CL-PSK7111-DMBD01

Preliminary Product Bulletin

Evaluation Kit for CL-PS7111

Target Use

- **Fast prototyping**
- **Software development**
- **Hardware integration**
- **Start-up capability for any operating system**

Evaluation Board Contents

- **LCD panel and keyboard**
- **Schematics, layout, design database, and documentation**
- **Debug monitor for the CL-PS7111**
- **Source code for sample programs**

Features

- **18-MHz CL-PS7111**
- **4-Mbyte flash** (512 Kbytes × 32)
- **2-Mbyte DRAM** (1 Mbyte × 16)
- **Power supply with step-up/down converters**
- **PC Card (PCMCIA) socket using the CL-PS6700**
- **Two RS-232 interfaces** (110–115 kbps)
- **115-kbaud IR interface**
- **Keyboard**
- **8-channel, 12-bit A/D converter**
- **Telephone codec and speaker amplifier**
- **Expansion capability through add-on modules**
- **Bootstrap loader**

Host System Requirements

- **ARM® toolkit v2.1**
- **Windows® 3.1 or Windows® 95**

The CL-PS7111 evaluation kit (order number CL-PSK7111DMBD01) is offered to design a CL-PS7111–based, battery-operated, low-power system. This kit can be used to develop and debug drivers and application programs for the highly integrated microcontroller.

The evaluation kit provides the necessary software and hardware support for performance evaluation and power consumption measurement under various conditions. The ARM® toolkit (containing a compiler, debugger, linker, etc.) is required for use with the evaluation board.

Kit Contents

This evaluation kit contains a reference board that serves as a starting point for new designs. A system designer can use the board as the 'motherboard' and simply add application-specific I/O modules. For example, the designer of a two-way pager can incorporate the pager functionality as an I/O module attached to the basic board. All engineering design collateral is provided in the evaluation kit.

Board Specifications

The board supports one Type I/II/III PC Card socket; power is supplied by a battery or AC adapter. A monochrome STN 240 × 100 or 320 × 240 LCD screen connection is also provided. The keyboard module consists of a small scanning keyboard matrix connected to the I/O ports and the eight dedicated column drivers.

For additional functionality, modules (such as a GPS or a fax/modem) can be added to the 8-bit expansion port.

Debug Monitor for the CL-PS7111

The debug monitor allows source-level program debugging on the evaluation board compiled with debug information. It is specifically developed for the CL-PS7111 and references all the CL-PS7111 registers. Some important monitor features include:

- Single-steps into procedure calls
- Sets procedure entries and exit breakpoints at lines, statements within a line, or program labels
- Sets variable watchpoints
- Displays all CL-PS7111 registers (all ARM and controller registers)

ARM® Software-Development Toolkit (Available from ARM and Cirrus Logic)

The ARM software-development toolkit is a collection of utilities for producing ARM code programs. Emulators are provided so programs run even when ARM hardware is unavailable to the developer. The toolkit supports Windows-based PCs and Sun® workstations. The toolkit consists of:

- **armcc (ARM C cross compiler): a mature, industrial-strength compiler tested for ANSI conformance against the Plum Hall C validation suite**
- **armasm: ARM cross assembler**
- **armlink: ARM linker that combines the contents of one or more object files (the output of a compilation of assembler) with selectable parts of one or more object libraries to produce an executable program**
- **decAOF: ARM object file decoder/disassembler**
- **armsd: symbolic debugger**
- **APM (ARM project manager): an integrated development environment that provides all the traditional 'make file' functions, along with source-editing facilities and a link to the ARM debugger**

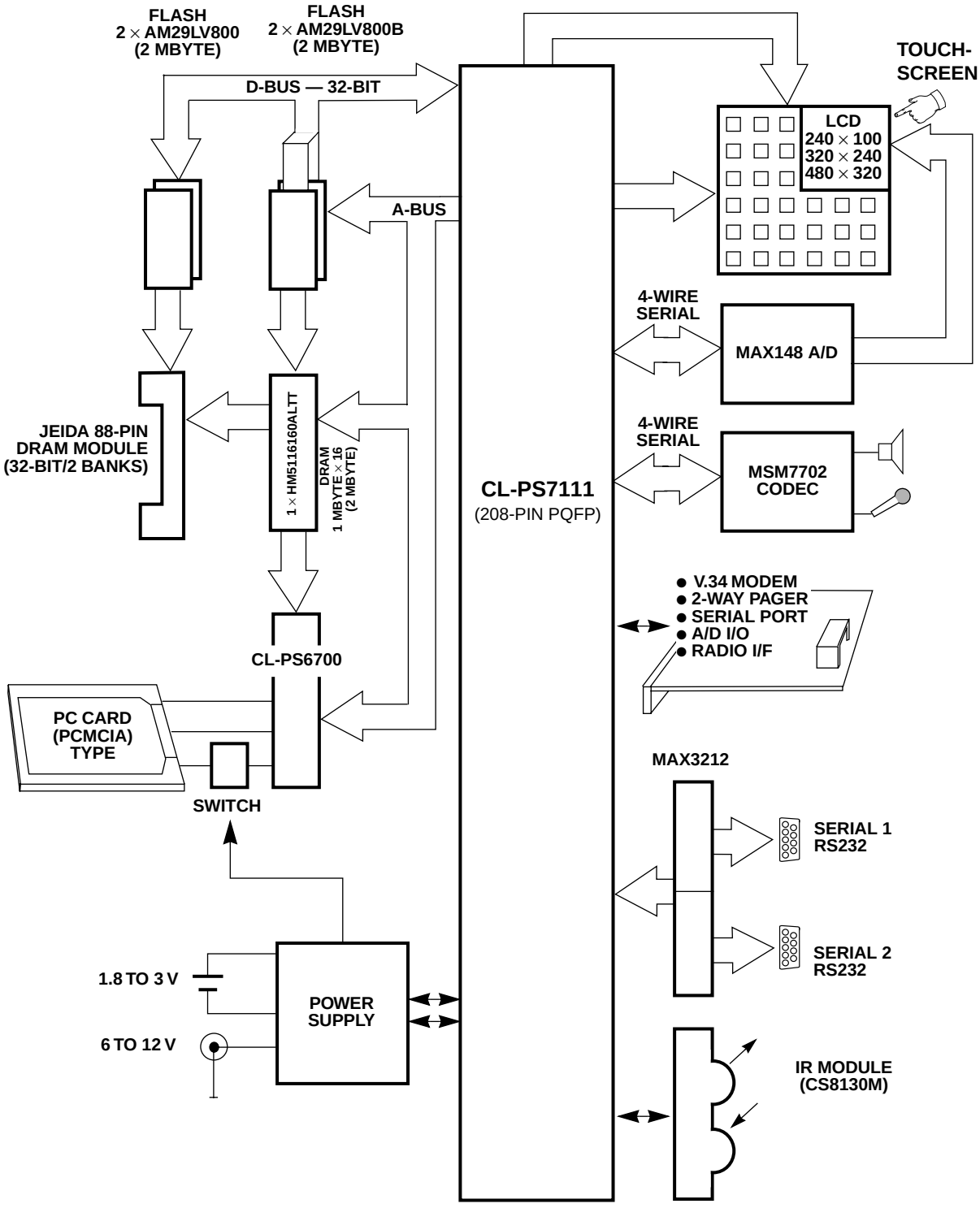
Stuffing Options

A number of stuffing options are available:

- Clock source
  - 18 MHz from 3.6864-MHz crystal
  - 13 MHz from oscillator
- V_{EE} control
  - Positive or negative voltage
- LCD panel
  - 3.3-V panel 240 × 100
  - Other panels can be connected on different flat-ribbon cable connectors
- Buzzer
  - Loud speaker instead of buzzer
- DRAM
  - 32-bit-wide banks supported on the 88-pin JEIDA connector

System Requirements

The preloaded debug monitor requires a PC running the symbolic debug monitor (DOS or Windows 95). Contact ARM at www.arm.com or Cirrus Logic to order the ARM toolkit (Cirrus Logic part number PSKARMTOOL-02). Familiarity with the ARM tools, such as ARMSD and/or Tool 2XX, is required for evaluation board use.



CL-PSK7111-DMBD01 Evaluation Board Block Diagram

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