Overview

The Vadem VG330 Evaluation board provides a highly configurable platform for designers of battery-operated personal electronic products to show proof-of-concept, evaluate design tradeoffs or prototype software and hardware. The designer can evaluate all the features and configuration options of the Vadem VG330 single-chip platform and quickly configure a first-cut approximation of the target system. Some example uses:

✔ Evaluate software early in development process
✔ Study performance vs. power tradeoffs
✔ Evaluate power consumption with different memory types
✔ Configure matrix keyboard key layout

A PCMCIA 2.1 (JEIDA 4.2) ExCA compatible PC card slot is supported. This slot supports PC Card ROM, RAM, FLASH and PC Card I/O cards.

The VG330-EVAL board provides a standard serial port configurable for COM1 or COM2. This port may also be used as an IrDA interface.

An on-board 8473 floppy disk controller provides support for easy software loading from up to two floppy drives. The standard formats of 360K, 720K, 1.2M and 1.44M are supported.

A special card-format firmware expansion slot is also included.

Key Features

- Complete motherboard type design, based on the Vadem VG330 32MHz single-chip PC platform
- LCD interface for 640 x 480 AT&T, CGA and smaller panels
- Support for standard XT-style keyboard or X-Y keyboard matrix (supplied).
- RS-232 serial port interface
- IrDA serial interface
- PCMCIA 2.1 (JEIDA 4.2) ExCA™ PC card slot
- Support for DRAM, SRAM, PSRAM and Self-Refresh DRAM
- Support for up to 512K EPROM
- Support for FLASH EPROM
- Floppy disk interface supports up to 1.44MB floppies
- Option switches allow quick reconfiguration of I/O ports
- Expansion connector provides access to ISA signals
- Wire-wrap area for prototyping custom circuitry
- Dual Hex LEDs display Power-On Self Test (POST) codes
- Includes standard BIOS plus significant extensions
- Includes Microsoft® MS-DOS® ROM Version 5.00 for instant boot-up
- Piggyback connector for optional Vadem VG330-ICE adapter (allows debugging with a standard 286 ICE)
- Card-format firmware expansion slot facilitates development of ROM-based code.
Functional Description

- Three types of RAM memory are supported via Memory Modules.
  - ✔ PSRAM/SRAM Memory Module
  - ✔ Up to 4 Mbytes using 8 512Kx8 PSRAMs, 16 bit array
  - ✔ Up to 1 Mbyte using 8 128K x 8 SRAMs, 16 bit array
  - ✔ X8 DRAM Memory Module
  - ✔ Up to 4 Mbytes using 512Kx8 DRAMs, 16 bit array
  - ✔ X16 DRAM Memory Module
  - ✔ Up to 4 Mbytes using 256Kx16 DRAMs, 16 bit array

- The EPROM array supports 128Kx8 EPROM devices in JEDEC packages. Sockets for 4 devices provide up to 512K of ROM. Optionally a ROM IC card may be used for arrays up to 32 MB.

- The VG330 supports either a scanned X-Y matrix keyboard or a standard serial XT-style keyboard. Configuration jumpers on the VG330-EVAL board allow the user to select either one.

- The included Vadem BIOS provides a basic PC-compatible BIOS core. In addition, the BIOS provides support for these advanced features:
  - ✔ Power management
  - ✔ Suspend/Resume
  - ✔ PCMCIA card
  - ✔ Scanned keyboard
  - ✔ VG330 setup configuration
  - — RAM type
  - — Display type
  - — Keyboard select
  - — Floppy drive type select
  - ✔ Serial I/O debugger
  - ✔ Power On Self Test (POST)
  - ✔ Real Time Clock support

The on-board EPROM includes Microsoft® MS-DOS® ROM Version 5.00 with utilities. The VG330-EVAL board can be booted directly from ROM.

- The following accessories are also included in the VG330-EVAL board:
  - ✔ Utility Disk
  - — EMS 4.0 drivers
  - — BIOS Configuration Utility
  - — VG330-EVAL schematics in Orcad format
  - — VG330-EVAL parts list
  - ✔ 8 x 14 Matrix Keyboard with cable
  - ✔ VG330-EVAL User’s Manual
  - ✔ VG330 Data Manual

Mechanical Specifications:

- Physical 9.25 in. x 13.0 in.
- Electrical +5V ±5% @ 1A max
- Environmental Temperature: 0º to 50º C
- Humidity: 8% to 80%
- Order Number VG330-EVAL