

TECHTIP 40201

Manual configuration of PC memory allocation in WaveView™ for high-speed data acquisition applications

Correcting for:

WaveView: Program Exception - VB Err #2147204031 (Daqx Error #48)

Cannot lock allocated memory from operating system

INTRODUCTION

High-speed data acquisition systems such as the IOtech WaveBook/516E™ are capable of streaming extremely large amounts of acquired data into the attached computer system. A typical WaveBook system running at the full 1-MHz sample rate can generate nearly 2 Mbytes of data per second. The connected PC is required to buffer and process the incoming data from the WaveBook system in a continuous manner. In order to maximize the data throughput efficiency of the system, WaveView™ will query the PC operating system for the amount of memory that is available for general use and then attempts to lock an amount of memory that it is determined to be an optimum amount for high speed data transfer.

In some cases, certain PC and operating system configurations will not accurately report the true amount of available memory that can be used by WaveView. WaveView will generate an error message and the end user will be required to correct the problem before the configured acquisition will be allowed to proceed.

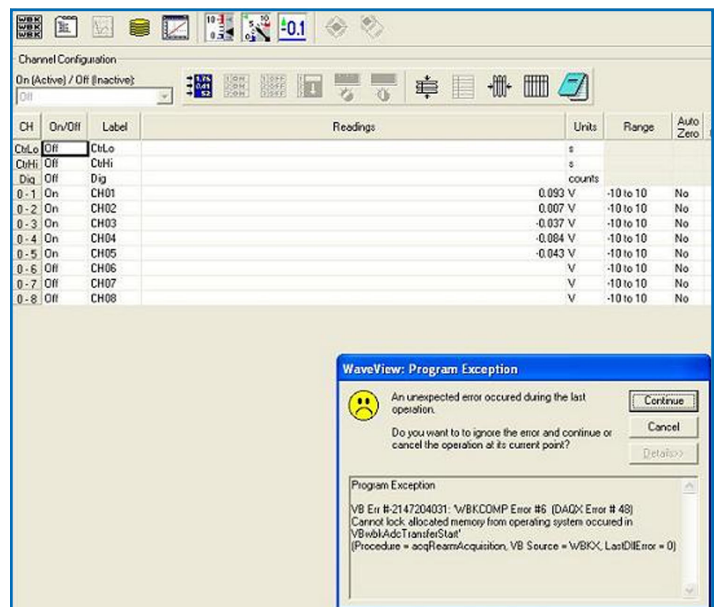
This TechTip shows you how to manually configure the allocated PC memory buffer size in WaveView when an associated error occurs.

DISCUSSION

What does it mean if you receive the following error message while running an acquisition using WaveView software?

WaveView: Program Exception - VB Err #2147204031 (Daqx Error #48)

Cannot lock allocated memory from operating system

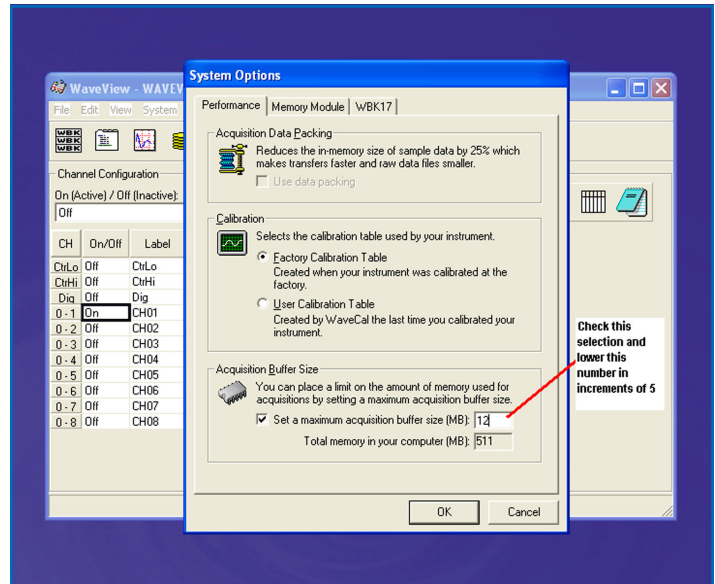


Error reported by WaveView when it is unable to auto-allocate memory on certain PC configurations

You are most likely receiving this error because WaveView has encountered a problem trying to secure memory (RAM) from the PC for temporary data acquisition storage. WaveView will attempt to grab an amount of memory from the PC that supports the best overall performance of the data acquisition system. Although this error is uncommon in most cases, there can be PC configurations that do not report an accurate amount of available memory to WaveView. This can be related to individual PC configurations and also to additional software that is running on the PC at the same time. A manual setting for this memory allocation has been placed within the WaveView OPTIONS menu to allow the user to specify the amount of memory allocation on systems that are not reporting available memory correctly.

The following steps can be taken to override the default amount of allocated memory used by WaveView for creating a data acquisition buffer. This should eliminate the error message and allow the user to proceed with the configured acquisition.

1. In WaveView, select the SYSTEM pull down menu and select OPTIONS.
2. Under the PERFORMANCE tab, check the box next to “set a maximum acquisition buffer size (MB)”
3. Lower the number in the acquisition buffer size field in increments of 5 MB until you no longer receive the error when running your acquisition. This requires you to return back to the main WaveView screen and attempt to perform the same configured acquisition again. If you receive the same memory allocation error, you should return back to the memory setup screen under the OPTIONS menu again and lower the allocated memory number by 5 more MB and then attempt the acquisition again (continue these steps until you are able to successfully run the configured acquisition).
4. You have now successfully reconfigured WaveView to use the maximum amount of memory that your particular PC configuration will allow.



The acquisition buffer configuration screen