



# 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/).

**TABLE OF CONTENTS**

**FEATURES SUMMARY** ..... 1

    Figure 1. Development Kit Contents ..... 1

    Table 1. Ordering Information ..... 1

**SUMMARY DESCRIPTION** ..... 3

**DK3300-ELCD CD Contents** ..... 3

**Raisonance CD Contents** ..... 3

**DK3300-ELCD demonstrations** ..... 3

**Documentation** ..... 3

**3rd Party Development Tools** ..... 3

    Table 2. Additional Resources for DK3300-ELCD Components ..... 3

**PART NUMBERING** ..... 4

    Table 3. Ordering Information Scheme ..... 4

**APPENDIX A. DK3300-ELCD SCHEMATICS** ..... 5

    Figure 2. Top Level ..... 5

    Figure 3. MCU ..... 6

    Figure 4. Power ..... 7

    Figure 5. Peripherals ..... 8

    Figure 6. Connectors ..... 9

**APPENDIX B. DK3300-ELCD Board** ..... 10

    Figure 7. DK3300-ELCD Board Connections ..... 10

**APPENDIX C. DK3300-ELCD JUMPERS** ..... 11

    Table 4. DK3300-ELCD Jumpers Selection and Defaults ..... 11

**REVISION HISTORY** ..... 12

    Table 5. Document Revision History ..... 12

## 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

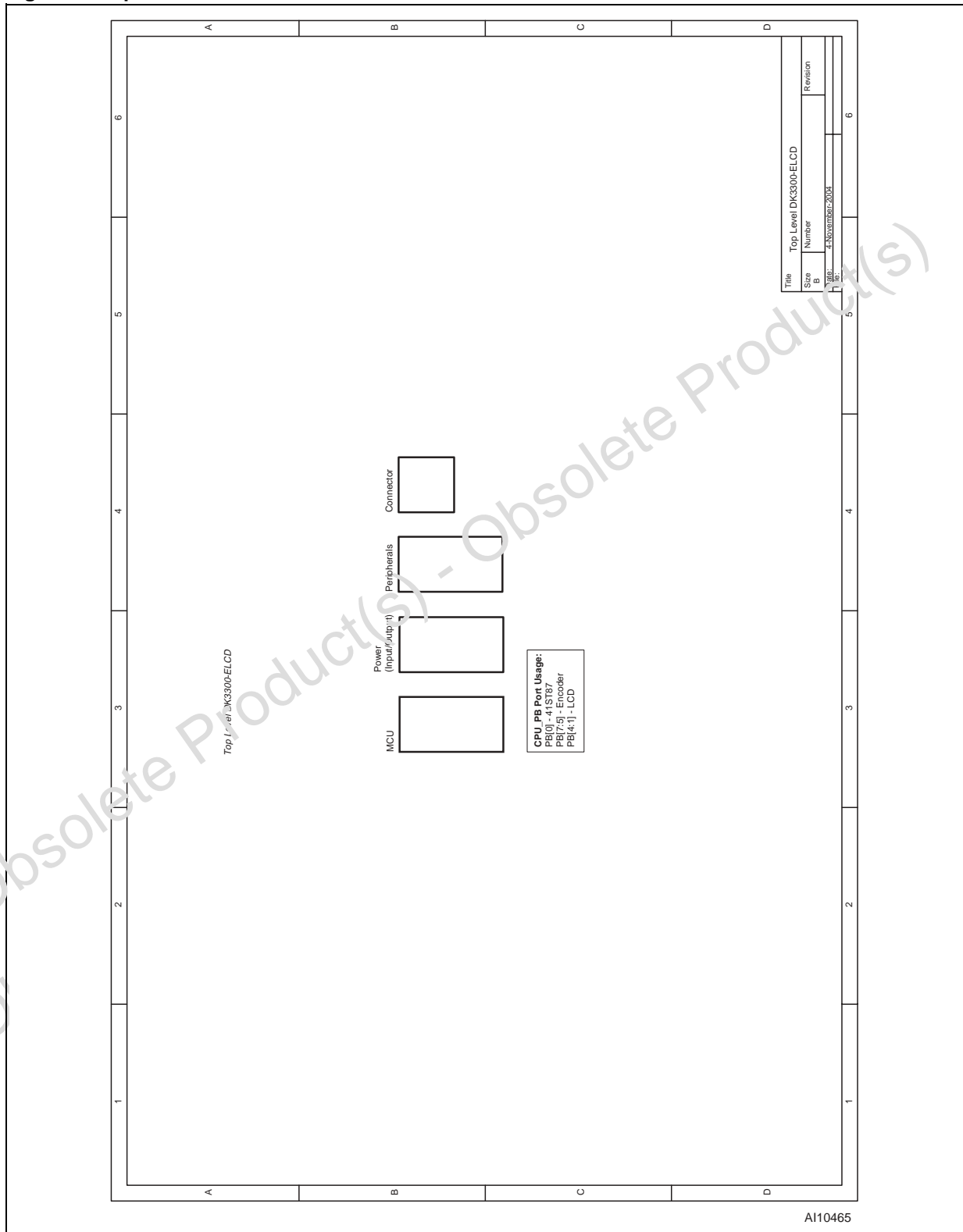
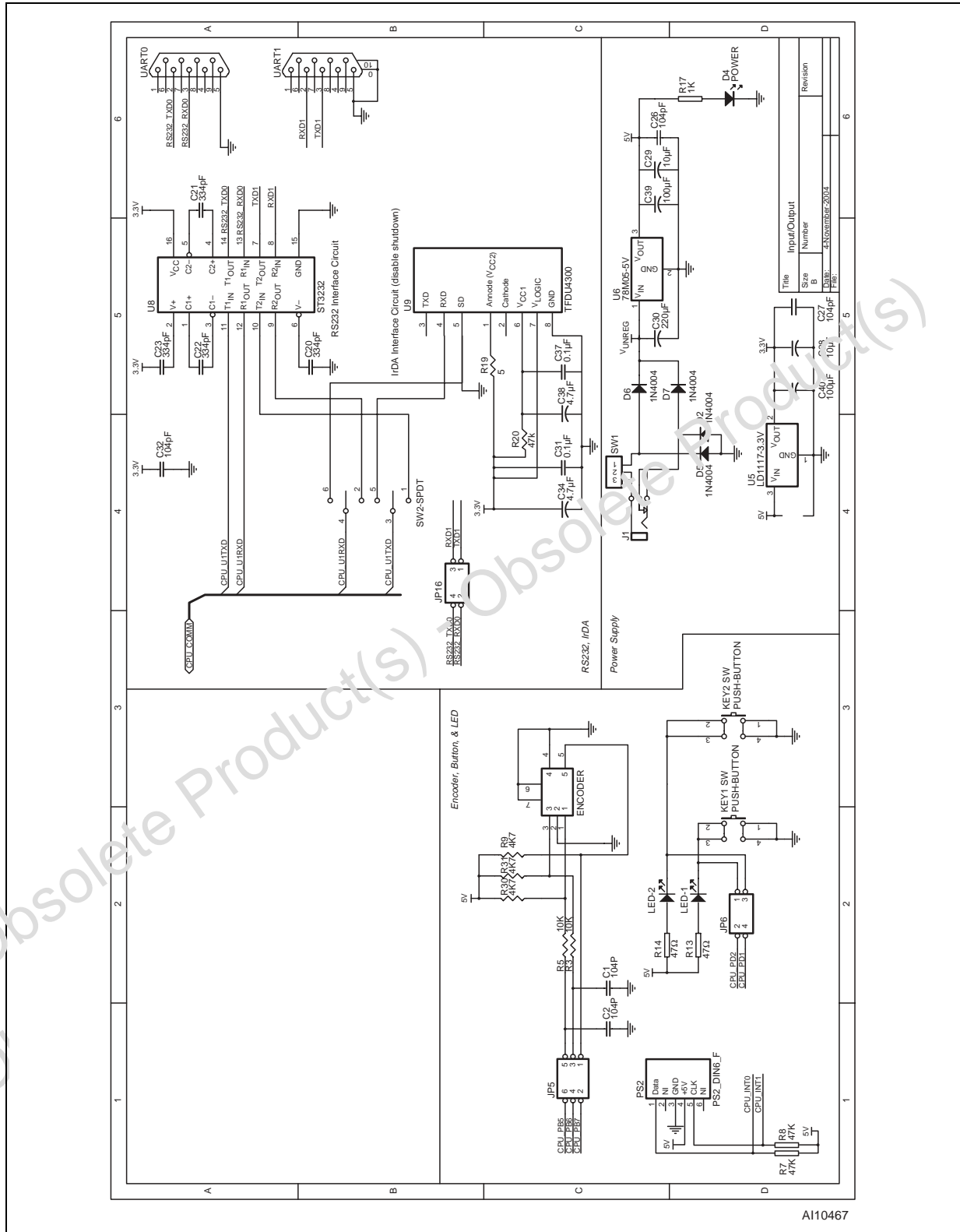




Figure 4. Power



A110467

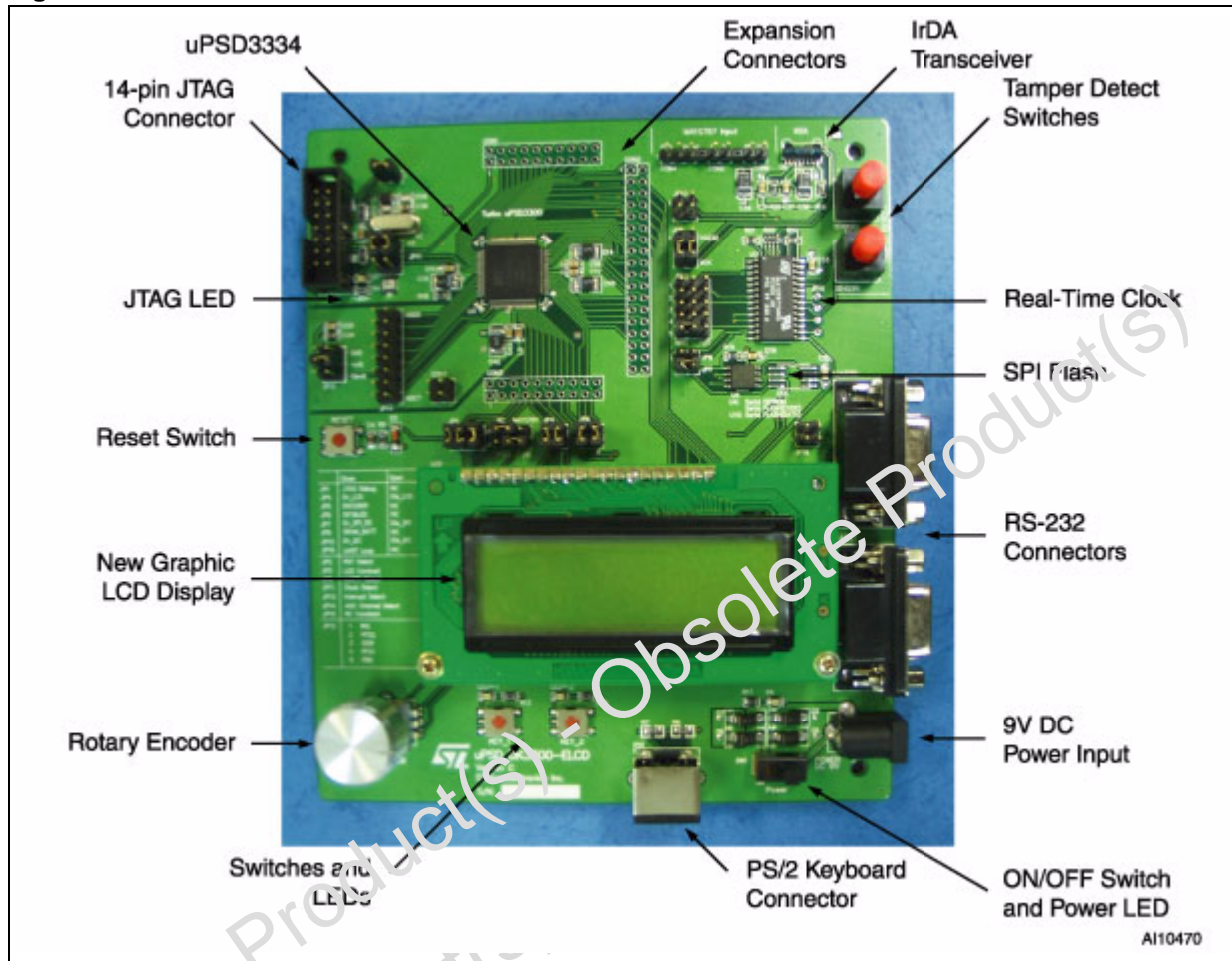






APPENDIX B. DK3300-ELCD BOARD

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)

Information furnished is believed to be accurate and reliable. However, STMicroelectronics assumes no responsibility for the consequences of use of such information nor for any infringement of patents or other rights of third parties which may result from its use. No license is granted by implication or otherwise under any patent or patent rights of STMicroelectronics. Specifications mentioned in this publication are subject to change without notice. This publication supersedes and replaces all information previously supplied. STMicroelectronics products are not authorized for use as critical components in life support devices or systems without express written approval of STMicroelectronics.

The ST logo is a registered trademark of STMicroelectronics.

All other names are the property of their respective owners

© 2004 STMicroelectronics - All rights reserved

STMicroelectronics group of companies

Australia - Belgium - Brazil - Canada - China - Czech Republic - Finland - France - Germany - Hong Kong - India - Israel - Italy - Japan - Malaysia - Malta - Morocco - Singapore - Spain - Sweden - Switzerland - United Kingdom - United States of America

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