



# 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 <sup>(1,2)</sup>	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/](http://www.st.com/psm/).

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## 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<sup>2</sup>C, 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

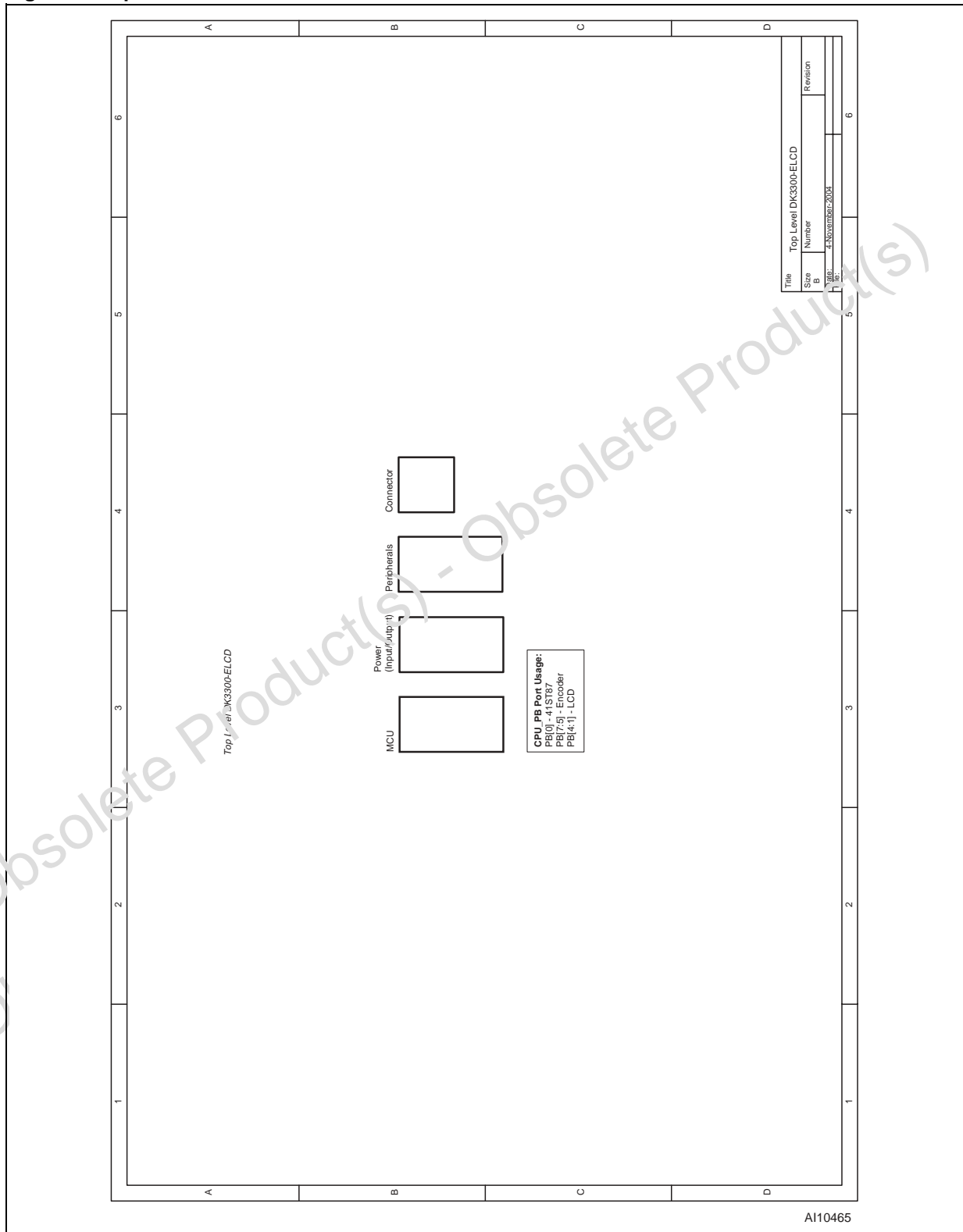
Component	Link
uPSD3300 Product web page	<a href="http://www.st.com/stonline/products/families/memories/psm/upsd3300.htm">http://www.st.com/stonline/products/families/memories/psm/upsd3300.htm</a>
DK3300-ELCD Quick Start Guide	<a href="http://www.st.com/stonline/books/pdf/docs/10394.pdf">http://www.st.com/stonline/books/pdf/docs/10394.pdf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

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/](http://www.st.com/psm/).



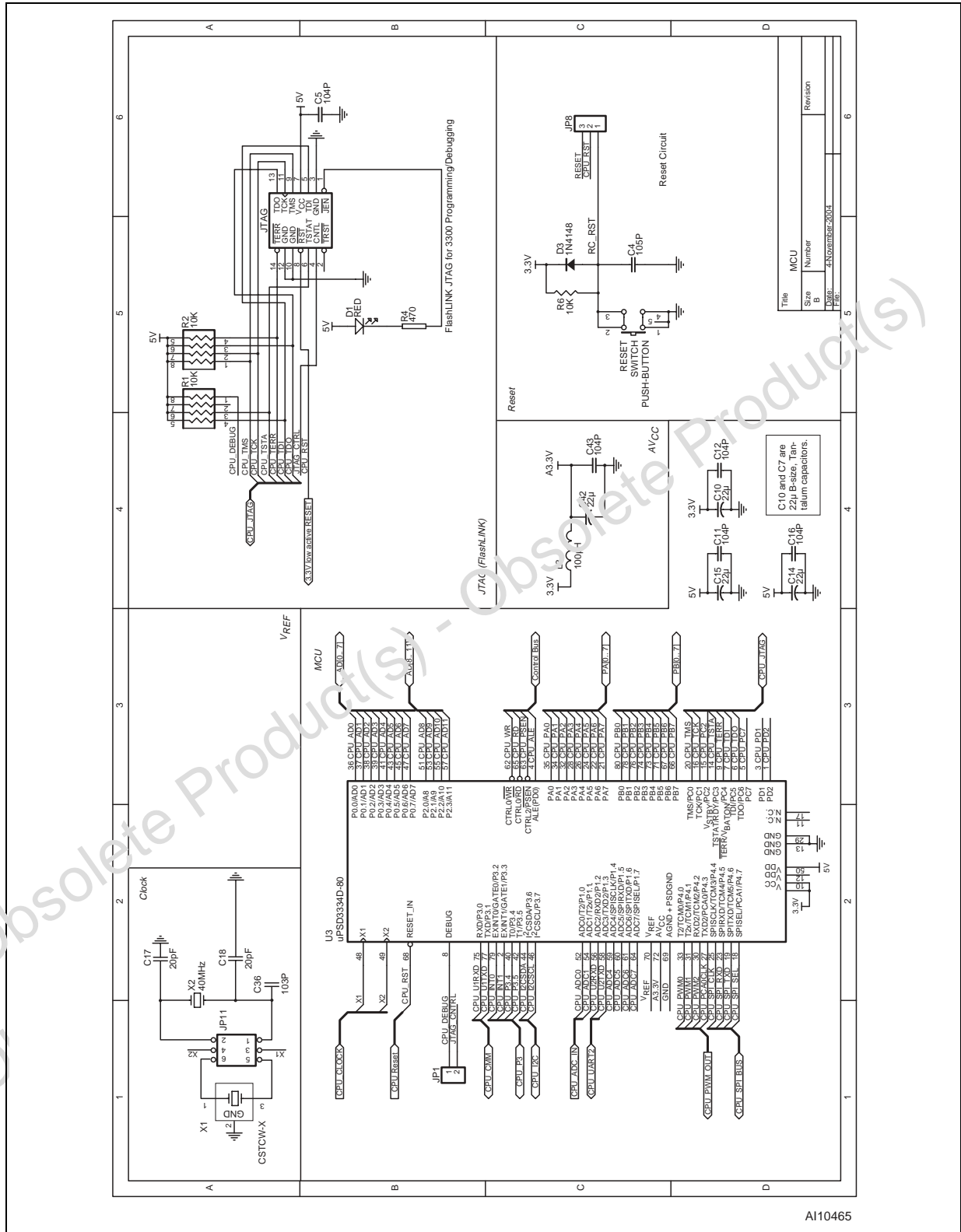
APPENDIX A. DK3300-ELCD SCHEMATICS

Figure 2. Top Level



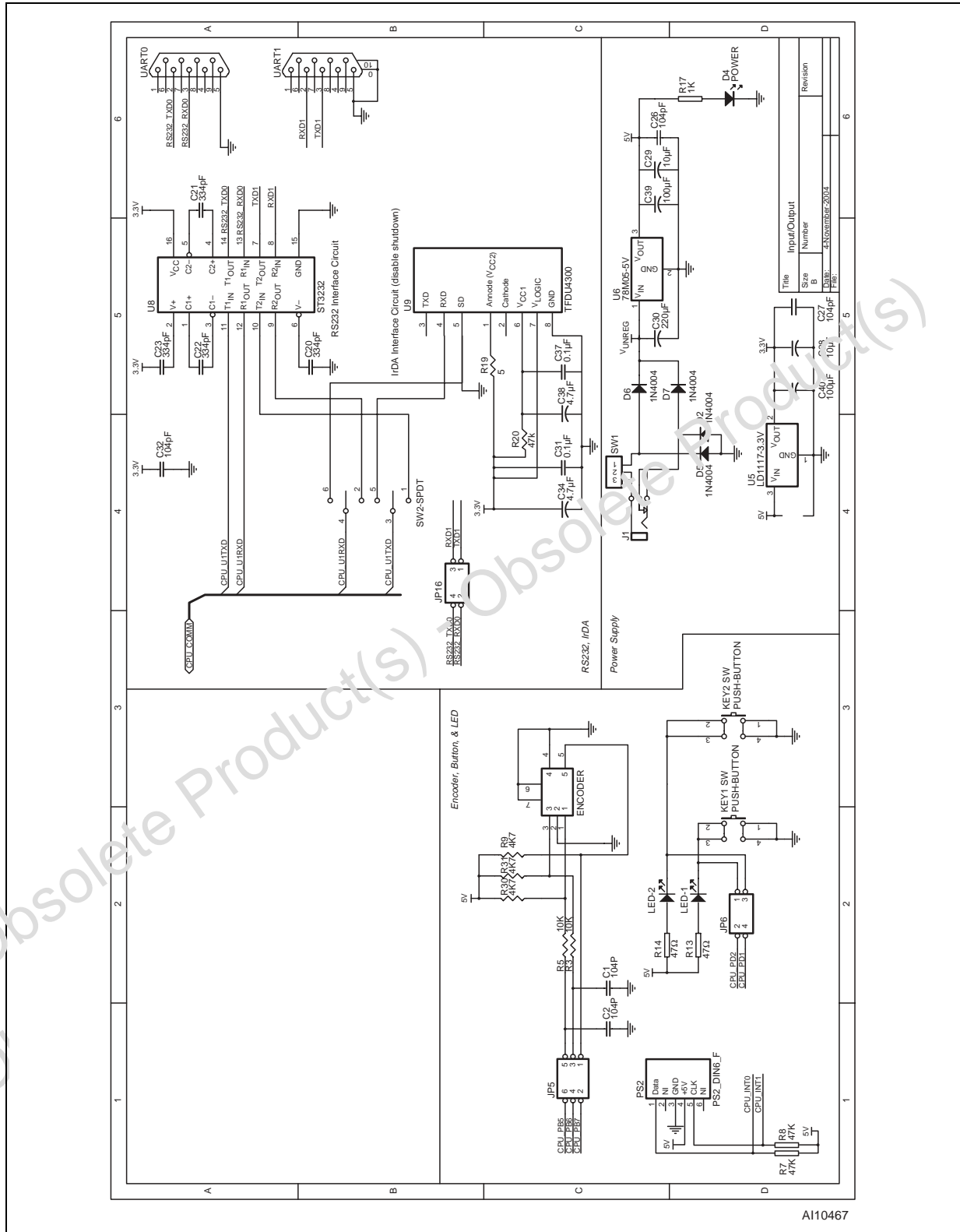
# DK3300-ELCD - DEVELOPMENT KIT

Figure 3. MCU



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Figure 4. Power

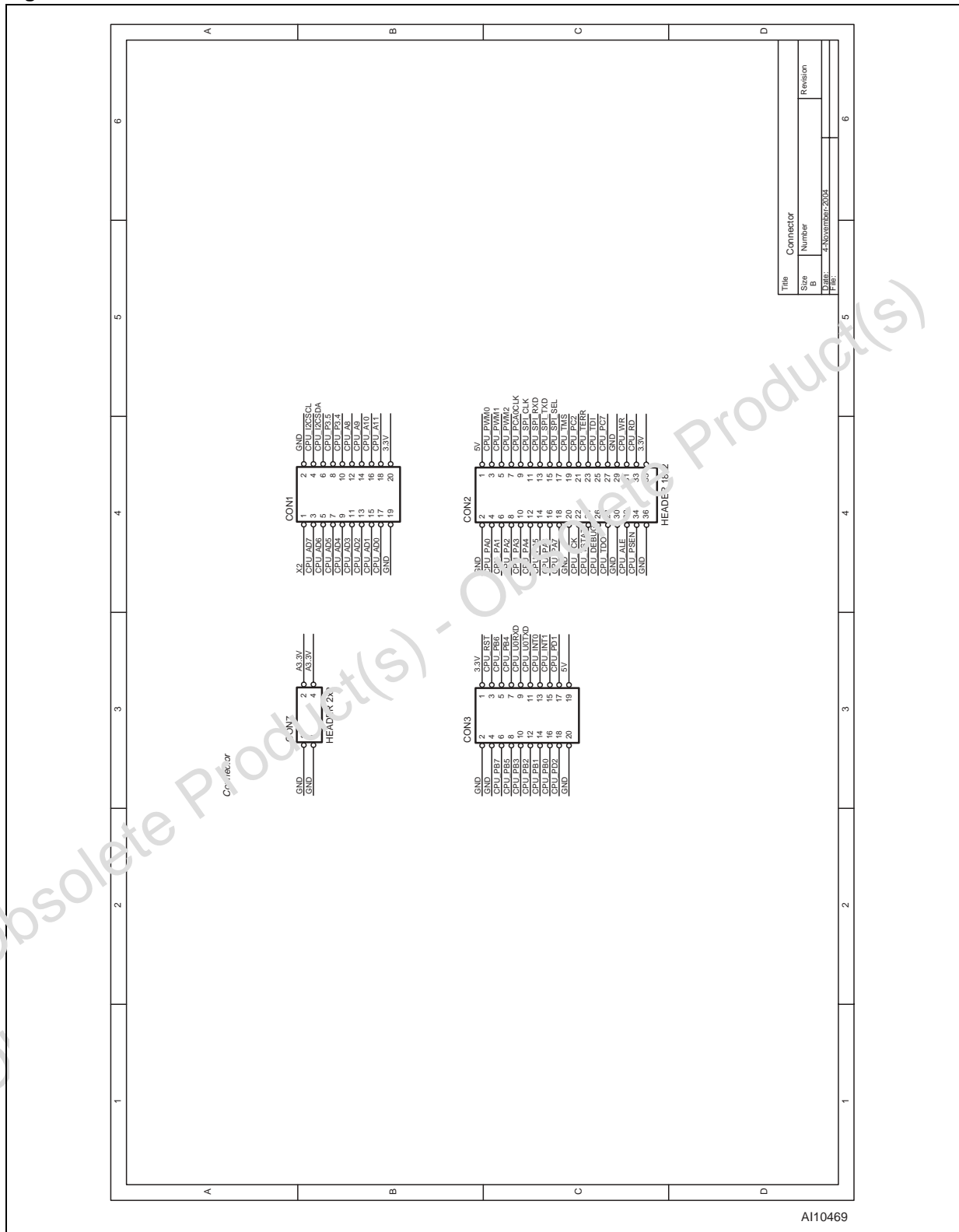


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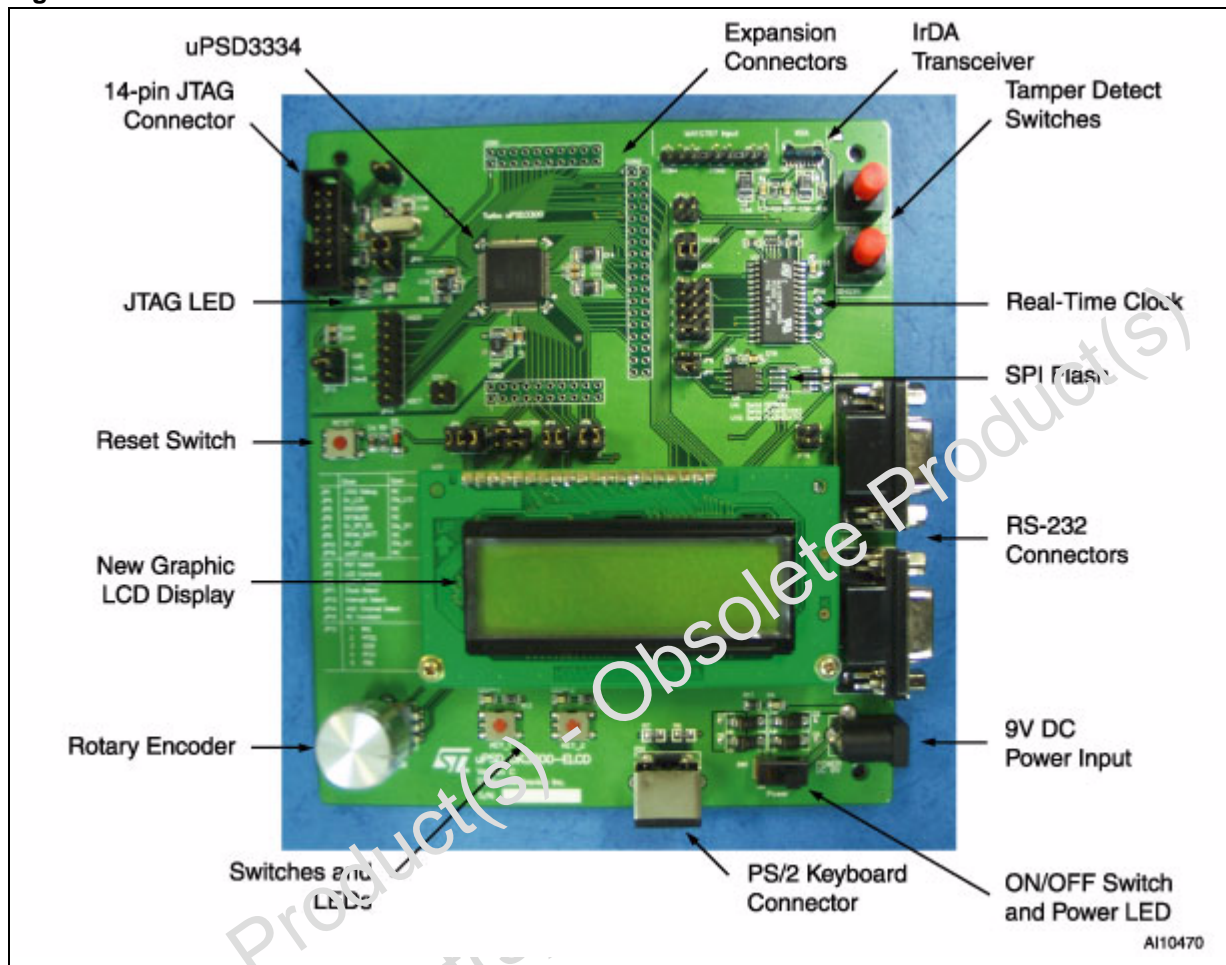
Figure 6. Connectors



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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.” *JP5*, *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 <sup>2</sup> C	Closed	Normally both positions closed to enable I2C access to RTC chip.
JP11	Clock Select	Closed for Crystal	Selects Crystal or Oscillator
JP12	Interrupt Select (for MCU)	Normally Open (See <a href="#">DK3300-ELCD SCHEMATICS</a> )	(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 - E <sub>CON</sub> 2 - TP <sub>CLR</sub> 3 - F <sub>32k</sub> 4 - GND

## **REVISION HISTORY**

**Table 5. Document Revision History**

<b>Date</b>	<b>Version</b>	<b>Description</b>
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)

Obsolete Product(s) - Obsolete Product(s)  
Obsolete Product(s) - Obsolete Product(s)

Obsolete Product(s) - Obsolete Product(s)

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