



*Committed to providing reliable technology and solutions to support your research needs,  
trust MMR Technologies....  
... the variable temperature solid state characterization experts!*

## DO I NEED A COMPUTER WITH MY JOULE THOMSON COOLING SYSTEM?

### COMPUTER REQUIREMENTS

The MMR Technologies' cryogenic cooling systems must be interfaced with a computer when the system is placed under software control or if data acquisition is to be made through the temperature controller. Software to control MMR Technologies instrumentation will work on any computer that is PC-compatible adapted to the following specifications:

**TABLE 1: Computer specifications required to operate MMR Technologies instrumentation.**

	<b>FEATURE</b>	<b>SPECIFICATION</b>	<b>NOTES</b>
1	Operating System	Windows 95, Windows 98, Windows 2000, Windows XP, Windows Vista (32-Bit only) or Windows 7 Ultimate (with XP Emulator)	This software has been tested and found compatible with all service packs on these operating systems.
2	Required Software	K-20 Temperature Controller Software <sup>a</sup>	Contact MMR Technologies for the latest version.
3	Recommended Software	Adobe Acrobat Reader; Microsoft Word and Excel	This manual can be obtained in Adobe PDF format for your convenience. Data may be manipulated in Excel, and Word may be used for reporting.
4	Processor	1.2 GHz Celeron Pentium	Minimum Requirement
5	Memory	128 MB RAM (megabytes)	Minimum requirement
6	Hard Drive	1 GB of free space	Minimum requirement
7	Floppy Drive	3.5 inch floppy drive	Not Required
8	CD Drive	16 X CD-R drive	Minimum requirement

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	<b>FEATURE</b>	<b>SPECIFICATION</b>	<b>NOTES</b>
9	Display	Minimum SVGA	Recommend running at least 800 x 600 resolution.
10	Mouse and Keyboard	Microsoft mouse and keyboard or compatible human interface devices.	N/A
11	Communication Ports	Must have at least one free serial (RS232) port available for the K-20 Controller. The Hall and Seebeck Systems require up to four free serial (RSR232) ports available. OR 2 Free USB Ports for communication to Controllers	If a printer is desired, it is recommended that there is at least one additional free USB port available for connection of the printer.
12	Printer	No requirement.	Option <sup>b</sup>
13	Networking	No requirement.	Option <sup>c</sup>

a. There may be a charge to obtain a copy of the latest version software to control MMR Technologies instrumentation. Contact MMR Technologies for additional information on versions, availability, and pricing.

b. With certain MMR Technologies instruments, a printer is shipped as part of the instrumentation package. If print-outs of the data are desired, it is recommended that a printer be either purchased or installed onto the computer used for controlling the instrumentation.

c. There are no known incompatibilities or special requirements of the K-20 controller software or Hall Measurement Software with networking of the host computer. MMR Technologies, Inc. is not responsible for the networking of the host computer.

► **NOTE**

*The software supports computer communication with the controller via serial ports COM1 - COM4 and the IEEE 488 interface. If one wants to use the IEEE 488 interface, MMR Technologies can supply the special interface board (Capital Equipment Corp.) and cables. Contact MMR Technologies for further information.<sup>1</sup>*

This technical support bulletin assumes that the RS-232 or USB interfaces are being used.

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1. MMR Technologies, Inc. can be contacted by phone (+1 650-962-9620), by fax (+1 650-962-9647) or by email (sales@mmr.-techcom).

**Δ WARNING**

*MMR Technologies does not assume any responsibility for the compatibility of the system, including the computer, with other software products or hardware cards which the user may install on the computer.*

## FURTHER QUESTIONS

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If you have further questions, please do not hesitate to contact MMR Technologies, Inc.:

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