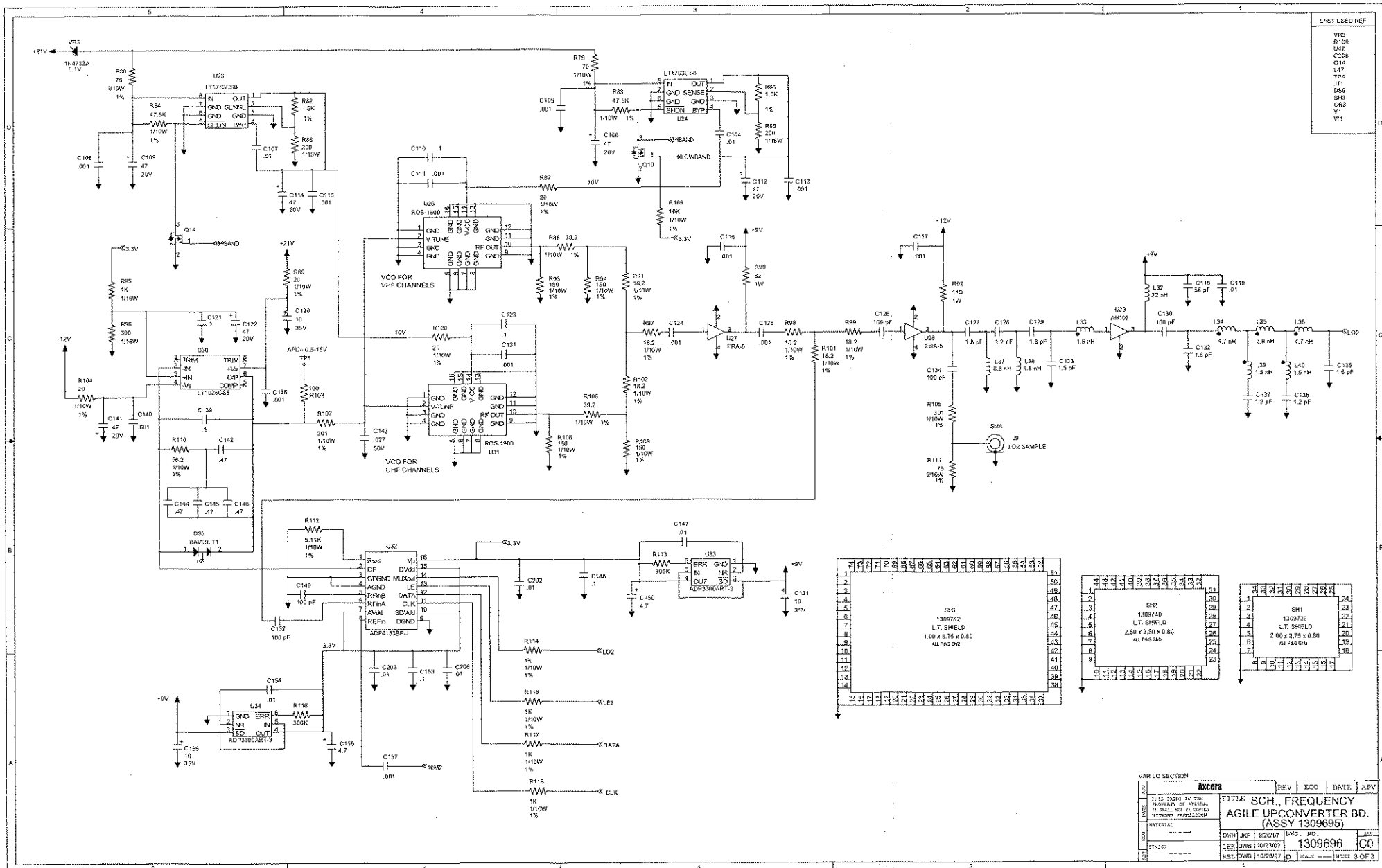
WARRANTY INFORMATION APPLICABLE TO THE PRODUCT IDENTIFIED HEREIN IS AVAILABLE UPON REQUEST. NOTHING CONTAINED HEREIN SHALL CONSTITUTE A WARRANTY, REPRESENTATION OR GUARANTEE OF ANY KIND. RES-INGENIUM EXPRESSLY DISCLAIMS ALL OTHER WARRANTIES, EXPRESS AND/OR IMPLIED INCLUDING BUT NOT LIMITED TO WARRANTIES OF MERCHANTABILITY, AND OF FITNESS FOR A PARTICULAR PURPOSE, USE OR APPLICATION.

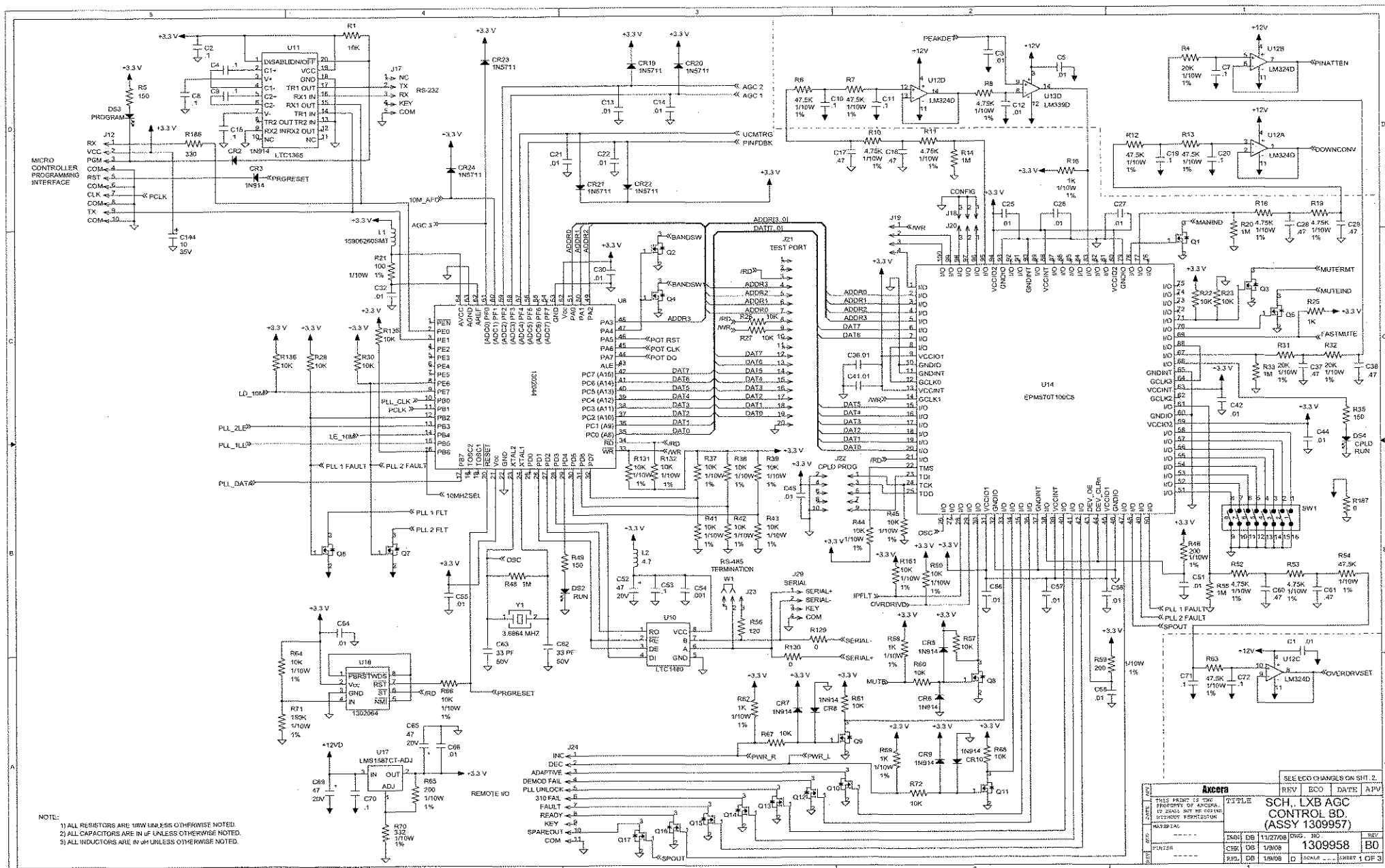
No part of this document may be copied or reproduced in any form or by any means without the prior written consent of Res-Ingenium.

WARNING

RES-INGENIUM PRODUCTS ARE NOT INTENDED FOR USE IN LIFE SUPPORT APPLIANCES, DEVICES OR SYSTEMS. USE OF A RES-INGENIUM PRODUCT IN ANY SUCH APPLICATION WITHOUT WRITTEN CONSENT IS PROHIBITED.

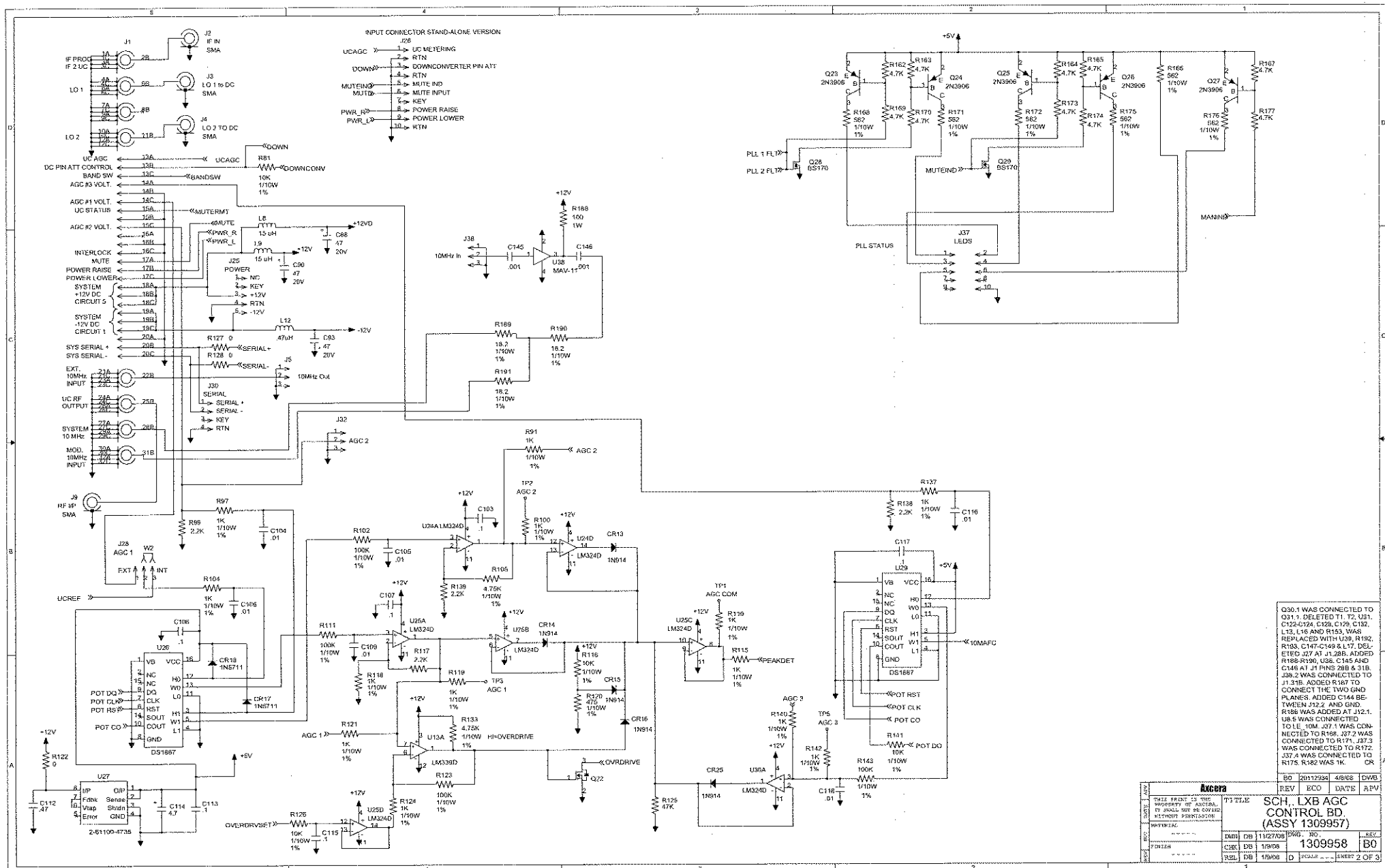


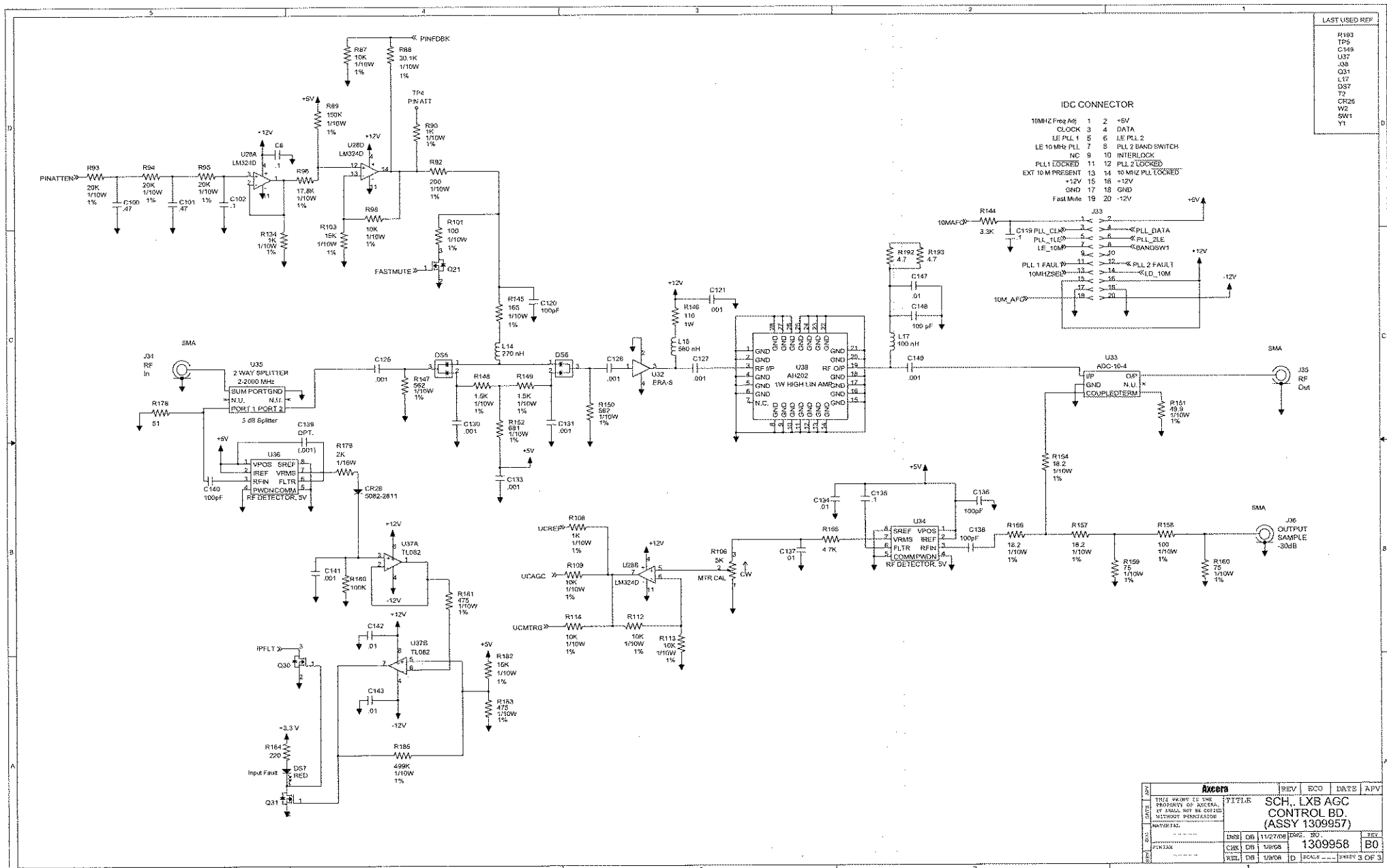




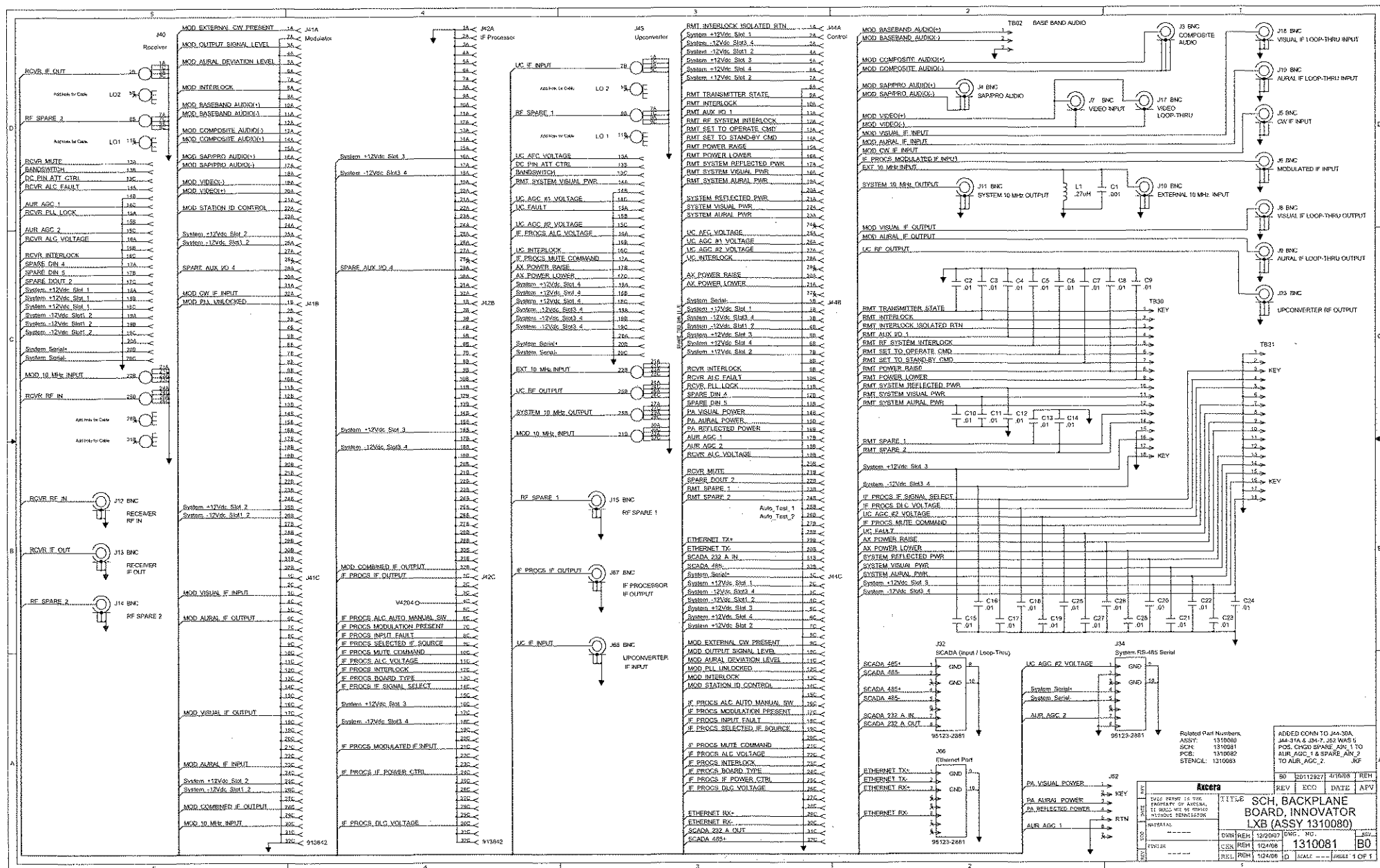
1) ALL RESISTORS ARE 1%W UNLESS OTHERWISE NOTED.
2) ALL CAPACITORS ARE IN μF UNLESS OTHERWISE NOTED
3) ALL INDUCTORS ARE IN μH UNLESS OTHERWISE NOTED.

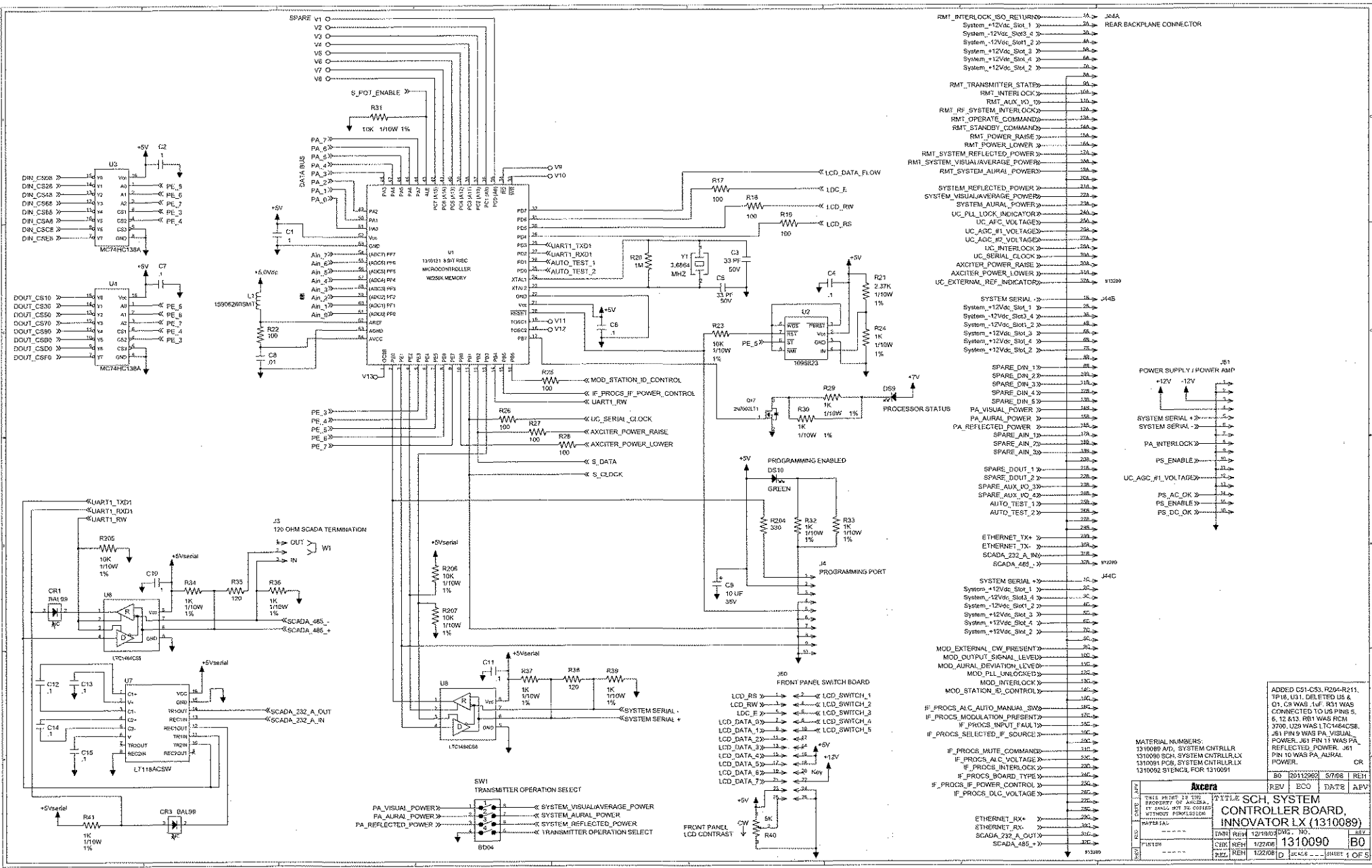
				SEE ECO CHANGES ON SHT. 2.	
		Axcera		RSV	DATE
NO.				LCB	APV
		THIS PRINT IS THE PROPERTY OF THE COMPANY. IT IS LOANED TO YOU FOR YOUR INFORMATION ONLY.		SCH. EXO AGC	
		MASTERIAL		CONTROL BD.	
				(ASSY 1309957)	
		EXCH	DB	11/27/08	WKG. NO.
					REV
		CHG	DB	1/8/08	1309958
		PLD	DB	1/8/08	Q
					ISSUED 1 OF 3

[illegible]



REV		ECO	DATE	APV
1			11/27/08	BO
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				
31				
32				
33				
34				
35				
36				
37				
38				
39				
40				
41				
42				
43				
44				
45				
46				
47				
48				
49				
50				
51				
52				
53				
54				
55				
56				
57				
58				
59				
60				
61				
62				
63				
64				
65				
66				
67				
68				
69				
70				
71				
72				
73				
74				
75				
76				
77				
78				
79				
80				
81				
82				
83				
84				
85				
86				
87				
88				
89				
90				
91				
92				
93				
94				
95				
96				
97				
98				
99				
100				
101				
102				
103				
104				
105				
106				
107				
108				
109				
110				
111				
112				
113				
114				
115				
116				
117				
118				
119				
120				
121				
122				
123				
124				
125				
126				
127				
128				
129				
130				
131				
132				
133				
134				
135				
136				
137				
138				
139				
140				
141				
142				
143				
144				
145				
146				
147				
148				
149				
150				
151				
152				
153				
154				
155				
156				
157				
158				
159				
160				
161				
162				
163				
164				
165				
166				
167				
168				
169				
170				
171				
172				
173				
174				
175				
176				
177				
178				
179				
180				
181				
182				
183				
184				
185				
186				
187				
188				
189				
190				





RMT_INTERLOCK_ISO_RETURN	1A	J6A
System_+12Vdc_Slot_1	2A	REAR BACKPLANE CONNECTOR
System_+12Vdc_Slot3_4	3A	
System_+12Vdc_Slot1_2	4A	
System_+12Vdc_Slot_3	5A	
System_+12Vdc_Slot_4	6A	
System_+12Vdc_Slot_2	7A	
RMT_TRANSMITTER_STATUS	8A	
RMT_INTERLOCK	10A	
RMT_AUX_V0_10	11A	
RMT_RR_SYSTEM_INTERLOCK	12A	
RMT_OPERATOR_COMMAND	13A	
RMT_STANDBY_COMMAND	14A	
RMT_POWER_RAISE	15A	
RMT_POWER_LOWER	16A	
RMT_SYSTEM_REFLECTED_POWER	17A	
RMT_SYSTEM_VISUALAVERAGE_POWER	18A	
RMT_SYSTEM_AURAL_POWER	19A	
SYSTEM_REFLECTED_POWER	20A	
SYSTEM_VISUALAVERAGE_POWER	21A	
SYSTEM_AURAL_POWER	22A	
UC_PLL_LOCK_INDICATOR	23A	
UC_AFC_VOLTAGE	24A	
UC_AGC_#1_VOLTAGE	25A	
UC_AGC_#2_VOLTAGE	26A	
UC_INTERLOCK	27A	
UC_SERIAL_CLOCK	28A	
AXCITER_POWER_RAISE	29A	
AXCITER_POWER_LOWER	30A	
UC_EXTERNAL_REF_INDICATOR	31A	J10399
SYSTEM_SERIAL_1	32A	J44B
System_+12Vdc_Slot_1	33A	
System_+12Vdc_Slot3_4	34A	
System_+12Vdc_Slot1_2	35A	
System_+12Vdc_Slot_3	36A	
System_+12Vdc_Slot_4	37A	
System_+12Vdc_Slot_2	38A	
SPARE_DIN_1	39A	
SPARE_DIN_2	40A	
SPARE_DIN_3	41A	
SPARE_DIN_4	42A	
SPARE_DIN_5	43A	
PA_AURAL_POWER	44A	
PA_REFLECTED_POWER	45A	
SPARE_AIN_1	46A	
SPARE_AIN_2	47A	
SPARE_AIN_3	48A	
SPARE_AIN_4	49A	
SPARE_AIN_5	50A	
SPARE_DOUT_1	51A	
SPARE_DOUT_2	52A	
SPARE_AUX_V0_3	53A	
SPARE_AUX_V0_4	54A	
AUTO_TEST_1	55A	
AUTO_TEST_2	56A	
ETHERNET_TX+	57A	
ETHERNET_TX-	58A	
SCADA_232_A_IN	59A	J44C
SCADA_485_1	60A	J44C
SYSTEM_SERIAL_1	61A	
System_+12Vdc_Slot_1	62A	
System_+12Vdc_Slot3_4	63A	
System_+12Vdc_Slot1_2	64A	
System_+12Vdc_Slot_3	65A	
System_+12Vdc_Slot_4	66A	
System_+12Vdc_Slot_2	67A	
MOD_EXTERNAL_CW_PRESENT	68A	
MOD_OUTPUT_SIGNAL_LEVEL	69A	
MOD_AURAL_DEVIATION_LEVEL	70A	
MOD_PLL_UNLOCKED	71A	
MOD_INTERLOCK	72A	
MOD_STATION_ID_CONTROL	73A	
IF_PROCS_ALC_AUTO_MANUAL_SW	74A	
IF_PROCS_MODULATION_PRESENT	75A	
IF_PROCS_INPUT_FAULT	76A	
IF_PROCS_SELECTED_SOURCE	77A	
IF_PROCS_MUTE_COMMAND	78A	
IF_PROCS_ALC_VOLTAGE	79A	
IF_PROCS_INTERLOCK	80A	
IF_PROCS_BOARD_TYPE	81A	
IF_PROCS_POWER_CONTROL	82A	
IF_PROCS_DLC_VOLTAGE	83A	
ETHERNET_RX+	84A	
ETHERNET_RX-	85A	
SCADA_232_A_OUT	86A	
SCADA_485_2	87A	J44C

ADDED C51-C53, R294-R211, TP18, U31, DELETED U5 & U1, C8 WAS LUT, R31 WAS CONNECTED TO U5 PINS 5, 6, 12 & 13, R81 WAS RCM 3700, U29 WAS LTC1440C58, J61 PIN 9 WAS PA, VISUAL POWER, J61 PIN 11 WAS PA, REFLECTED POWER, J61 PIN 10 WAS PA, AURAL POWER.

MATERIAL NUMBERS:
1310090 A/D, SYSTEM CNTRLR LX
1310090 SCADA, SYSTEM CNTRLR LX
1310091 PCB, SYSTEM CNTRLR LX
1310092 STENCIL FOR 1310091

REV	ECO	DATE	APV
B0	B0112960	07/08	REH

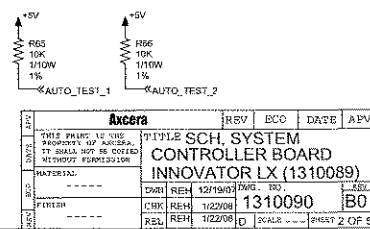
THIS PRINT IS THE PROPERTY OF ANICORP. IT SHALL NOT BE COPIED WITHOUT PERMISSION.

TITLE: SCH. SYSTEM CONTROLLER BOARD, INNOVATOR LX (1310090)

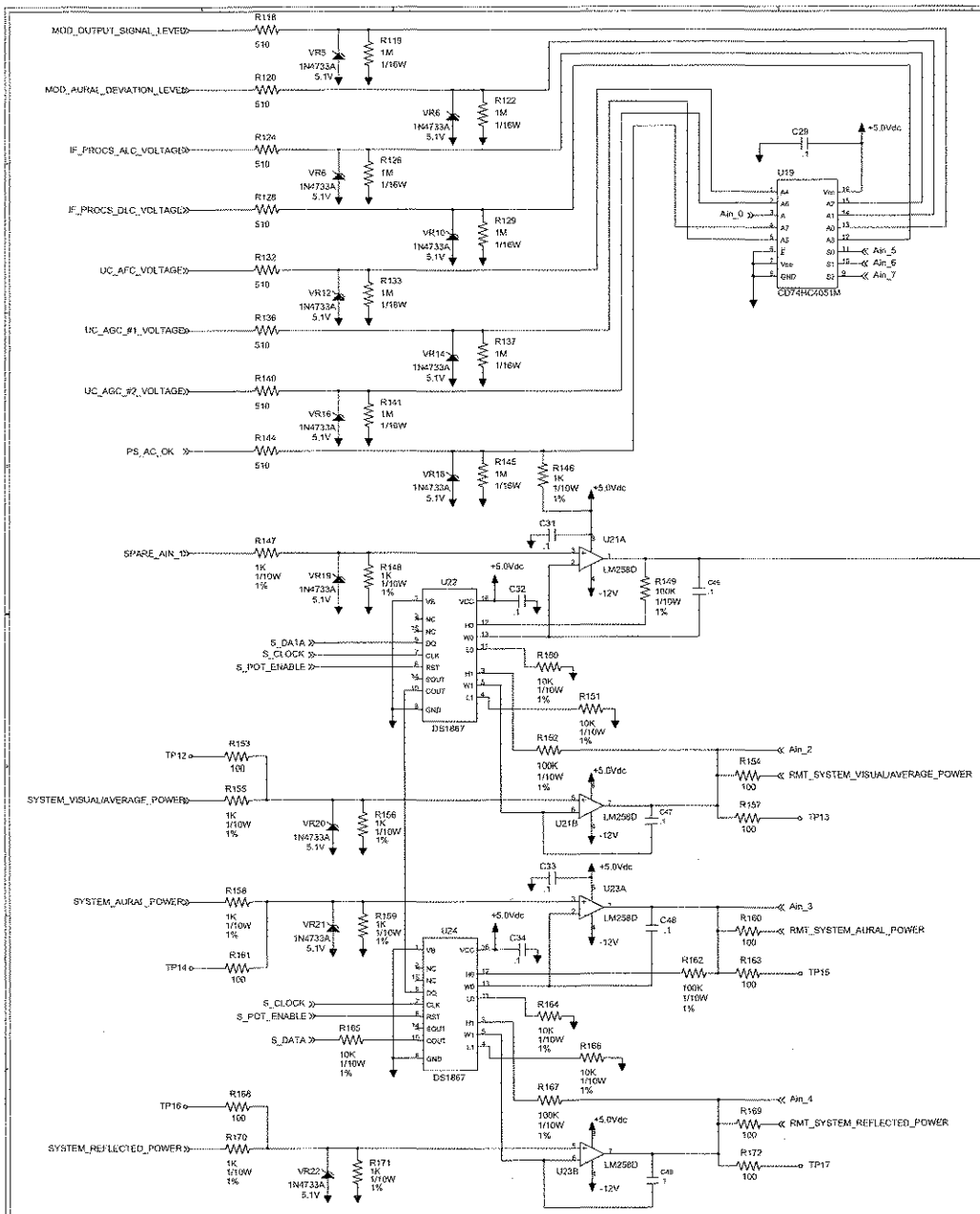
DATE	REV	BY	CHK	APP	DATE
1310090	B0	REH	12/20/06		
1310090	B0	REH	12/20/06		

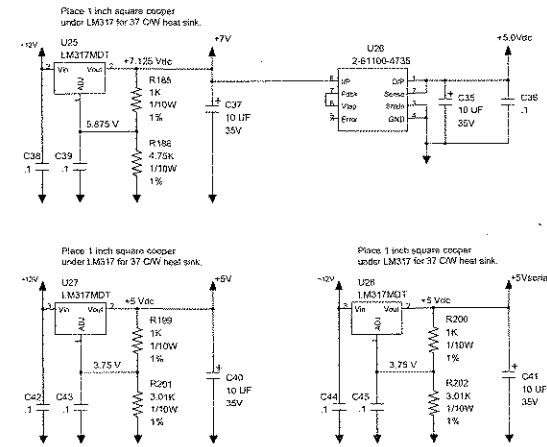
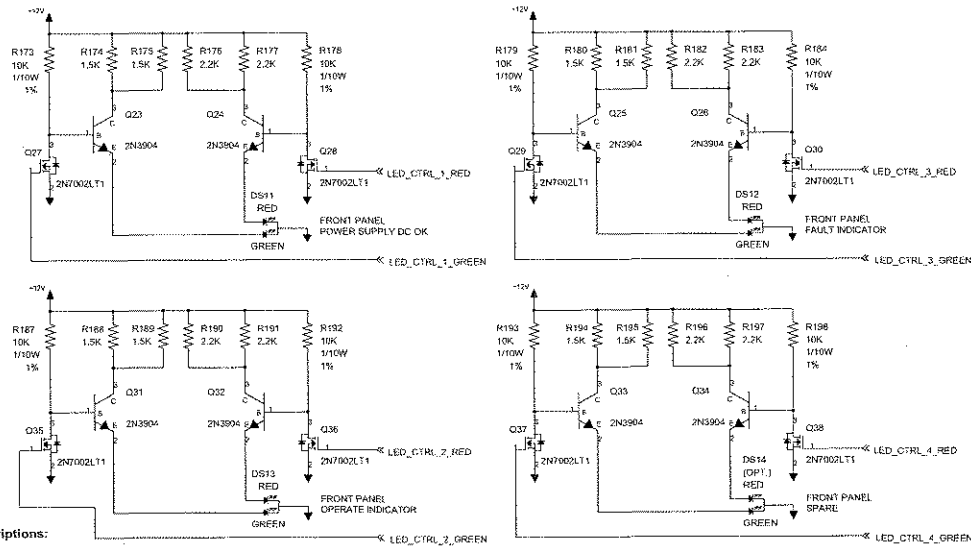
1310090 B0

1 OF 5



SEARCHED	SERIALIZED	INDEXED	FILED
MAR 1987		FBI - NEW YORK	
TITLE SCH. SYSTEM CONTROL BOARD. INNOVATOR LX (1310089)			
DATE	TIME	BY	REMARKS
MAR 1987	12:00 PM	JAC	1310090 BO





Circuit Descriptions:

PAGE 1:

U1 is an Atmel Atmega2561 microcontroller. This part is in-circuit programmed using the serial programming port.

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 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 either the RS-232 or RS-485 channels. Data output is sent out through each of the two 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 FETs with greater than 60 Volt drain to source voltage ratings.

Remote digital inputs are diode protected with a 1 Kohm 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.

RB1 is the connector to a Rabbit Semiconductor RCM4300. This ethernet enabled controller polls the U1 microcontroller on the same serial lines as a remote computer. The controller only gets data and sets conditions through the serial communication port.

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.

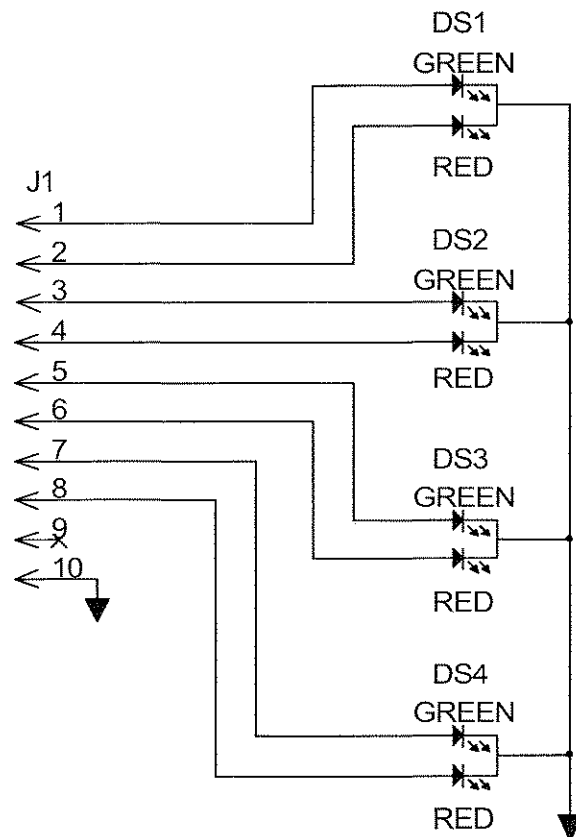
Two 20 position connectors are used to provide power to the backplane. J62 and J63 get power from the power supply after a nominal 3 amp resettable fuse. The Raychem polyswitch resettable fuses may open on a current as low as 2.43 amps at 50C, 3 amps at 25 C or 3.3 amps at 0C. They definitely will open when the current is 4.86 amps at 80C, 6 amps at 20C, or 6.6 amps at 0C. Twice widths of these circuits are 0.140" (designed for maximum current).

PAGE 5:

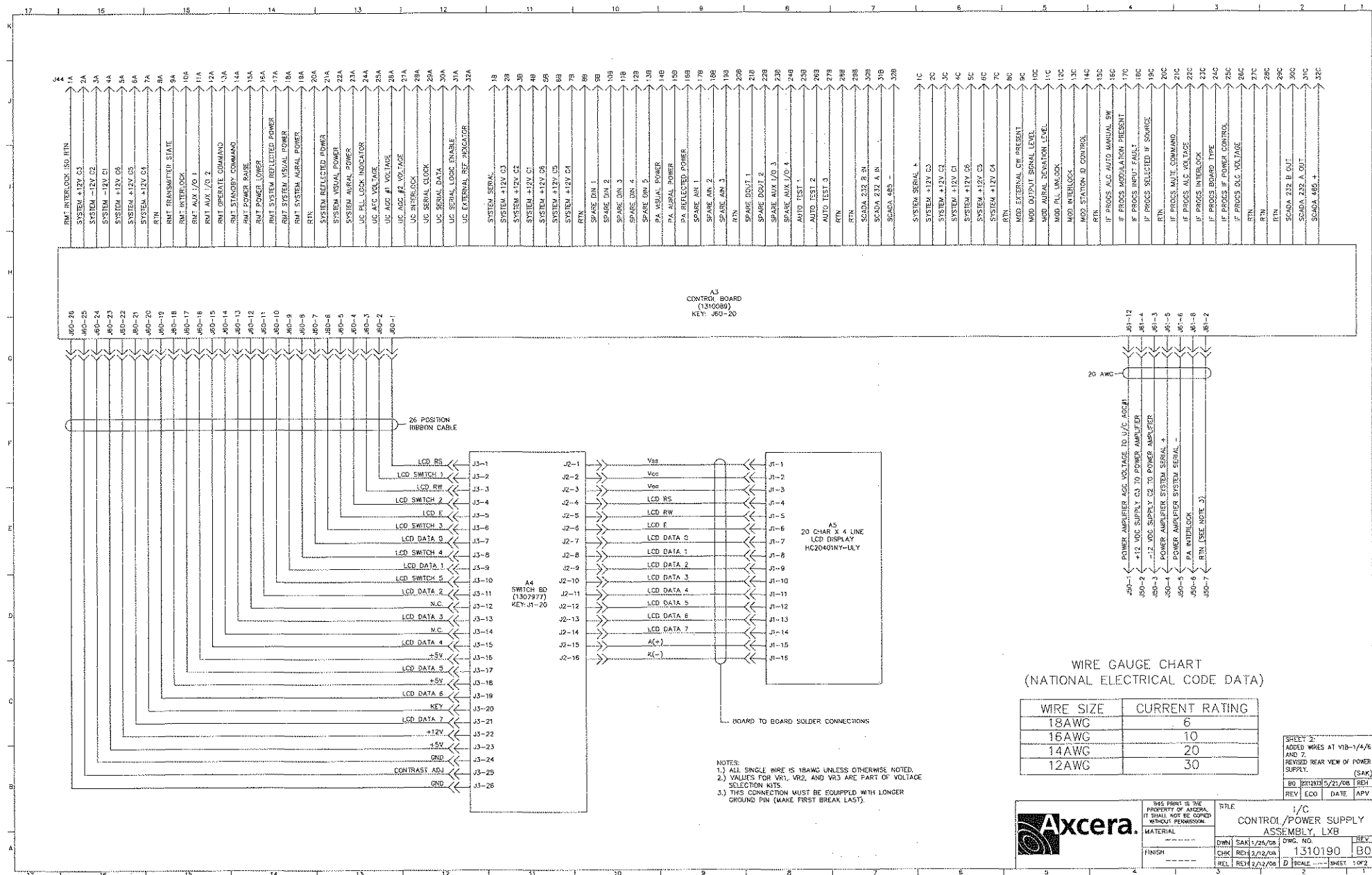
Each of the four LED circuits drive a dual element common cathode LED. To make a good amber color, the current applied to the green element is slightly greater than the red element.

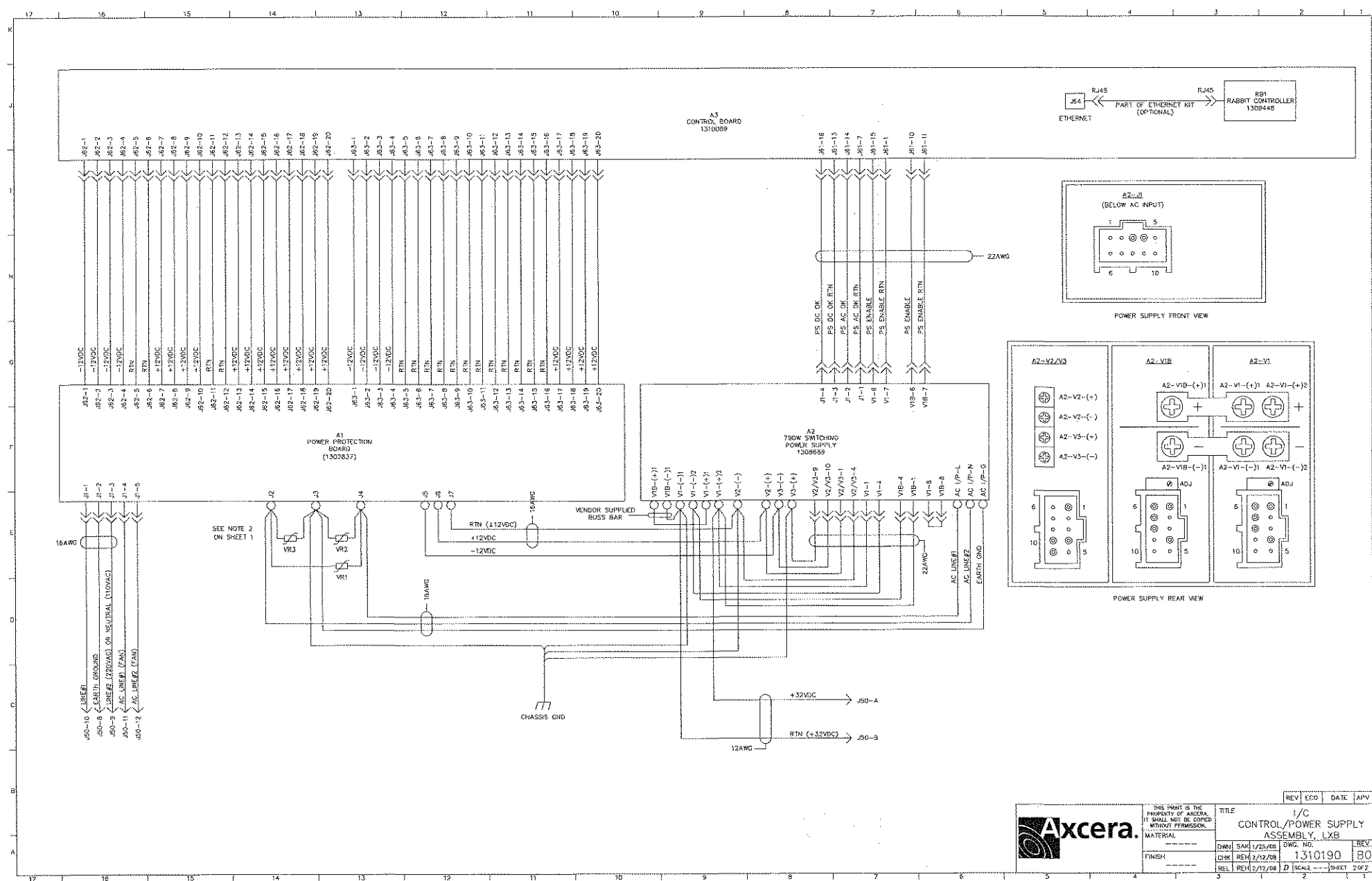
Several voltage regulators are used to power the board. Seven volts is typically applied to board LEDs and to the input of a precision 5.0 volt regulator. The 5.0 volt regulator is used for analog circuits and the microcontroller analog reference voltage. Another two 5 volt regulator circuits are used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

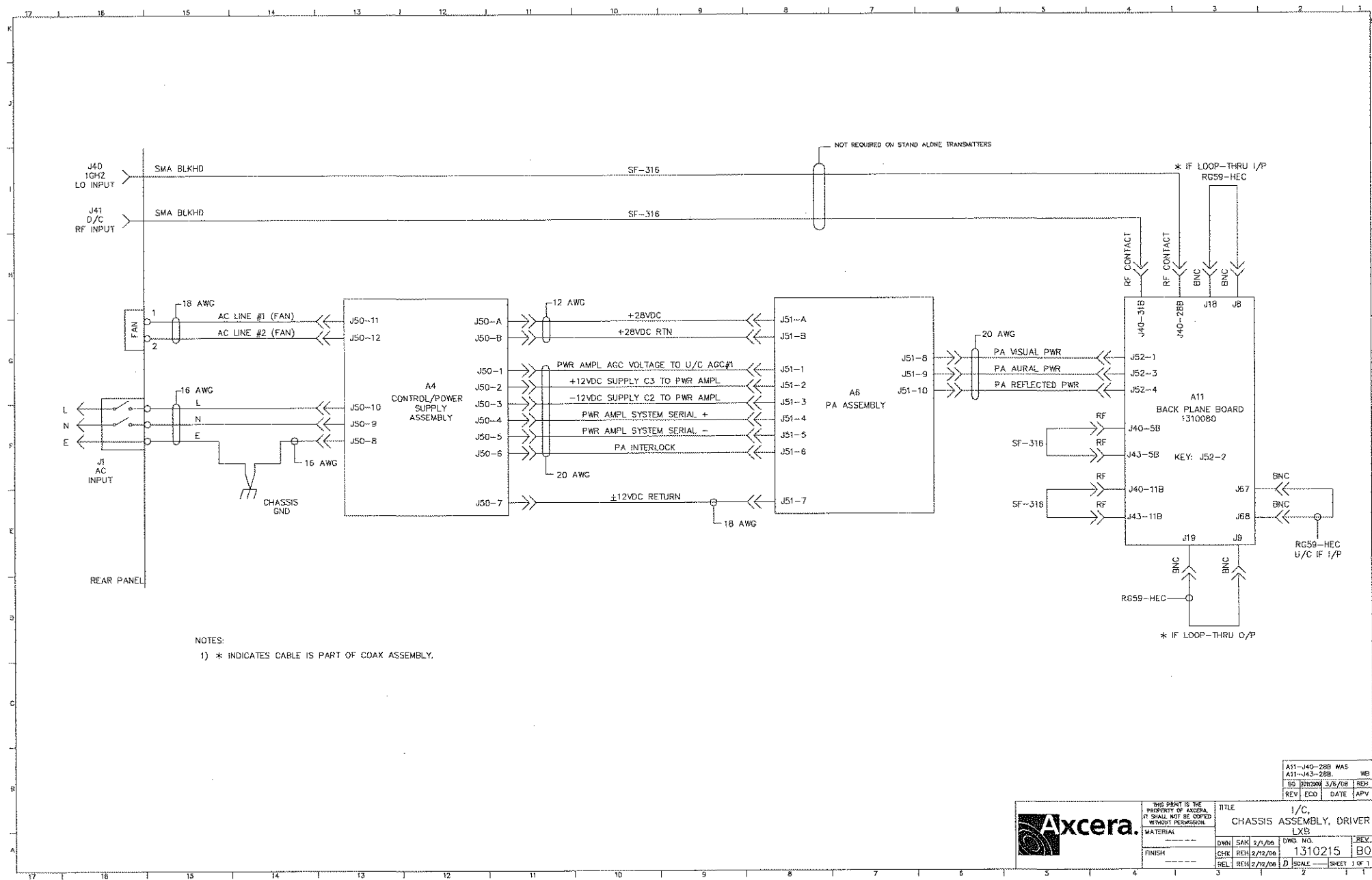
Axcera		REV	BCO	DATE	APV
1	2	1	1	12/18/07	1
2	3	1	1	12/18/07	1
3	4	1	1	12/18/07	1
4	5	1	1	12/18/07	1
5	6	1	1	12/18/07	1
6	7	1	1	12/18/07	1
7	8	1	1	12/18/07	1
8	9	1	1	12/18/07	1
9	10	1	1	12/18/07	1
10	11	1	1	12/18/07	1
11	12	1	1	12/18/07	1
12	13	1	1	12/18/07	1
13	14	1	1	12/18/07	1
14	15	1	1	12/18/07	1
15	16	1	1	12/18/07	1
16	17	1	1	12/18/07	1
17	18	1	1	12/18/07	1
18	19	1	1	12/18/07	1
19	20	1	1	12/18/07	1
20	21	1	1	12/18/07	1
21	22	1	1	12/18/07	1
22	23	1	1	12/18/07	1
23	24	1	1	12/18/07	1
24	25	1	1	12/18/07	1
25	26	1	1	12/18/07	1
26	27	1	1	12/18/07	1
27	28	1	1	12/18/07	1
28	29	1	1	12/18/07	1
29	30	1	1	12/18/07	1
30	31	1	1	12/18/07	1
31	32	1	1	12/18/07	1
32	33	1	1	12/18/07	1
33	34	1	1	12/18/07	1
34	35	1	1	12/18/07	1
35	36	1	1	12/18/07	1
36	37	1	1	12/18/07	1
37	38	1	1	12/18/07	1
38	39	1	1	12/18/07	1
39	40	1	1	12/18/07	1
40	41	1	1	12/18/07	1
41	42	1	1	12/18/07	1
42	43	1	1	12/18/07	1
43	44	1	1	12/18/07	1
44	45	1	1	12/18/07	1
45	46	1	1	12/18/07	1
46	47	1	1	12/18/07	1
47	48	1	1	12/18/07	1
48	49	1	1	12/18/07	1
49	50	1	1	12/18/07	1
50	51	1	1	12/18/07	1
51	52	1	1	12/18/07	1
52	53	1	1	12/18/07	1
53	54	1	1	12/18/07	1
54	55	1	1	12/18/07	1
55	56	1	1	12/18/07	1
56	57	1	1	12/18/07	1
57	58	1	1	12/18/07	1
58	59	1	1	12/18/07	1
59	60	1	1	12/18/07	1
60	61	1	1	12/18/07	1
61	62	1	1	12/18/07	1
62	63	1	1	12/18/07	1
63	64	1	1	12/18/07	1
64	65	1	1	12/18/07	1
65	66	1	1	12/18/07	1
66	67	1	1	12/18/07	1
67	68	1	1	12/18/07	1
68	69	1	1	12/18/07	1
69	70	1	1	12/18/07	1
70	71	1	1	12/18/07	1
71	72	1	1	12/18/07	1
72	73	1	1	12/18/07	1
73	74	1	1	12/18/07	1
74	75	1	1	12/18/07	1
75	76	1	1	12/18/07	1
76	77	1	1	12/18/07	1
77	78	1	1	12/18/07	1
78	79	1	1	12/18/07	1
79	80	1	1	12/18/07	1
80	81	1	1	12/18/07	1
81	82	1	1	12/18/07	1
82	83	1	1	12/18/07	1
83	84	1	1	12/18/07	1
84	85	1	1	12/18/07	1
85	86	1	1	12/18/07	1
86	87	1	1	12/18/07	1
87	88	1	1	12/18/07	1
88	89	1	1	12/18/07	1
89	90	1	1	12/18/07	1
90	91	1	1	12/18/07	1
91	92	1	1	12/18/07	1
92	93	1	1	12/18/07	1
93	94	1	1	12/18/07	1
94	95	1	1	12/18/07	1
95	96	1	1	12/18/07	1
96	97	1	1	12/18/07	1
97	98	1	1	12/18/07	1
98	99	1	1	12/18/07	1
99	100	1	1	12/18/07	1

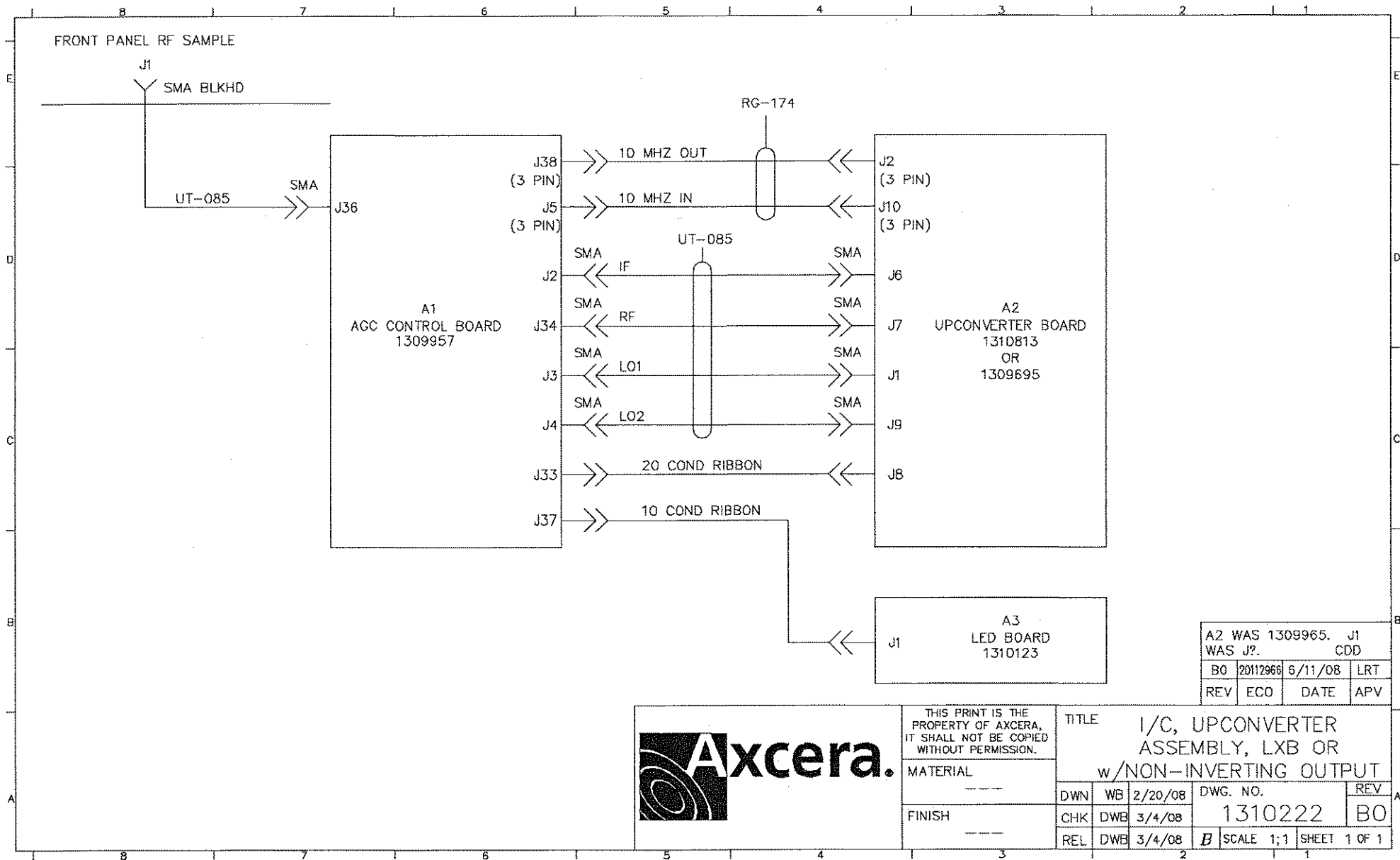


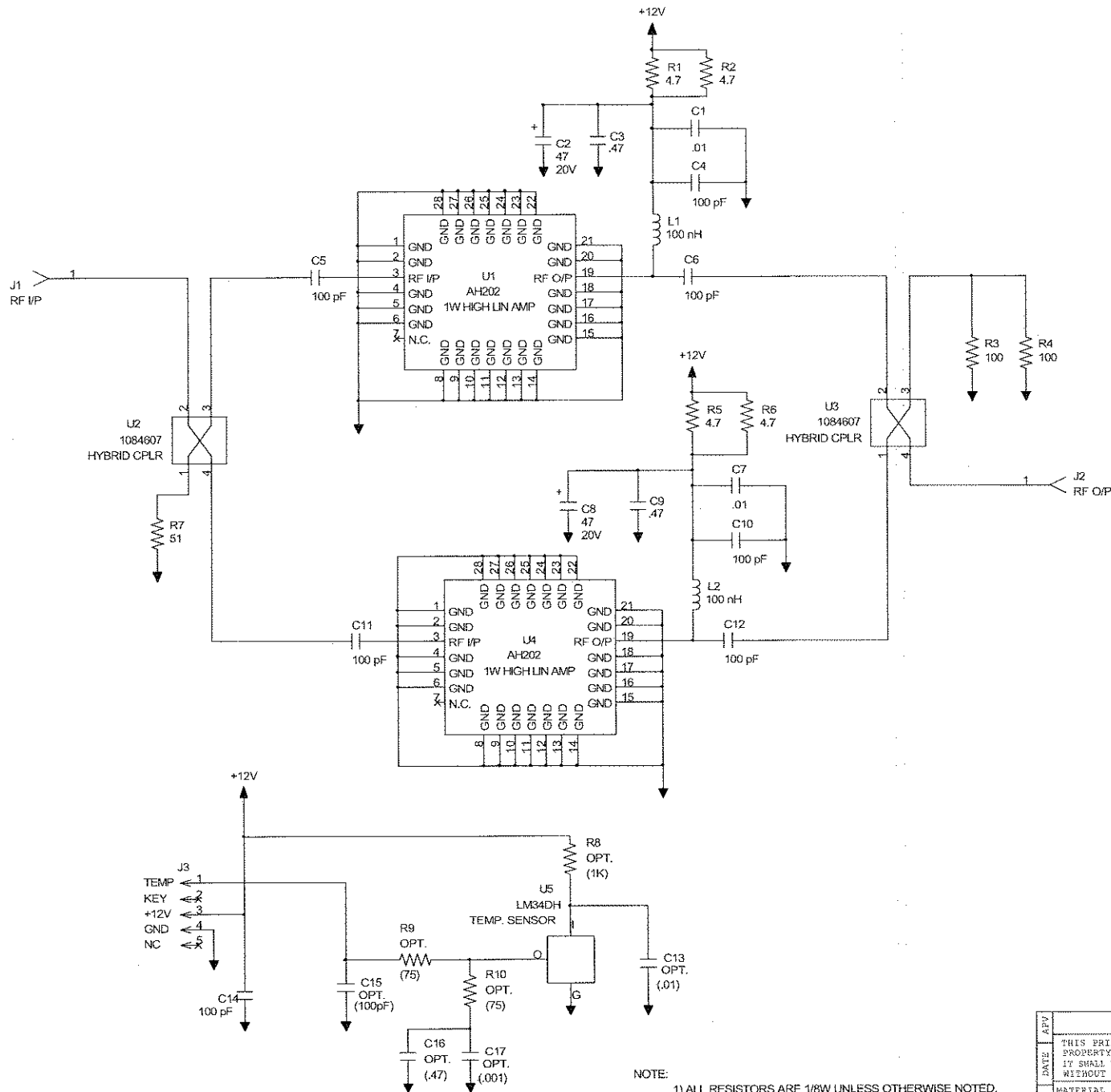
APV	Axcera			REV	ECO	DATE	APV
	DATE	THIS PRINT IS THE PROPERTY OF AXCERA, IT SHALL NOT BE COPIED WITHOUT PERMISSION	TITLE SCH, LED DISPLAY BD. (ASSY 1310123)				
	ECO	MATERIAL -----	DWN	JKF	1/10/08	DWG. NO.	
REV	FINISH -----	CHK	DWB	1/10/08	1310124		A0
		REL	DWB	1/10/08	A	SCALE ---	SHEET 1 OF 1



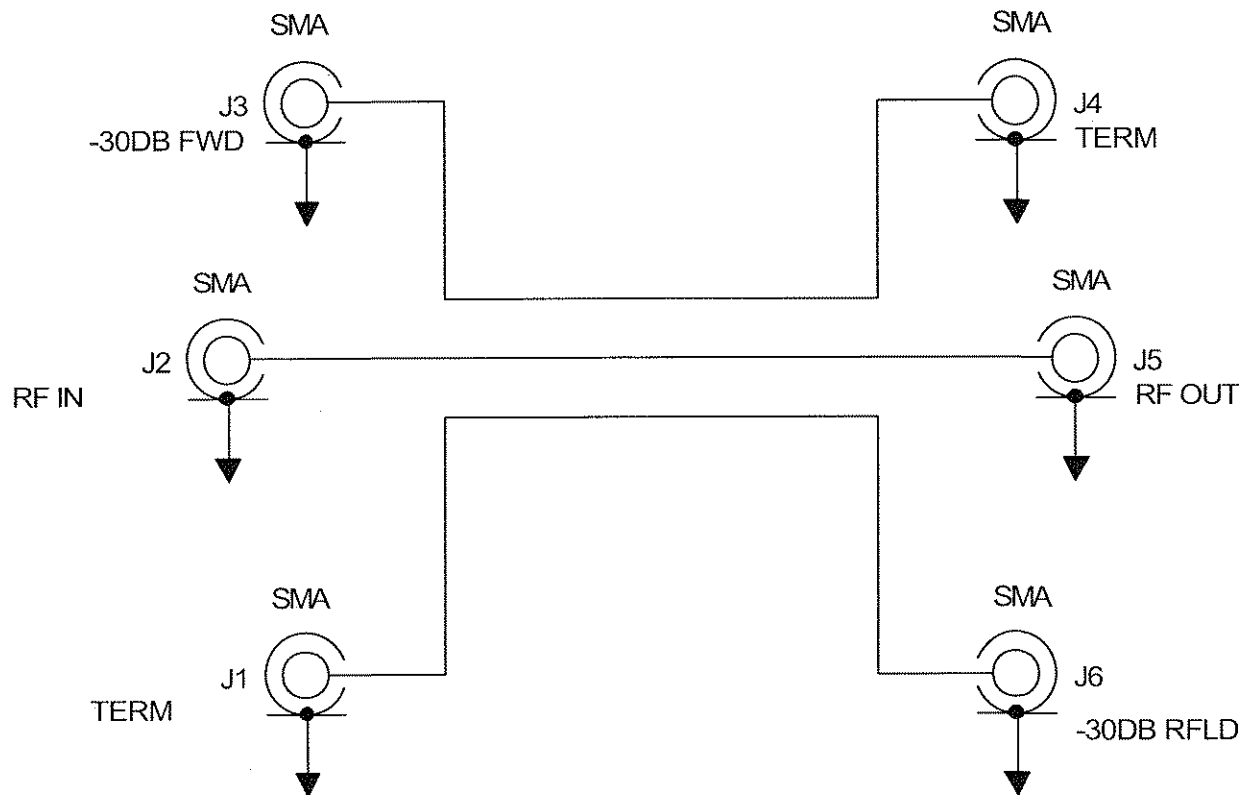




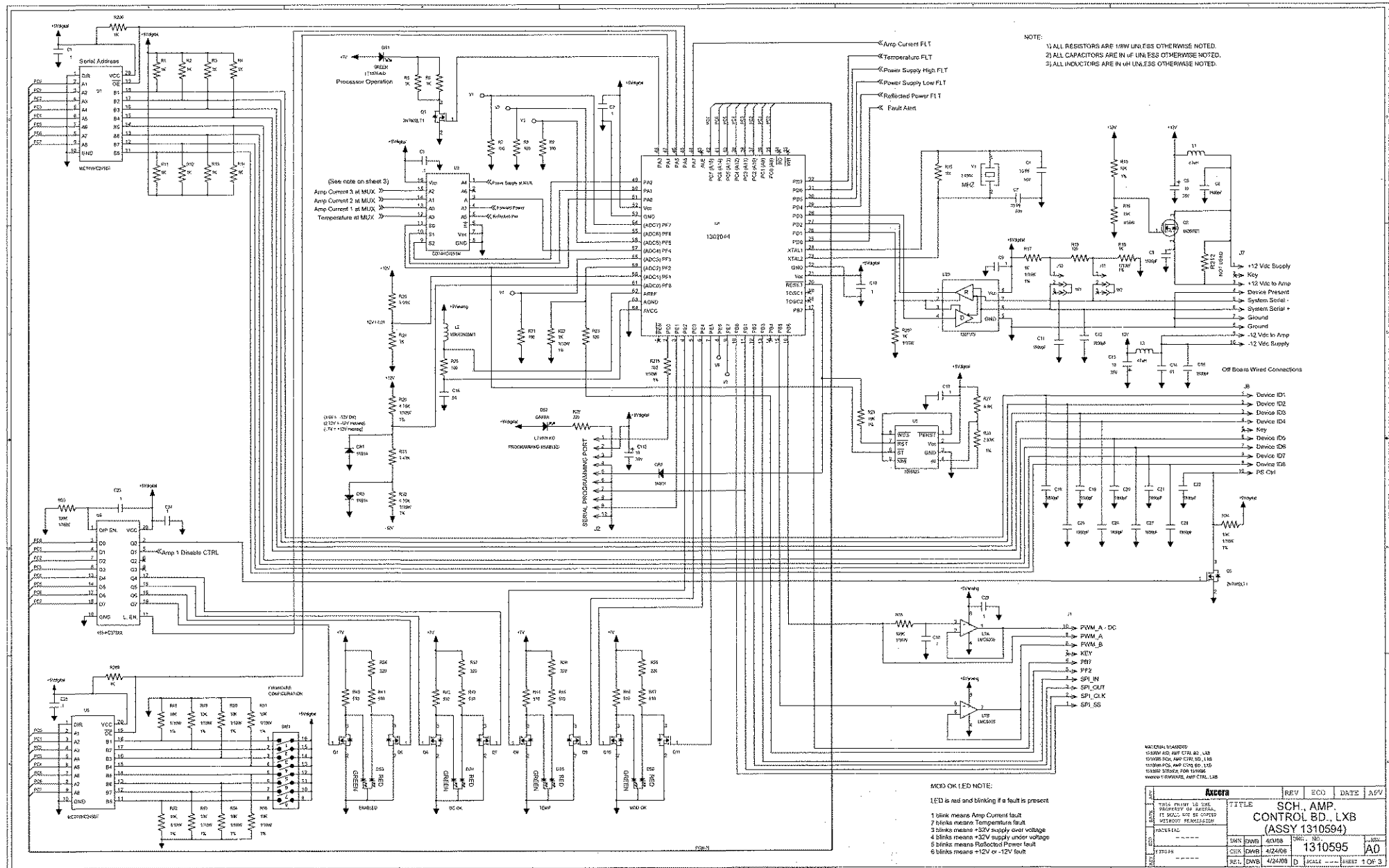


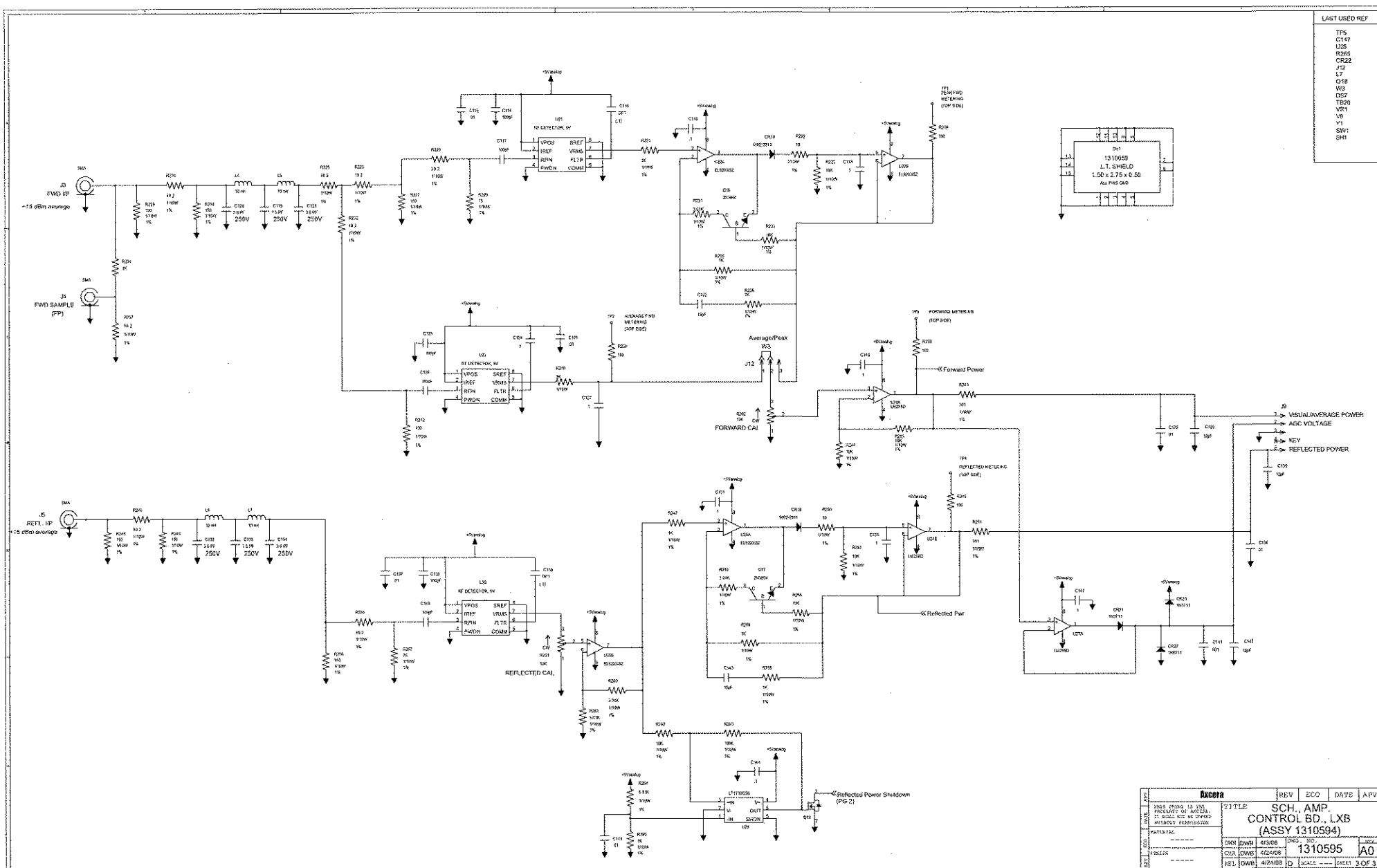


Axcera		REV	ECO	DATE	APV
THIS PRINT IS THE PROPERTY OF AXCERA. IT SHALL NOT BE COPIED WITHOUT PERMISSION		TITLE SCH., 1 WATT AMPLIFIER, UHF (ASSY 1310282)			
MATERIAL	-----	DWN	JKF	2/21/08	DWG. NO.
FINISH	-----	CHK	DWB	2/25/08	1310283
REL	-----	REL	DWB	2/25/08	C
		SCALE		SHEET 1 OF 1	

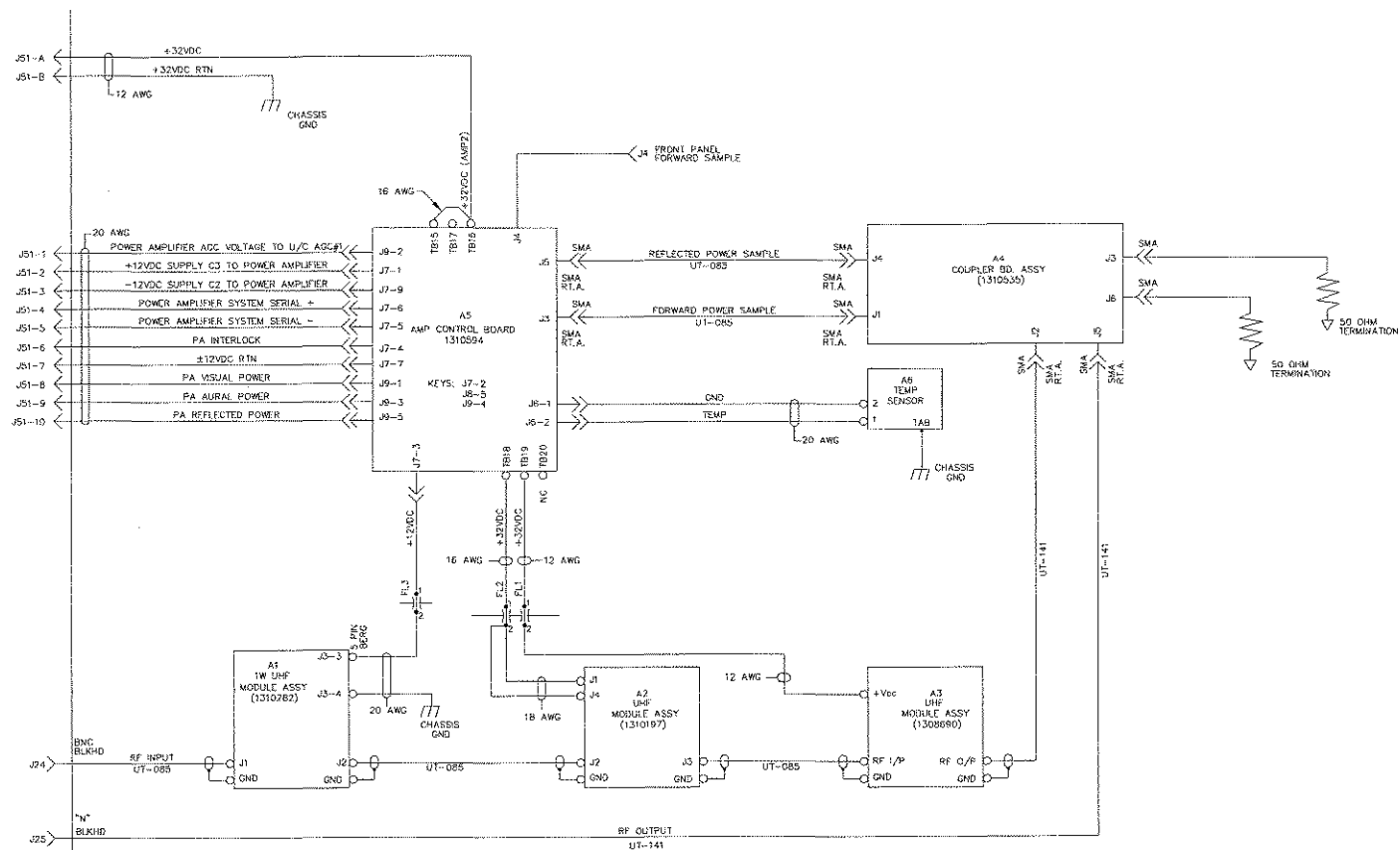


REV	APV	Axcera			REV	ECO	DATE	APV
	DATE	THIS PRINT IS THE PROPERTY OF AXCERA, IT SHALL NOT BE COPIED WITHOUT PERMISSION		TITLE SCH., COUPLER BD., 30 DB, LXB DRIVER (ASSY 1310535)				
	ECO	MATERIAL -----		DWN	JKF	3/28/08	DWG. NO.	REV
	FINISH -----	CHK	TB	3/28/08	1310536		A0	
		REL	TB	3/28/08	A	SCALE ---	SHEET 1 OF 1	





LAST USED REF
TPS
G147
U26
R265
CR22
J12
L7
Q18
W3
DS7
TB20
VR1
V8
Y1
SW1
SH1



NOTE:
1. ALL WIRE IS 18AWG UNLESS OTHERWISE NOTED.

REV ECD DATE APV		TITLE		I/C,	
THIS PRINT IS THE PROPERTY OF AXCIERA, IT SHALL NOT BE COPIED WITHOUT PERMISSION.		DRIVER ASSY.,		100 W, LXB	
MATERIAL		DWG. NO.		REL	
FINISH		1310752		AC	
REL		5/12/08		D SCALE --- SHEET 1 OF 1	