

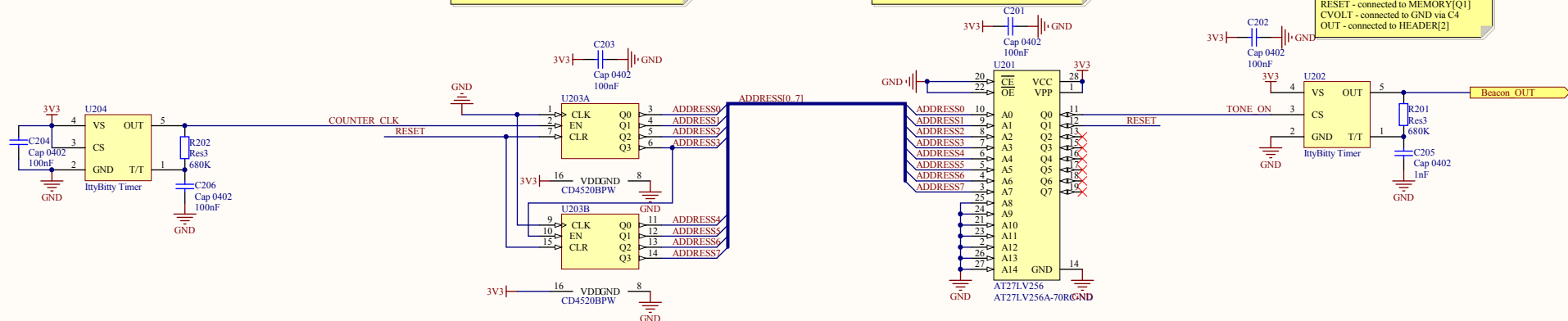
Title BLUEsat Switching Circuit Overview		<div>BLUEsat Project Room 419 School of EE&T UNSW, NSW 2052 Australia</div> <div>BLUESAT UNSW STUDENT SATELLITE PROJECT</div>
Description: Overview of Switching Circuit		
Author: D. JEDRYCHOWSKI	Drawing No.: COMS0004	
Size: A3	Version: 1.0	
Date: 2/08/2012	Time: 5:11:36 PM	Sheet: 1 of 4
File: H:\bluesatSVN\B Bus\B3 Groundstation Link (Comms)\B3.3 Communications Switching\COMS0004 SwC Main.SchDoc		


▲ CLK U2A
10 Hz squarewave, CLOCK SIGNAL for
ADR_CTR
RESET - connected to VDD
CONTROL - connected via C3 to GND
OUT - connected to U1A[EN]Text

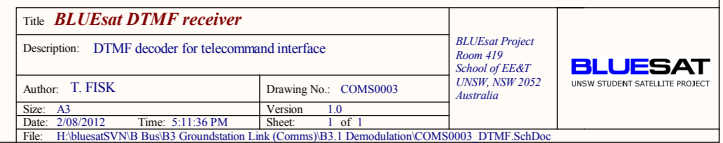
▲ ADR_CTR U3A,U3B
8 bit ripple counter - holds the memory address of the
Morse Code message
EN - connected to CLK[OUT]
CLK - held LOW to facilitate FALLING EDGE
operation
CLR - connected to MEMORY[Q2] (reset signal, when
this goes high the end of the message has been reached -
hence, reset the ADDR_CTR to 0)
U1A[Q0..Q3] - connected to U2[A0..A3]
U1B[Q0..Q3] - connected to U2[A4..A7]

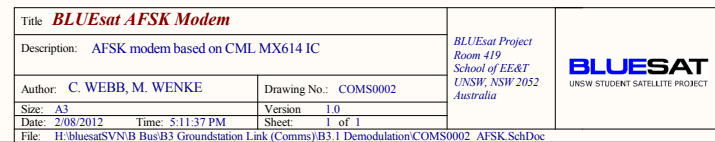
▲ MEMORY
EPROM memory chip.
Holds the Morse code message.
CE, OE - held LOW to enable chip
A0..A7 - connected to ADR_CTR outputs
VPP - held HIGH to disable programming mode
Q0 - connected to TONE[RESET]
Q1 - connected to ADR_CTR[CLR]

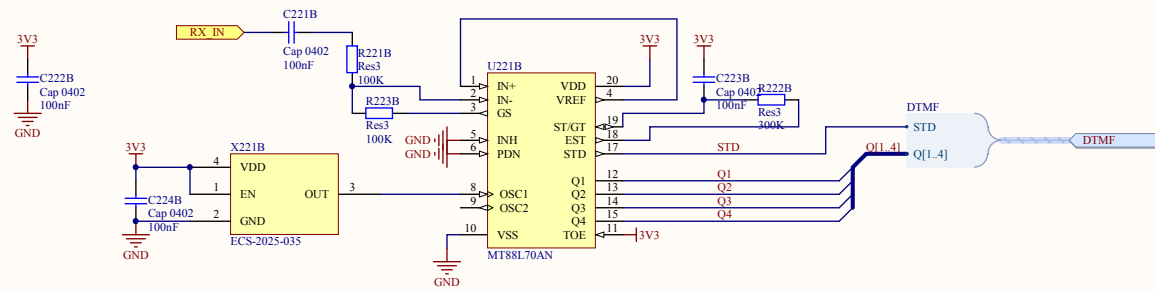
▲ TONE U2B
1 kHz square wave
RESET - connected to MEMORY[Q1]
CVOLT - connected to GND via C4
OUT - connected to HEADER[2]




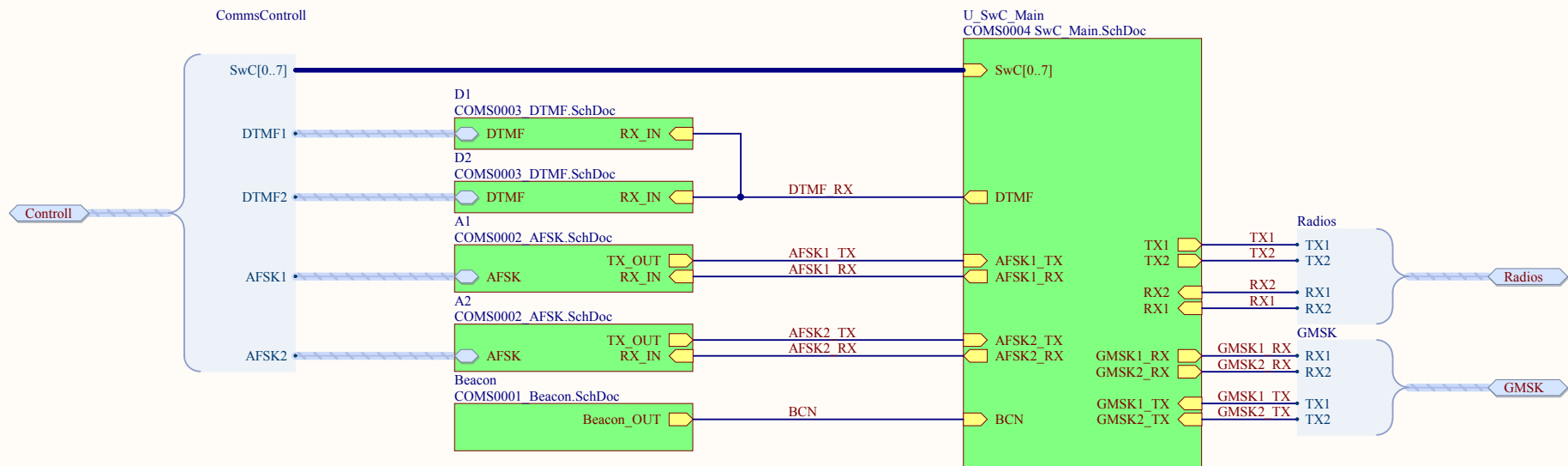
Title BLUEsat Beacon			<i>BLUEsat Project Room 419 School of EE&T UNSW, NSW 2052 Australia</i>	 UNSW STUDENT SATELLITE PROJECT
Description: Morse code continuous wave beacon based on EPROM				
Author: D. JEDRYCHOWSKI		Drawing No.: COMS0001		
Size: A3	Version: 1.1			
Date: 2/08/2012	Time: 5:11:36 PM	Sheet: 1 of 1		
File: H:\bluesat\SVN\B Bus\B3 Groundstation Link (Comms)\COMS0001 Beacon.SchDoc				







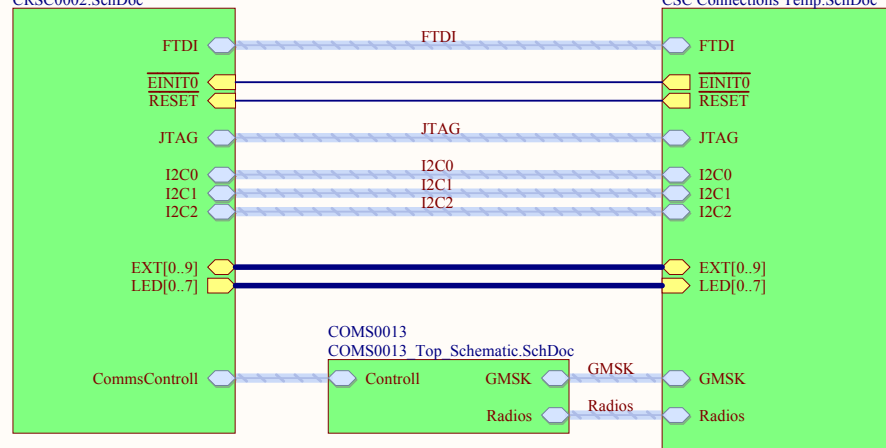
Title BLUEsat DTMF receiver			<div>BLUEsat Project Room 419 School of EE&T UNSW, NSW 2052 Australia</div> <div>BLUESAT UNSW STUDENT SATELLITE PROJECT</div>
Description: DTMF decoder for telecommand interface			
Author: T. FISK	Drawing No.: COMS0003		
Size: A3	Version: 1.0		
Date: 2/08/2012	Time: 5:11:37 PM	Sheet: 1 of 1	
File: H:\bluesat\SVN\B Bus\B3 Groundstation Link (Comms)\B3.1 Demodulation\COMS0003 DTMF SchDoc			



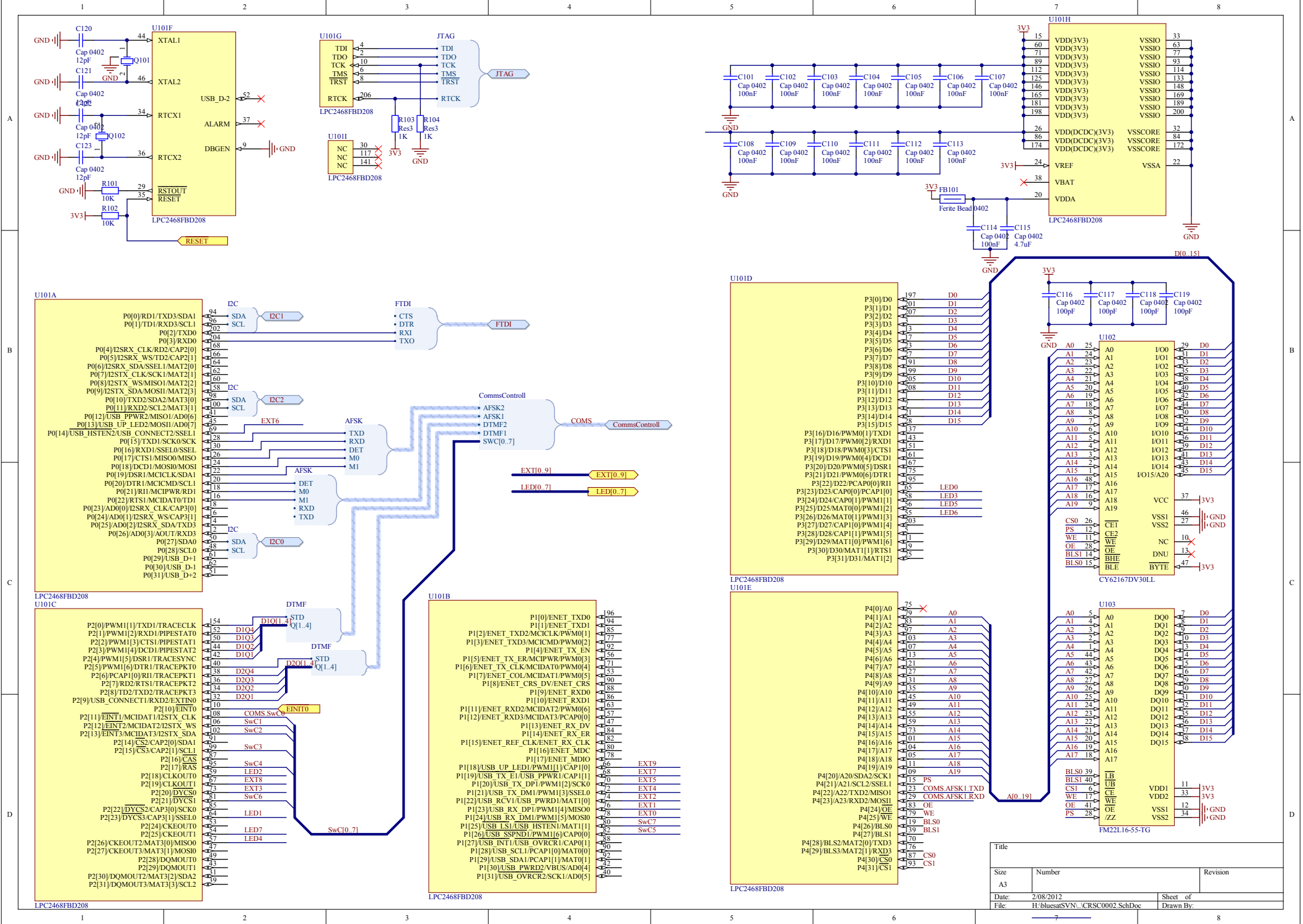
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Date:	2/08/2012	Sheet of
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CRSC0002
CRSC0002.SchDoc

Connectors
CSC Connections Temp.SchDoc



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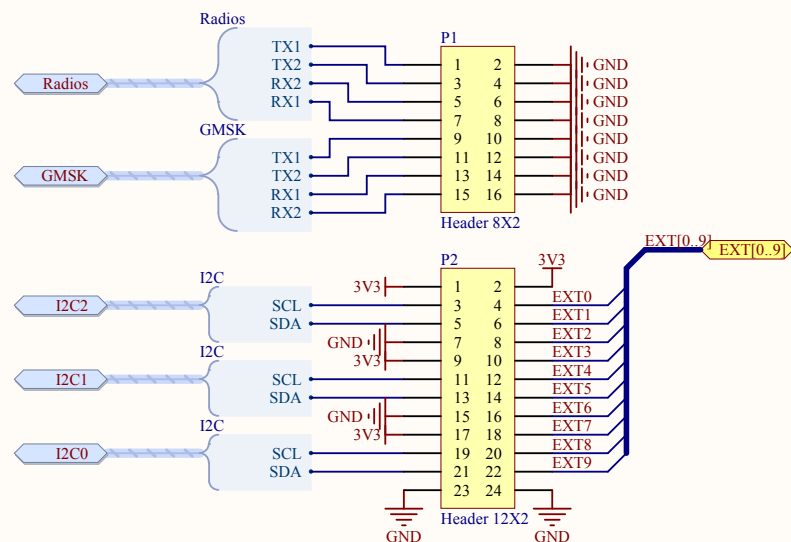
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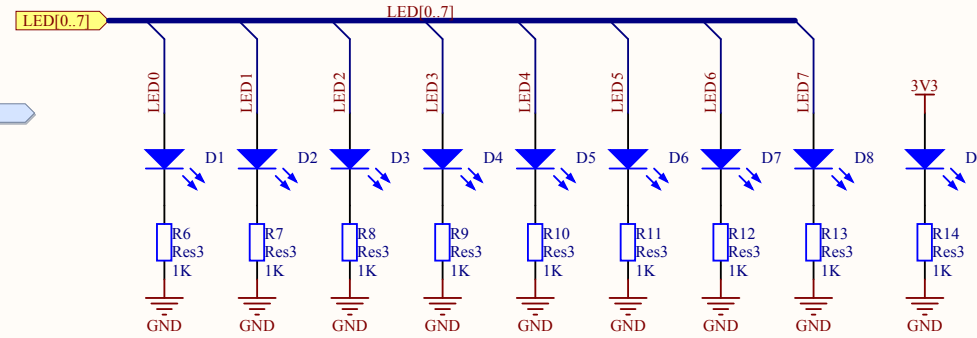
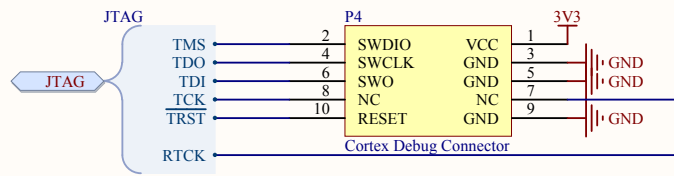
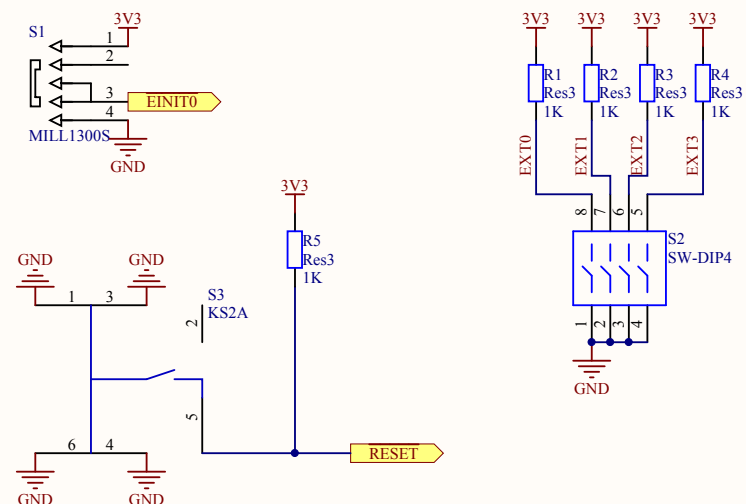
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3

4



DIP switches
EXT
power led
program switch
reset switch



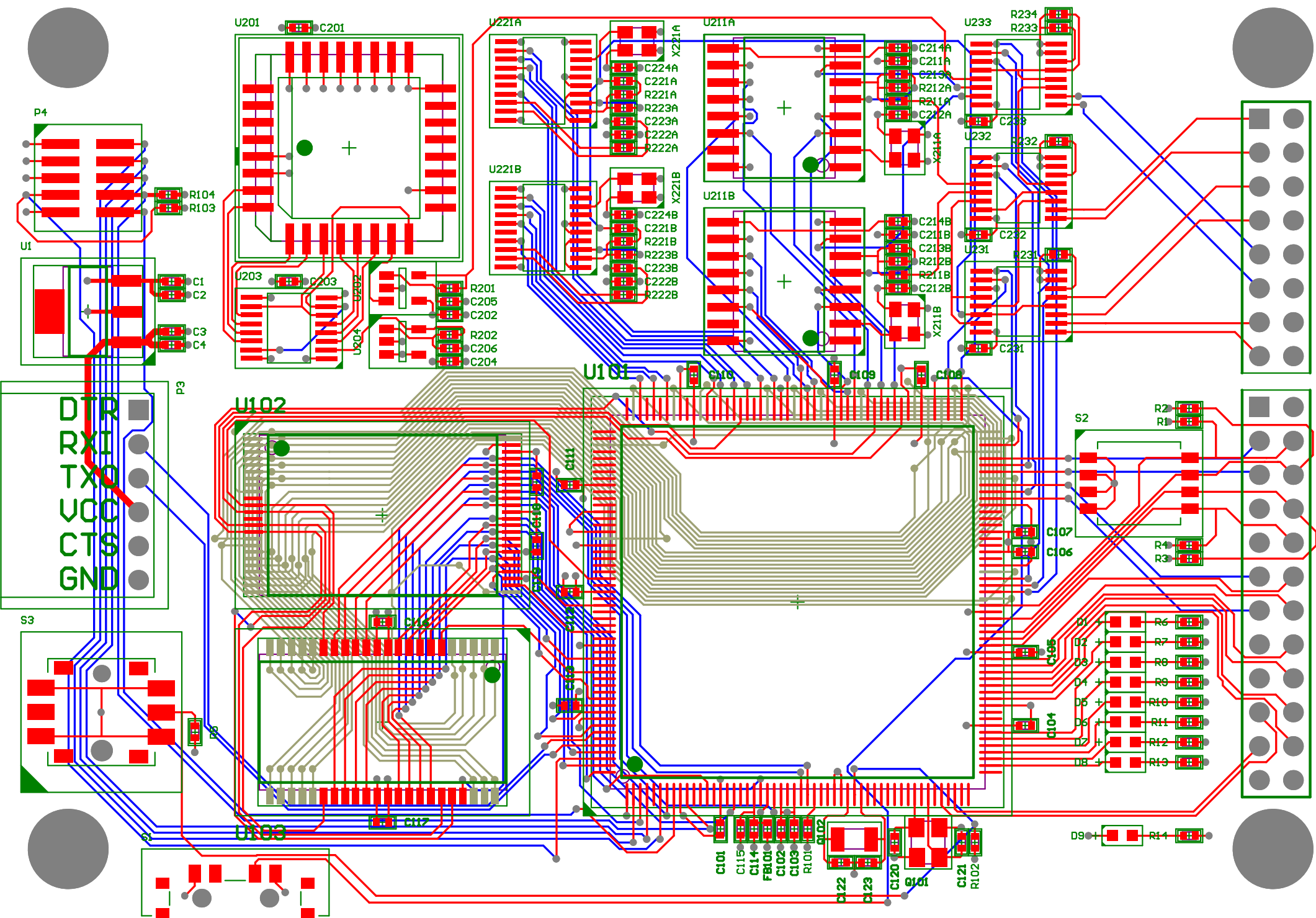
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A4		
Date:	2/08/2012	Sheet of
File:	H:\bluesatSVN\...\CSC Connections Temp\SDrDoc By:	

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Comment	Description	Designator	Footprint	LibRef	Quantity
Cap 0402	Capacitor	C1, C2, C3, C4, C101, C102, C103, C104, C105, C106, C107, C108, C109, C110, C111, C112, C113, C114, C115, C116, C117, C118, C119, C120, C121, C122, C123, C201, C202, C203, C204, C205, C206, C211A, C211B, C212A, C212B, C213A, C213B, C214A, C214B, C221A, C221B, C222A, C222B, C223A, C223B, C224A, C224B, C231, C232, C233	CAPC1005X06L	Cap 0402	52
LED - ASMT-Rx45	Typical INFRARED Gas LED 0603	D1, D2, D3, D4, D5, D6, D7, D8, D9	ASMT-Rx45	LED	9
Ferite Bead 0402	Ferite Bead : 0402	FB101	INDC1005X06L	FB_0402	1
Header 8X2	Header, 8-Pin, Dual row	P1	HDR2X8	Header 8X2	1
Header 12X2	Header, 12-Pin, Dual row	P2	HDR2X12	Header 12X2	1
FTDI Basic		P3	FTDI BASIC	FTDI Basic	1
Cortex Debug Connector	Mates with FFSD-05-D-12.00-01-N	P4	FTSH-105-01-L-DV-TR	Cortex Debug Connector	1
Crystal Oscillator	Crystal Oscillator	Q101	7M	C.O. 4pins	1
Crystal Oscillator	Crystal Oscillator	Q102	9H T10	C.O. 2pins	1
Res3	Resistor	R1, R2, R3, R4, R5, R6, R7, R8, R9, R10, R11, R12, R13, R14, R101, R102, R103, R104, R201, R202, R211A, R211B, R212A, R212B, R221A, R221B, R222A, R222B, R223A, R223B, R231, R232, R233, R234	RESC1005X06L	Res3	34
MILL1300S	Slide switch SP3T switch	S1	MILL1300S	MLL1300S	1
SW-DIP4	DIP Switch - 1571983-5	S2	PCBComponent_1	SW-DIP4	1
KS2A	Tact Switch	S3	K5A2	KS2A	1
MIC5200		U1	SOT230P710X170-4L	MIC5200	1
LPC2468FBD208	ARM7/ T6/ 32-Bit Microcontroller, 512KB Flash, 98KB RAM, 208-Lead LQFP	U101	TSQFP50P3000X3000X160-208L	LPC2468FBD208	1
CY62167DV30LL	16-Mbit (1M x 16) Static RAM	U102	TSSOP50P2000X120-48L	CY62167DV30LL	1
FM22L16-55-TG	FRAM, 2MB, 3V, 60NS, 44TSOP2	U103	TSOP80P1180X120-44L	FM22L16-55-TG	1
AT27LV256	256 Kbit (32K x 8) UV EPROM and OTP EPROM	U201	PLCC32	AT27LV256	1
IttyBitty Timer	Miniature Astable Timer Chip	U202, U204	SOT23-5	MIC1557	2
CD4520BPW	Dual Binary Up-Counter	U203	TSSOP16	CD4520BPW	1
MX614TN	Bell 202 Compatible Modem	U211A, U211B	SOIC16	MX614TN	2
MT88L70AN	3 volt Integrated DTMF Receiver	U221A, U221B	TSSOP20	MT88L70AN	2
CD4053BCM	Triple 2-Channnel Analog Multiplexer/ Demultiplexer	U231, U232	TSSOP16	CD4053BCM	2
CD4051BCM	8-Channel Analog Multiplexer/ Demultiplexer	U233	TSSOP16	CD4051BCM	1
ECS-2025-035	SMD Clock Oscillator, 3.5	X211A, X211B, X221A, X221B	ECS-2025	ECS-2025-035	4