

APPLICATION NOTE

ANC105

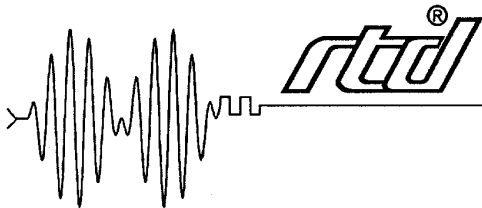
cpuModule Serial and Parallel Port Listing

(Last revision: September 25, 1995)

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Real Time Devices, Inc.

"Accessing the Analog World"®

Publication No. ANC105 9528

Introduction

When choosing a cpuModule for a particular application, it is often important to know details of the types of serial and parallel ports available on each cpuModule. This Application Note lists the major features of the serial and parallel ports for each cpuModule.

Serial Ports

All of our cpuModules offer at least one serial port. Most have two serial ports, and the CMF8680 has three. In some cases, a serial port may be switched between RS232, RS422, and RS485 standards. Other serial ports may be factory-configured to support one or more of these standards.

Details of each cpuModule's serial ports are listed in the following table. The notes and definitions follow the table.

cpuModule	Serial Port Features	Serial Port #1	Serial Port #2	Serial Port #3	Notes
CMV486DX100 CMV586DX133 CMX486DX100 CMX586DX133	Type (standard): Controller Type: Location:	RS232 16450 ACC2086	RS232 16450 ACC2086	None	
CMi386sx33 CMi486sxl66	Type (standard): To change port type: Controller Type: Location:	RS232/422/485 Solder jumpers 16550 UM8663A	RS232 N/A 16550 UM8663A	None	2, 5
CMF8680	Type (standard): Controller Type: Location:	RS232 16450 82C721	RS232 16450 F8680	RS485 16450 82C721	1, 3, 4

Notes

- 1) Termination resistors (120 ohm) for RS422 or RS485 are included on cpuModule.
- 2) Termination resistors for RS422 or RS485 are *not* included on cpuModule.
- 3) Supports non-standard baud rates on ports 1 and 3, including MIDI rate of 31250 baud.
- 4) RS485 is half-duplex only.
- 5) RS422 and RS485 may be used for full-duplex or half-duplex.

Explanations of Serial Port Features

To change port type: Indicates the method used to change a switchable serial port between the supported standards. "Jumpers" indicates plug-on jumpers; "Solder jumpers" indicates pads which must be shorted with solder.

Controller Type: This describes the type of controller used for the serial port. The 16450-compatible controller is the industry standard for PC-compatible computers. A 16550-compatible controller has larger transmit and receive buffers, which can reduce the processing power needed for serial transfers.

Location: This lists the part number of the integrated circuit containing the serial port controller. The manufacturers for these parts are listed below. You may find this useful information if you are looking for documentation to program the serial port controllers.

- ACC2086: ACC Micro
- UM8663A: UMC
- 82C721, F8680: Chips & Technologies
- VL16C451: Western Digital

Parallel Ports

All of our cpuModules offer a parallel port which supports unidirectional and bi-directional modes. Some cpuModules support other modes to provide higher-speed data transfers.

The table below lists each cpuModule and the parallel port modes available on it. Note that the parallel port modes are defined following the table.

cpuModule	Modes Supported	Parallel Port Chip
CMV486DX100 CMV586DX133 CMX486DX100 CMX586DX133	Unidirectional, Bi-directional, EPP	ACC Micro ACC2086
CMi386sx33 CMi486sxl66	Unidirectional, Bi-directional, EPP	UMC UM8663A
CMF8680	Unidirectional, Bi-directional	Chips & Technologies 82C721

Explanation of Parallel Port Modes

Unidirectional: This mode gives a PC/XT/AT-compatible parallel port, which is only capable of outputting a single-byte at a time.

Bi-directional: This mode gives a PS/2-compatible parallel port, which can input or output a single-byte at a time.

EPP: Enhanced Parallel Port. This mode gives high-speed input and output of data using a FIFO buffer. It is capable of addressing multiple devices. Note that this mode requires significant changes to standard printer drivers.

For Further Information

If you need further assistance, please contact factory technical support at:

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If you have comments or corrections for this application note we would also like to hear from you. Please contact us at the above address.

