

The new RE2 embedded computer: High performance, very low power demand and a minimal footprint

The RE2 board from Blue Chip Technology represents a significant advance in embedded computing. It leads the new wave of ARM Cortex A8 embedded computers, due to its OMAP 3 processing core which also integrates a c64x 520 Mhz DSP. This architecture gives the RE2 the market edge in performance per watt, and a compact design optimised for graphics and computationally intensive tasks. Target applications include high-definition multimedia, image and voice processing, and data compression/decompression. The board's small size and very low power demand also equip it for handheld and mobile applications.

The RE2's power dissipation is typically only about 3 (or 2 W?) Watts at 720 MHz, yet it has the graphics capability to smoothly deliver 720p resolution video content. This performance is complemented by the board's versatility and ease of set-up. An innovative REsolution display kit is available, providing all the display-specific cables and interface electronics to handle the signal, backlight and touch screen requirements for TFT panels ranging from 1080 x ? to 320 x 240 resolution. REsolution also includes a PC utility allowing fine-tuning of display resolution and other parameters to accommodate most available TFTs. The RE2 also accepts a wide input voltage range of 7 VDC to 36 VDC, making it suitable for vehicle installations.

Features include 256 MB LPDDR SDRAM and 512 MB NAND Flash, both soldered on board, plus an optional NAND Flash µSD card. Video output is available through an 18 bit RGB TTL connector or a DVI port, and a 4-wire touch screen controller and audio codec interface are also provided. Communications capability comprises a 10/100 Ethernet port, quad USB 2.0 host ports, one USB 2.0 device port, dual RS-232 and a single RS-485 port. Bluetooth, Wi-Fi and a Camera Interface are also provided. The board supports Windows CE 6.0, Linux, and by special request, QNX and VxWorks.

The novel expansion port can accept an optional CM1 module to add GPRS and GPS functionality for telematics and in-vehicle applications. The RE2's extended temperature option of -40°C to +85°C at 600 MHz, and soldered memory, enhance its suitability for such harsh environments. Customers can also use the expansion port to add their own application-specific functions, with full technical support from Blue Chip Technology.

The RE2 is backwardly compatible with the earlier successful RE1, in line with Blue Chip Technology's development strategy. This ensures that customers can always enjoy the latest available processing performance and functionality without incurring maintenance and upgrade problems during the life of their own equipment.

About Blue Chip Technology

Over the last twenty-five years Blue Chip Technology has built up a comprehensive range of resources and facilities which can be brought to bear on customer projects. We're nearly unique in being able to offer UK design and manufacture at board and system level. We operate under the strict procedures of BS EN ISO 9001:2000, CE-marking our own product and attaining UL and FCC approvals on a project basis. We have forged long-standing relationships with key partners in the software and silicon sectors as well as with industry standards bodies.

Working closely with our customers across a spectrum of vertical markets, Blue Chip Technology has built up a practical understanding of different industries' requirements. We have worked with environmental extremes, legacy equipment, system security and industry specific compliances.

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