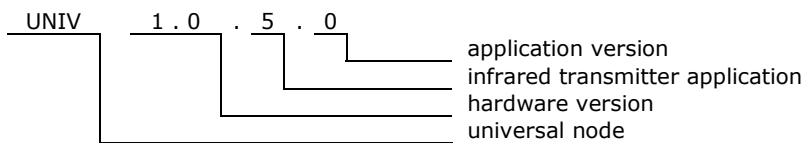


1. Features:

- Infrared codes transmitter
- Transmission range: 10m.
- Operation voltage 10-24V
- Current consumption 12mA when not transmitted
- DIN rail mounting.
- Module behaviour depends on firmware.



2. Application version



3. Technical data

Bus side

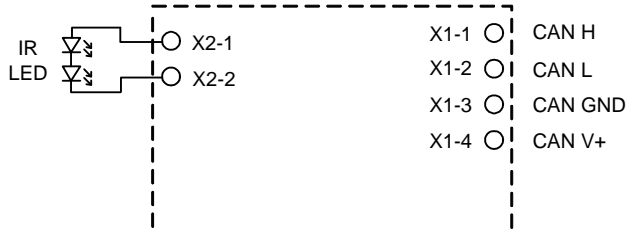
Parameter	Symbol	Value	Unit
Power supply voltage	U_s	10-24V	V
Current consumption when not transmitted	I_s	12	mA

Relay side

Parameter	Symbol	Value	Unit
Transmission distance	d	10	m

4. Hardware

4.1. Connections



Note that if module is first or last on the bus,
resistor 120ohm must be connected between pins CAN H and CAN L.

Figure 1. Connection schematic.

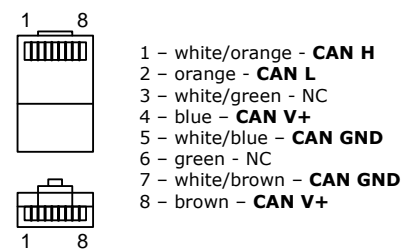


Figure 2. Option of RJ45 bus connector.

4.2. Schematic

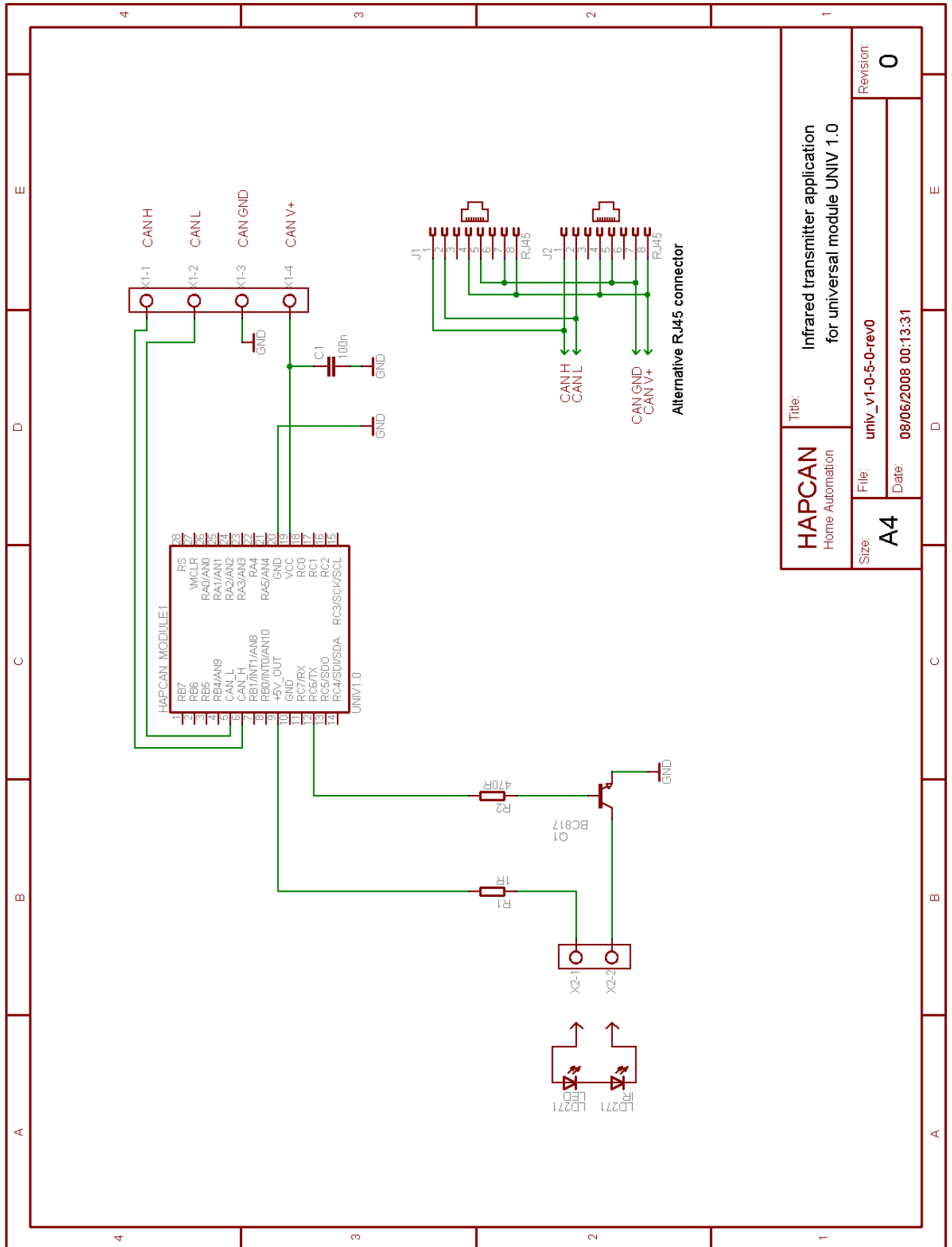
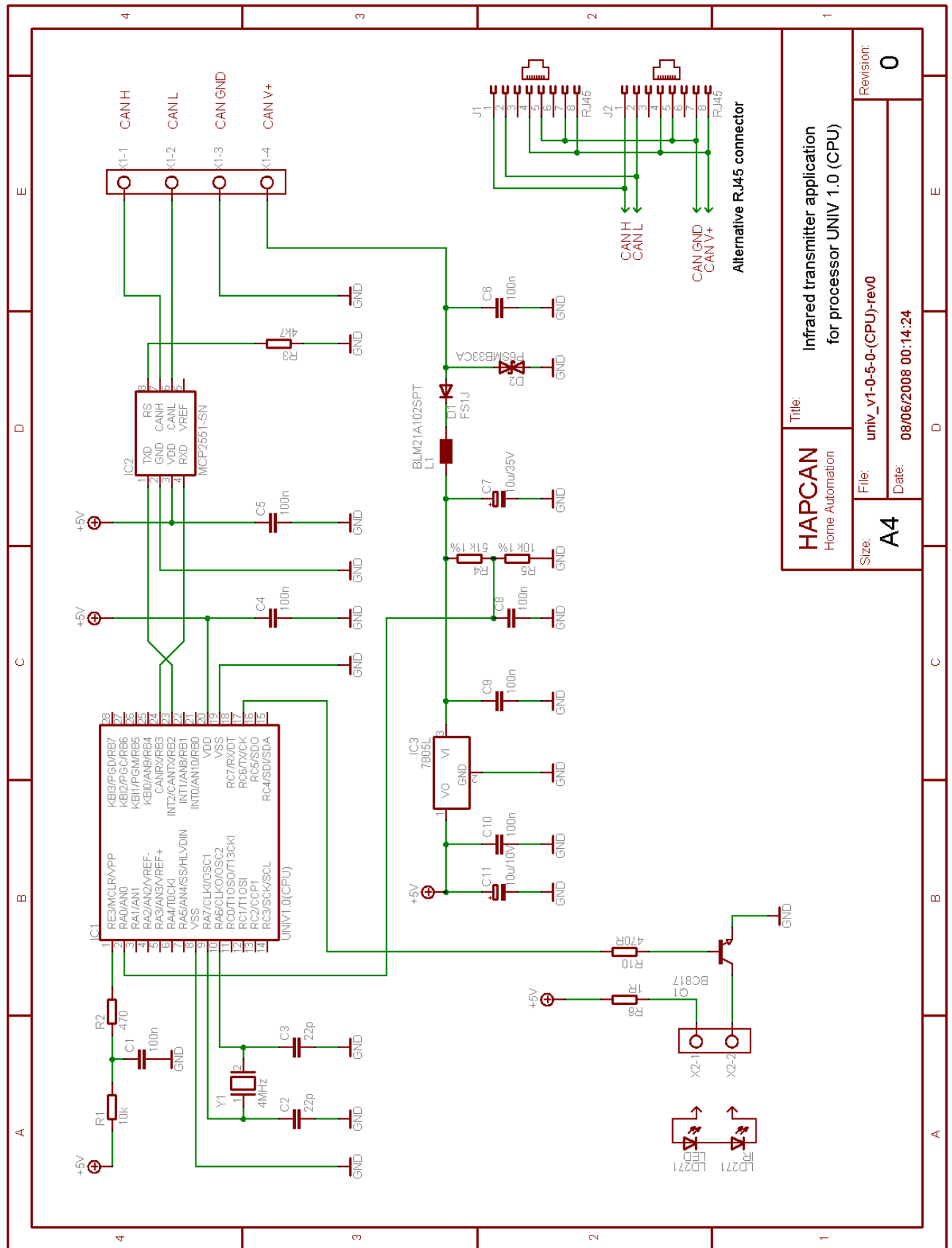


Figure 3. Schematic of infrared transmitter for universal module UNIV 1.0

HAPCAN Home Automation	Title: Infrared transmitter application for universal module UNIV 1.0	
	File: univ_v1-0-5-0-rev0	Revision: 0
Size: A4	Date: 08/06/2008 00:13:31	

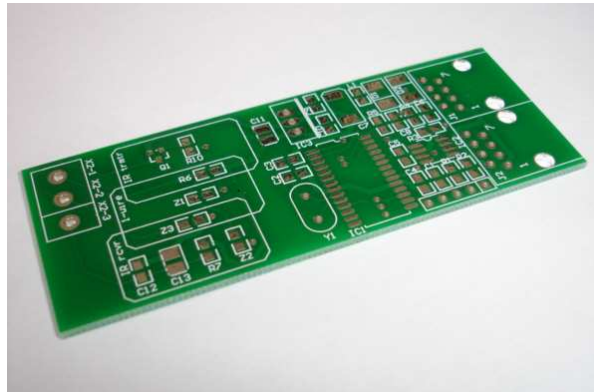


HAPCAN Home Automation		Title: Infrared transmitter application for processor UNIV 1.0 (CPU)	
Size: A4	File: univ_v1-0-5-0-(CPU)-rev0	Revision: 0	
	Date: 08/06/2008 00:14:24		

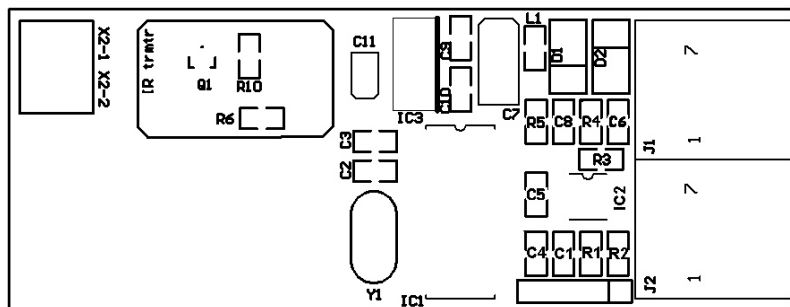
Figure 4. Schematic of infrared transmitter application for processor UNIV 1.0 (CPU).

4.3. Printed Circuit Board

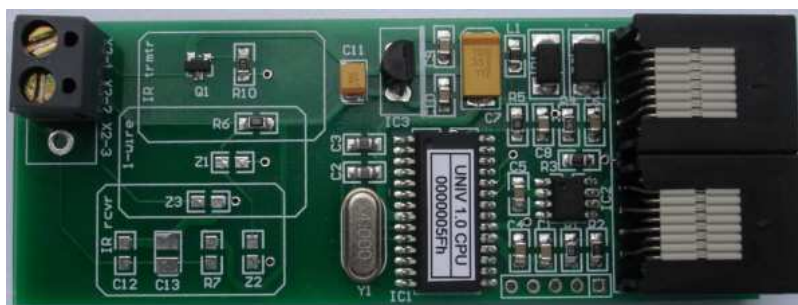
- Printed circuit board for applications with use of processor UNIV 1.0 (CPU)
 - infrared receiver UNIV 1.0.3.0
 - temperature sensor UNIV 1.0.4.0
 - infrared transmitter UNIV 1.0.5.0
- PCB dimensions: 86mm x 33mm



4.3.1. Assembly schematic

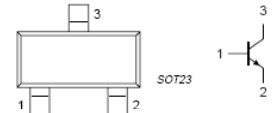
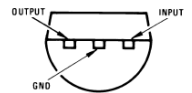


4.3.2. Assembled PCB



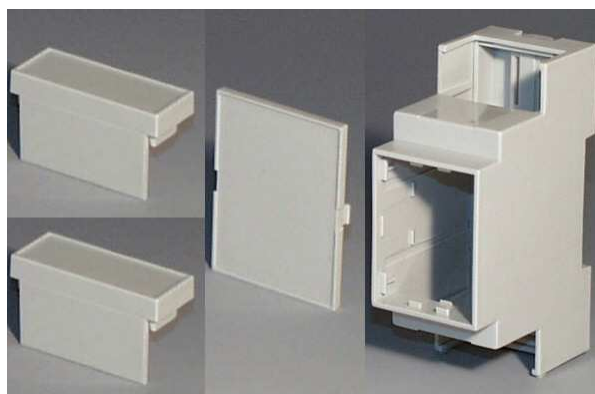
4.3.3. Components

Designator	Type	Footprint	Description
C1, C4, C5, C6, C8, C9, C10	0.1uF	0805	Capacitor
C2, C3	22pF	0805	Capacitor tor
C7	10uF/35V	SME	Electrolytic Capacitor
C11	10uF/16V	SMB	Electrolytic Capacitor
R1	10k	0805	Resistor
R2, R10	470 Ohm	0805	Resistor
R3	4k7	0805	Resistor
R4	51k 1%	0805	Resistor
R5	10k 1%	0805	Resistor
R6	1 Ohm	0805	Resistor
L1	BLM21A102SPT	0805	Choke
Y1	4MHz	HC49-S	Quartz crystal
D1	FS1J	DO-214	Diode
D2	P6SMB33CA	DO-214	Transil diode
D3, D4	LD-271		Infrared diode
IC1	UNIV 1.0 (CPU)	SOIC-28	Processor of HAPCAN universal module
IC2	MCP2551-SN	SOIC-8	CAN Transceiver
IC3	LM7805L	TO-92	Voltage regulator
Q1	BC817C	sot-23	Transistor NPN
J1, J2	RJ45	L18xW15xH11	Connector
X2	ARK2	H=12,5mm raster=5mm	Terminal block

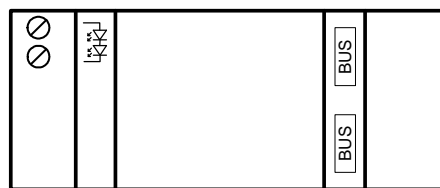
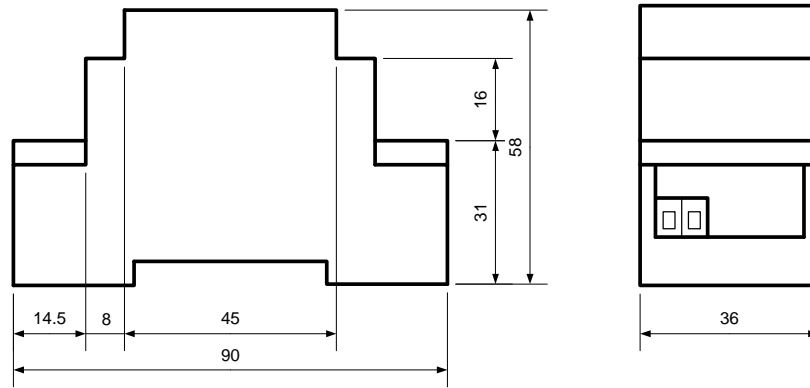


4.4. Enclosure

- 2 module wide 35mm DIN rail enclosure
- Enclosure dimensions: 90mm x 58mm x 36mm

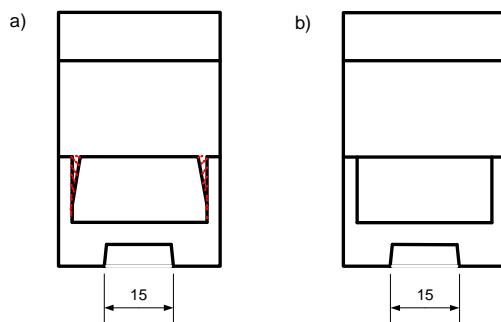


4.4.1. Dimensions



4.4.2. Mechanical processing

4.4.2.1. Main part

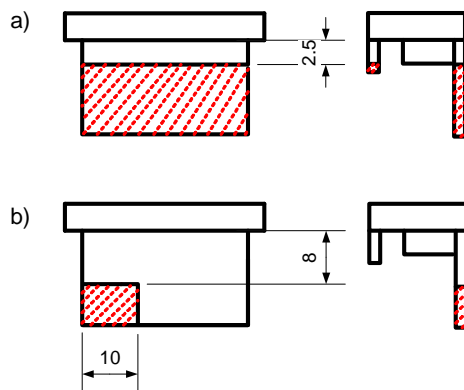


A view from the side, where shown detail is 15mm wide.

Drawing a) shows striped part which must be cut out.

Drawing b) is a view when striped parts have been cut out.

4.4.2.2. Terminal guards



Striped parts must be removed.

Drawing a) shows RJ45 connector guard.

Drawing b) shows terminal block guard.

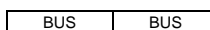
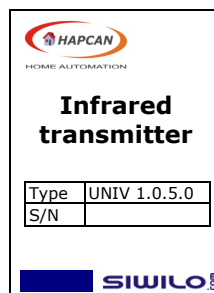
4.4.2.3. Front panel

Does not need processing.

4.4.3. Assembling



4.4.4. Labels



5. Document version

File	Description	Date
univ_v1-0-5-0-pcba.pdf	Original version	June 2008
univ_v1-0-5-0-pcbb.pdf	Schematics added	August 2009