DK3300-ELCD

DK3300-ELCD Development Kit

DATA BRIEFING

FEATURES SUMMARY

- CONTAINS ALL THE ITEMS NEEDED TO EXPLORE THE TURBO uPSD3300 MCU:
  - DK3300-ELCD Development Board (populated with the uPSD3334D and enhanced graphic LCD)
  - Keil ULINK USB-JTAG Adapter
  - Raisonance R-LINK-ST USB-JTAG Adapter
  - Raisonance RKIT CD
  - RS-232 Cable and USB Cables
  - 110/220V Universal Power Supply
  - DK3300-ELCD ST CD
  - Quick Start Guide
- AVAILABLE FOR ONLINE ORDERING
- SUPPORTS 3rd PARTY DEVELOPMENT TOOLS

Figure 1. Development Kit Contents

Table 1. Ordering Information

Part Number	Voltage	Price (in US$)
DK3300(1,2)	Universal (100V - 240V)	199.00
DK3300-ELCD	Universal (100V - 240V)	199.00

Note: 1. NND =Not for New Design
2. This product is still valid; it just has the regular LCD. Schematics and sample code for this kit is available at **www.st.com/psm/**.

TABLE OF CONTENTS

SUMMARY DESCRIPTION

The DK3300-ELCD is a development kit for the uPSD3300 family (see Table 2) which is a series of 8051 class microcontrollers (MCUs) that contain a fast Turbo 8032 core with a large Dual Bank Flash memory, a large SRAM, many peripherals, programmable logic, and a JTAG Debug/In System Programming (ISP) port.

DK3300-ELCD CD Contents

Featured applications include those listed below for third-party development, however, the uPSD is compatible with any compiler supporting standard 8051 architecture.

– Keil uVision2: code-size-limited version

Raisonance CD Contents

– PSDsoft Express
– Raisonance Rkit Development Suite: code-size-limited version
– Includes full-featured debugger (unlimited)

DK3300-ELCD demonstrations

– Example code file (1) – BANKING.zip
– Example code file (2) – EEPROM_EMUL.zip
– Example code file (3) – I2C.zip
– Example code file (4) – NEW_DK3300_PROJECT.zip
– Device drivers for PWM, I^2C, and so forth - dk33_dd.zip
– PWM example code - PWM_ADC.zip
– SPI example code – SPI.zip

Documentation

– DK3300-ELCD User Manual (Quick Start Guide)

3rd Party Development Tools

– Keil uVision2 (Integrated Development Environment)
– ULINK USB-JTAG Adapter
– Raisonance Rkit Development Suite
– R-LINK-ST USB-JTAG Adapter

Table 2. Additional Resources for DK3300-ELCD Components

Component	Link
uPSD3300 Product web page	http://www.st.com/stonline/products/families/memories/psm/upsd3300.htm
DK3300-ELCD Quick Start Guide	http://www.st.com/stonline/books/pdf/docs/10394.pdf
PSDsoft Express	http://www.st.com/stonline/products/families/memories/psm/soft_c2.htm
DK3300-ELCD Development Board (schematics)(1)	http://psmdev.st.com/DK3300-ELCD_schematics.zip
uPSD3334D (populates the DK3300-ELCD Development Board)	http://www.st.com/stonline/products/families/memories/psm/upsd33tb.htm
Keil ULINK USB-JTAG Adapter	http://www.keil.com/c51/
Raisonance R-LINK-ST USB-JTAG Adapter	http://www.raisonance.com/
Banking Example Code(1)	http://www.st.com/stonline/products/families/memories/psm/support/BANKING.zip
EEPROM Emulation Example Code(1)	http://www.st.com/stonline/products/families/memories/psm/support/EEPROM_EMUL.zip
I^2C Example Code(1)	http://www.st.com/stonline/products/families/memories/psm/support/I2C.zip
New DK3300 project Example Code(1)	http://www.st.com/stonline/products/families/memories/psm/support/NEW_DK3300_PROJECT.zip
Device Drivers(1)	http://www.st.com/stonline/products/families/memories/psm/support/dk33_dd.zip
PWM Example Code(1)	http://www.st.com/stonline/products/families/memories/psm/support/PWM_ADC.zip
SPI Example Code(1)	http://www.st.com/stonline/products/families/memories/psm/support/SPI.zip

Note: 1. This product is still valid; it just has the regular LCD. Schematics and sample code for this kit is available at **www.st.com/psm/**.

PART NUMBERING

Table 3. Ordering Information Scheme

Example: DK 33 0 0 – ELCD

Part Type

DK = Development Kit

Family

33 = uPSD 33XX Turbo core

Power Type

0 = Self-powered

On-chip Flash Memory Size

0 = 288KB Flash

LCD Type

blank = Regular LCD (NND - Not for New Design)(1)

ELCD = Enhanced graphic LCD

Note: 1. This product is still valid; it just has the regular LCD. Schematics and sample code for this kit is available at **www.st.com/psm/**.

APPENDIX A. DK3300-ELCD SCHEMATICS

Figure 2. Top Level

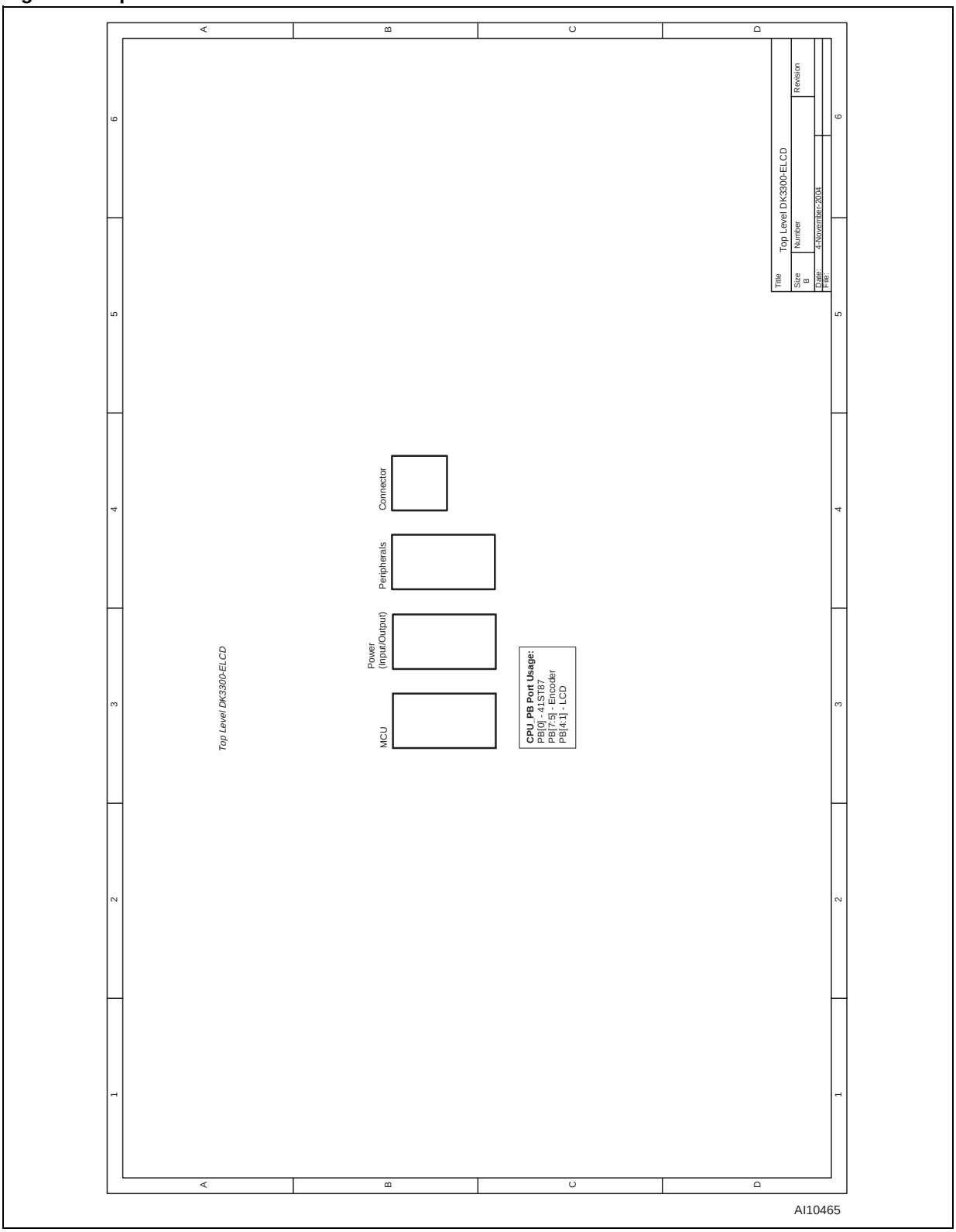


Figure 3. MCU

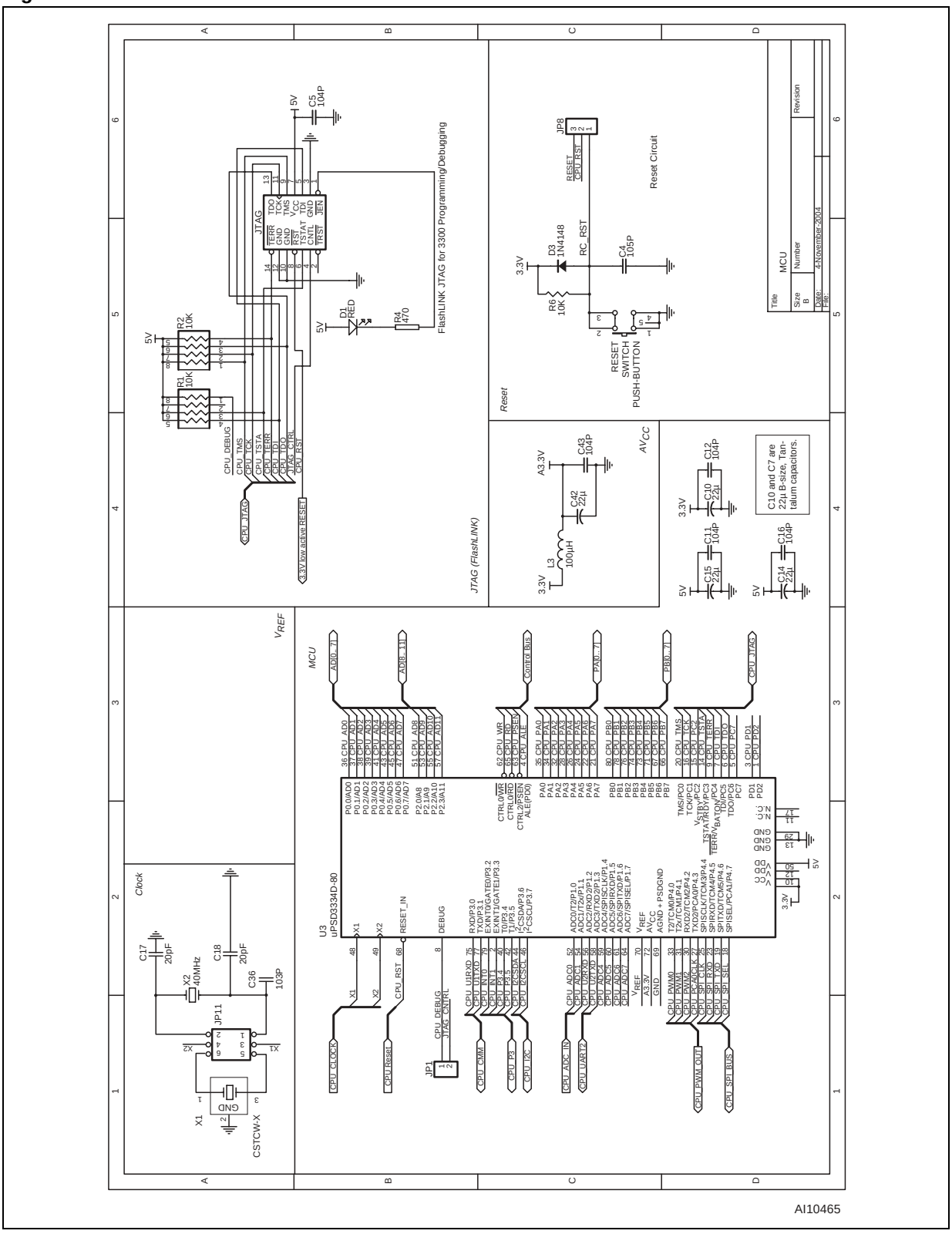

JTAG (FlashLINK)
FlashLINK JTAG for 3300 Programming/Debugging
Reset
Reset Circuit
RESET SWITCH PUSH-BUTTON
AVCC
VREF
MCU
Clock
U3 uPSD3334D-80
C10 and C7 are 22µ B-size, Tantalum capacitors.
AI10465

Figure 4. Power

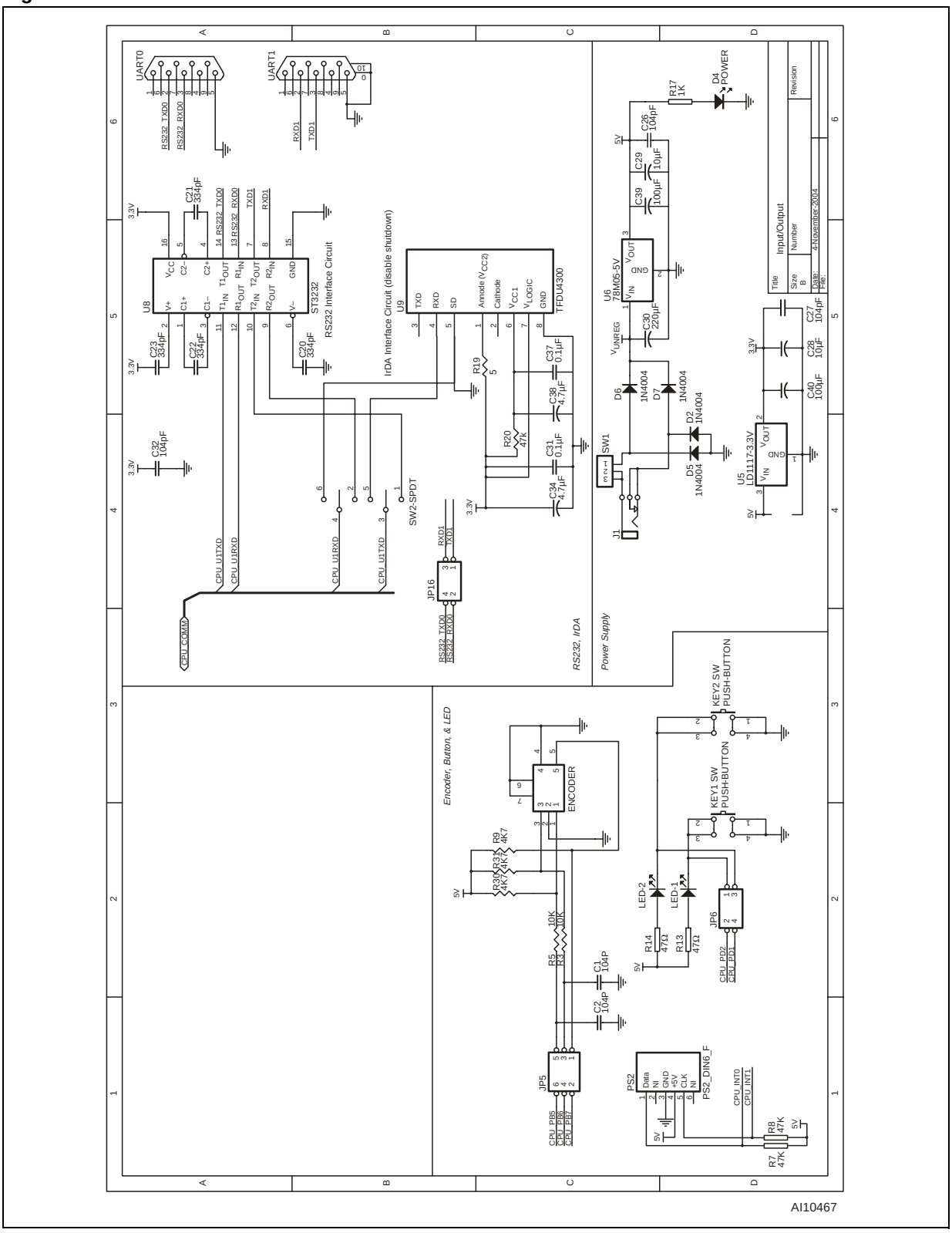


Figure 5. Peripherals

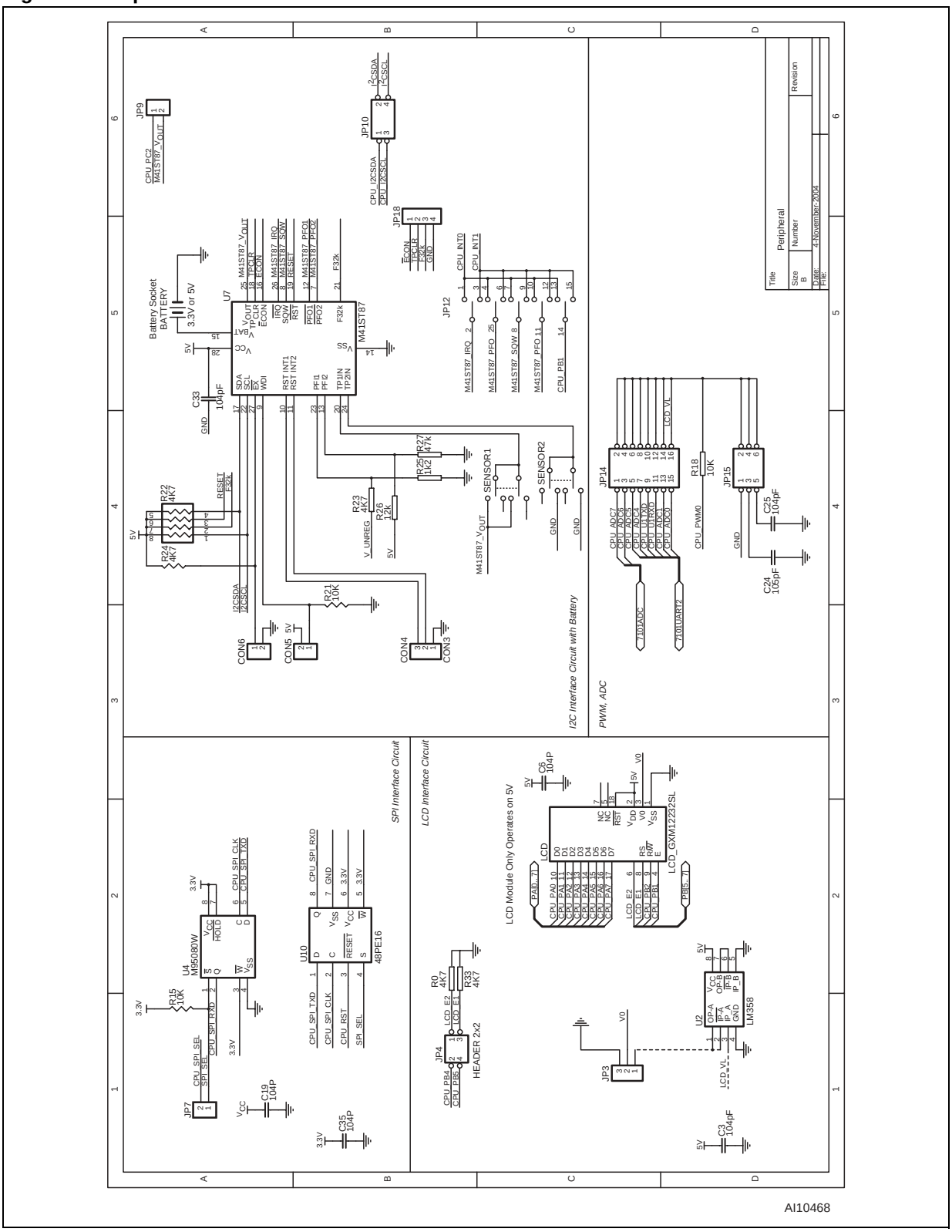
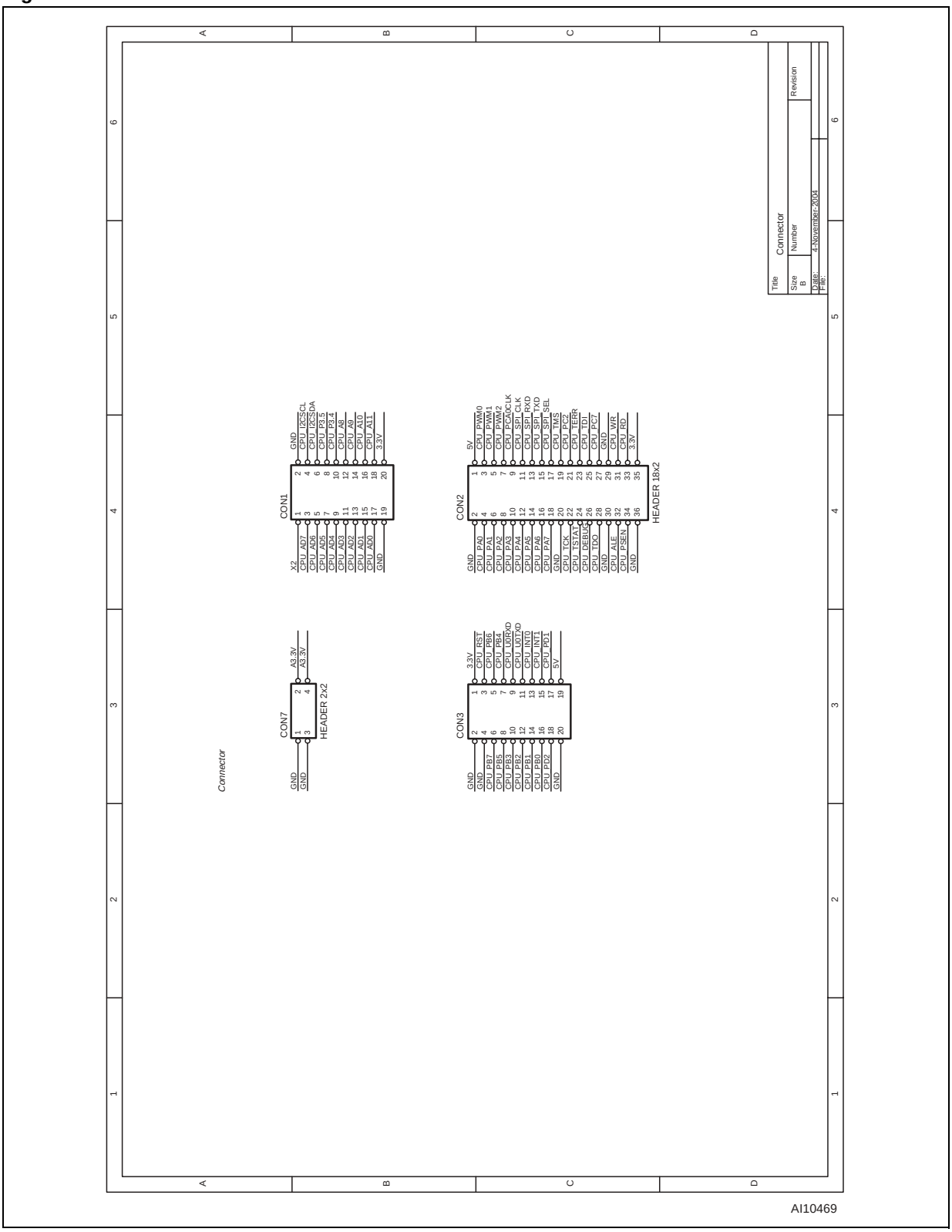
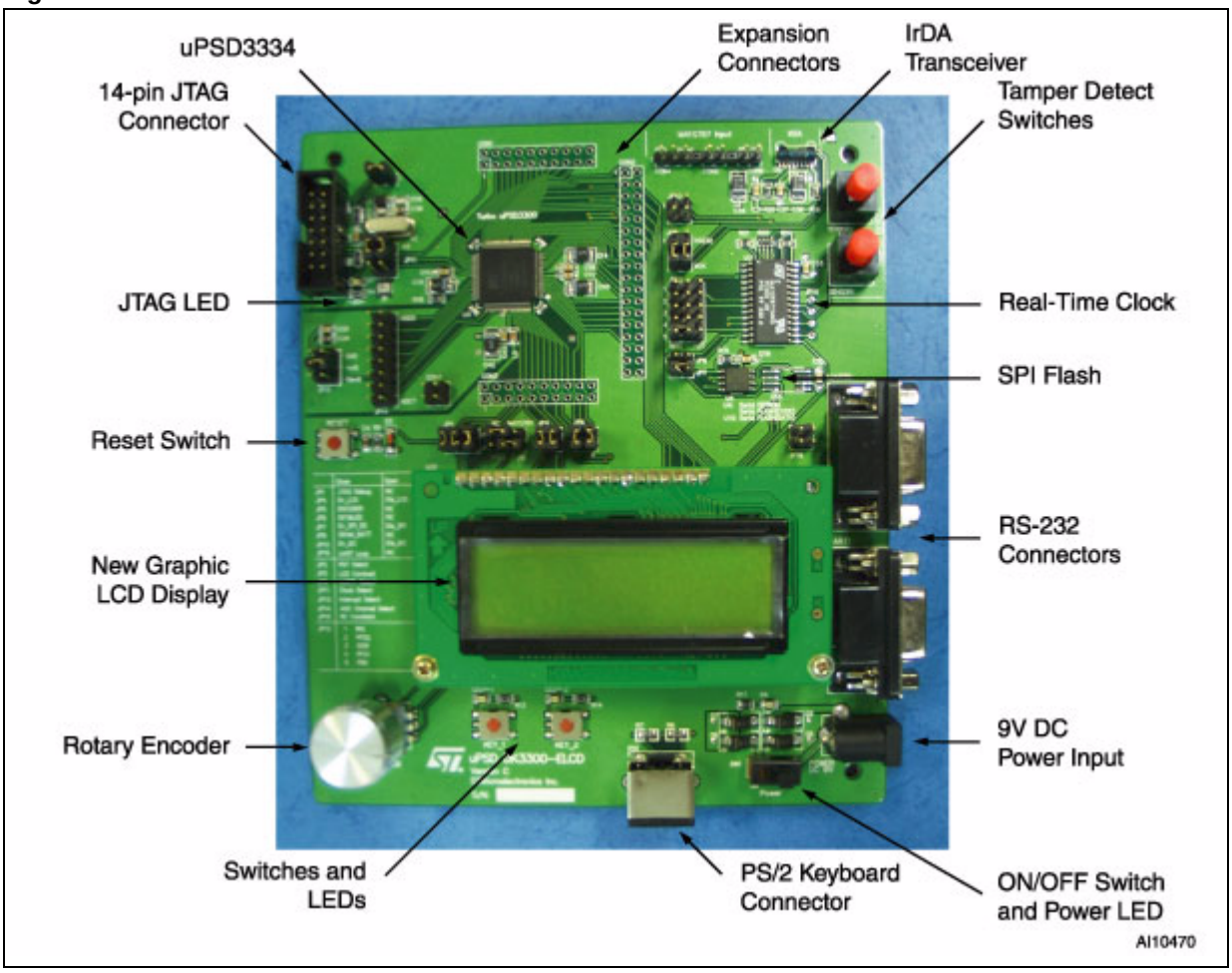


Figure 6. Connectors



APPENDIX B. DK3300-ELCD BOARD

Figure 7. DK3300-ELCD Board Connections



APPENDIX C. DK3300-ELCD JUMPERS

The following Table describes the DK3300-ELCD Jumpers. Verify that in Jumper set *JP14 – ADC7* is “closed” and *JP3* is set to “Fix.” J*P5, JP4 and JP6* Jumper sets are all “closed” for the PWMADC demonstration.

See the Schematics (Figure 3., page 6, Figure 4., page 7, Figure 5., page 8, and Figure 6., page 9) for more information regarding the jumpers.

Table 4. DK3300-ELCD Jumpers Selection and Defaults

Jumper Number	Description	Default Settings	Comments
JP1	JTAGDebug I/O Pin	Closed	Should be Closed
JP2	Reset Input Select	Closed in position 1-2 for Reset Switch	Position 2-3 for RTC Reset
JP3	LCD Contrast	2-3 Closed (Fix)	Normally Closed in position 2-3; Position 1-2 used for PWM Control
JP4	Enhanced LCD	Closed	Determines if Enhanced-LCD in On-Board
JP5	Encoder Connection	Normally all 3 Closed to enable Encoder	This connects Encoder to Port B.
JP6	Key board and LED	Closed	
JP7	Enable SPI	Closed	Normally closed to enable SPI EEPROM
JP8	IrDA/UART1 Select	Normally 1-3 and 2-4; Closed to select the RS232 Connector 1	Else can be set to position 3-5 and 4-6 to select the IrDA transceiver to be connected to UART1
JP9	SRAM Battery	Normally Open	
JP10	Enable I^2C	Closed	Normally both positions closed to enable I2C access to RTC chip.
JP11	Clock Select	Closed x2 for Crystal	Selects Crystal or Oscillator
JP12	Interrupt Select (for MCU)	Normally Open (See DK3300-ELCD SCHEMATICS)	(Used to map various RTC Interrupt sources to the MCU) 1-IRQ; 2-PFO2; 3-SQW; 4-PFO1; and 5-PBO
JP14	ADC Channel Select	ADC7 (Positions 15-16) is Closed	ADC7 (Positions 15-16) is Closed
JP15	PWM RC Constant	Normally (position 1-2) is Closed	Selects PWM RC constant; position 1-2 is 1ms.
JP16	For connecting UART0 and UART1 in loop back mode	Normally Open	Can be connected positions 1-2 and 3-4 for loop back
JP18	Headers for M41ST87 Signals	Normally not used	Headers can be used to connect to check signals: 1 - $\overline{E}_{CON}$ 2 - TP_{CLR} 3 - F_{32k} 4 - GND

REVISION HISTORY

Table 5. Document Revision History

Date	Version	Description
31-May-04	1.0	First Edition - DK3300 (NND - Not for New Design)
09-Dec-04	2.0	New DK3300-ELCD features added (Figure 2, 3, 4, 5, 6; Table 1, 2, 3)