

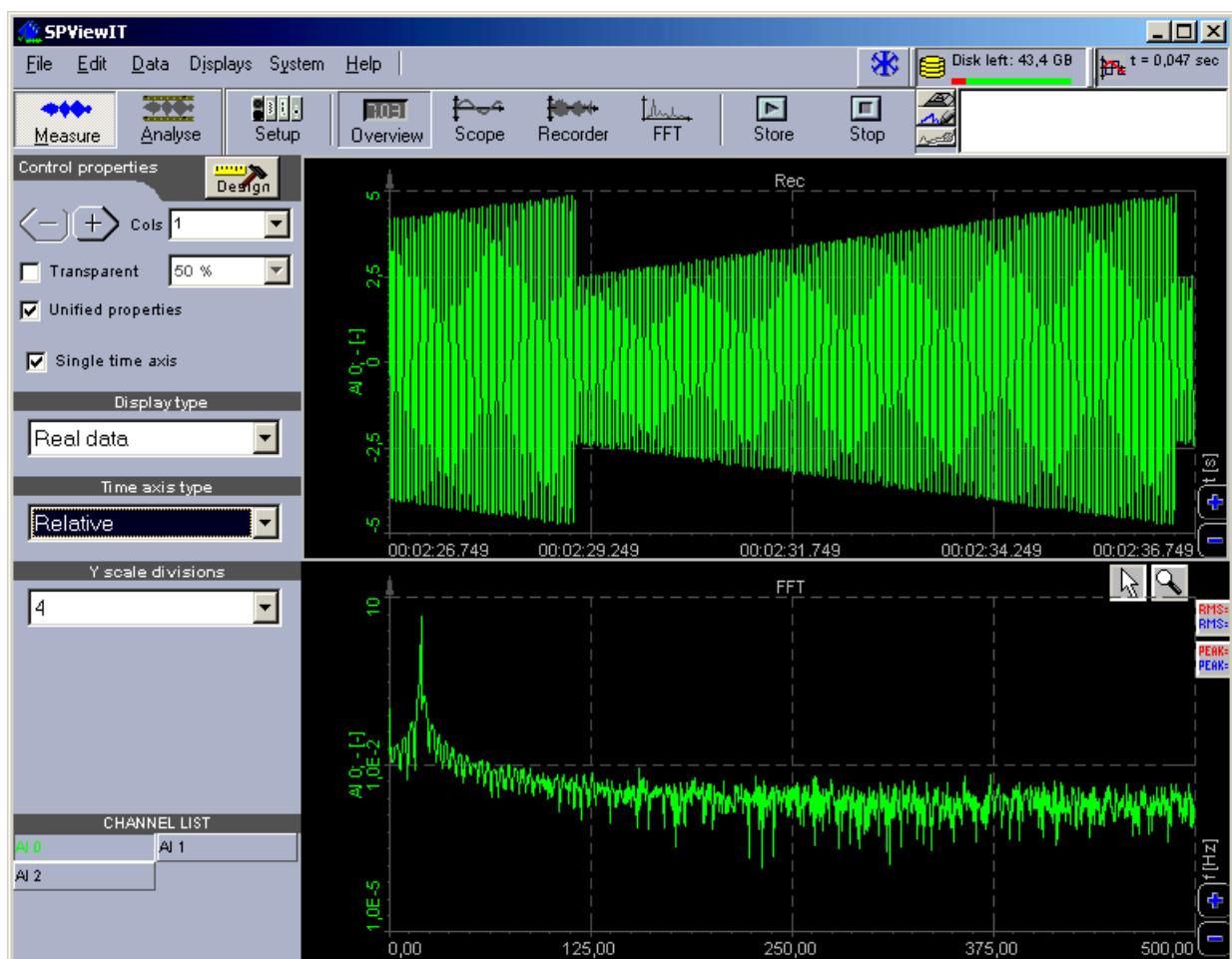


SPECTRUM

SYSTEMENTWICKLUNG MICROELECTRONIC GMBH

SPviewIT 6.1 - High-Speed Data Acquisition and Analyzing Software

- Data acquisition to hard disk with up to 80 MBytes/s (compressed or uncompressed)
- Synchronous acquisition of up to 128 analog channels or up to 1024 bit of digital data
- Online and (spread) offline data analysis and display
- Wide range of virtual instruments like Scope, Chart Recorder, FFT and numerous meters
- Various trigger modes including edge, window, pulse width and steepness trigger
- No extra licenses needed for post data analysis on multiple workstations
- Remote option available for network wide controlled measurements



General information

SPviewIT is the new, easy to use high-speed data acquisition software from Spectrum. It has never been easier to acquire or to analyze and manage your recorded data. Even the filing and offline analysis of multi gigabyte files or data sets containing a lot of files just needs the effort of a few mouse clicks.

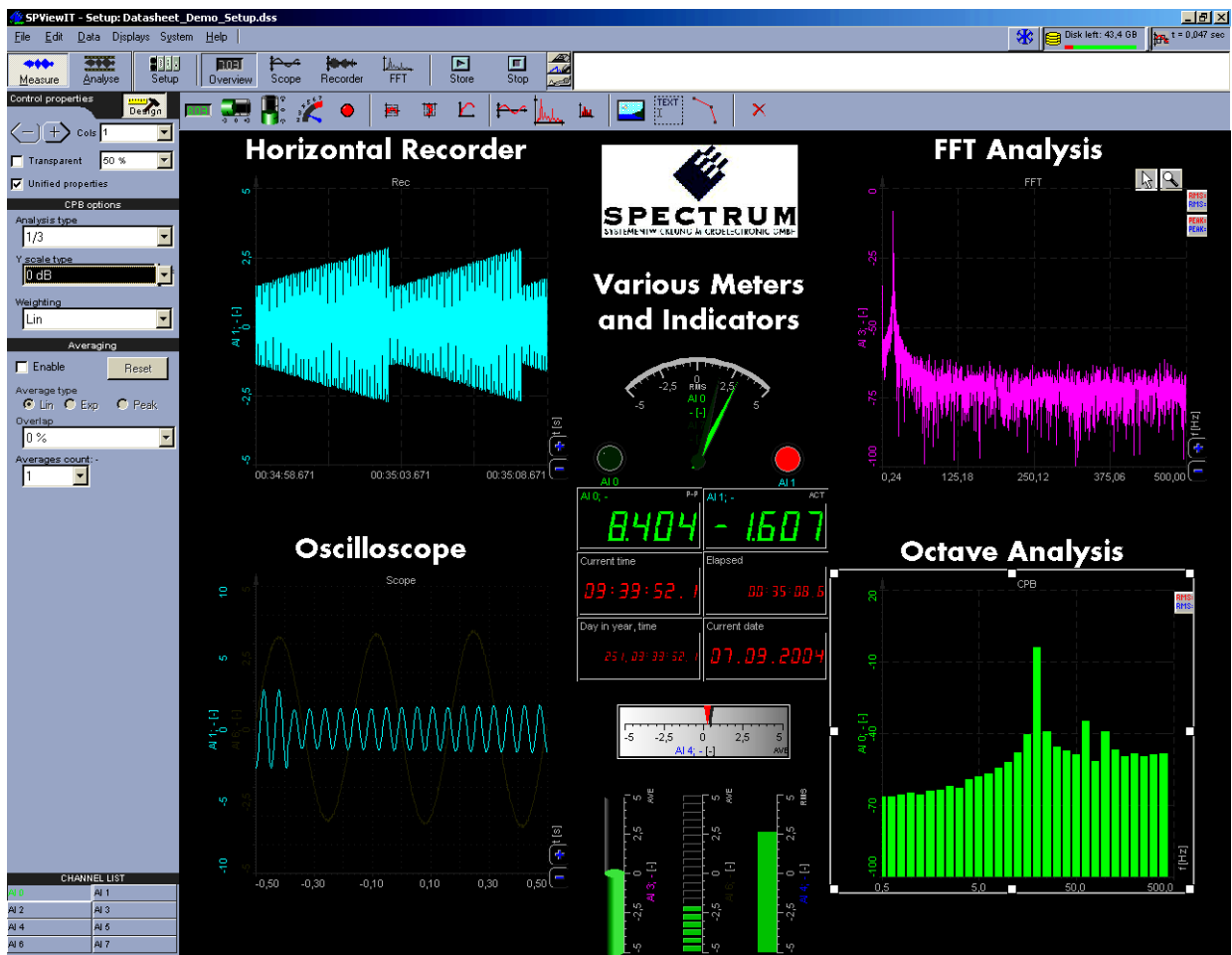
Nearly unlimited acquisition time



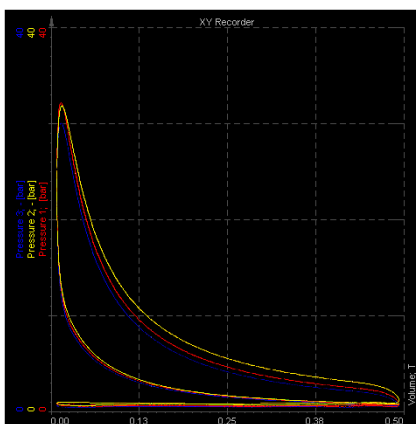
As SpviewIT uses the Spectrum boards capability of continuous data transfer through FIFO mode, recording time is only limited by hard disk space. You can easily record even hundreds of gigabytes of data on standard and cost-effective IDE (UltraDMA) or Serial ATA hard disks, as SPviewIT supports most standard RAID solutions. There is no need for any specialized streaming memory solutions. With the build in file browser, SPviewIT gives you a powerful tool to manage your data and has been adapted to best fulfill the needs of a PC based instrumentation system.

Many different online display

SPviewIT includes a great number of different virtual instruments for displaying your data. Along with the typical Y(t) instruments such as oscilloscope and a chart recorder SPviewIT also offers instruments for viewing a signal's frequency behavior. Therefore you can choose between a classic FFT with different windowing functions and an octave analysis. Both come up with linear and logarithmic scales and therefore will match any of your requirements.



One special feature of SPviewIT is the freely configurable overview and working space. The figure above is showing an example with as many different instruments to give you an idea how powerful this feature is. You can also add other elements, such as text or a background picture to personalize your setup.



In addition to the instruments illustrated in the screenshot above SPviewIT also offers a X/Y recorder and a vertically scrolling version of the longtime chart recorder. Many of the instruments that can be combined to a personal workspace, are also available individually for even faster access.

All of the so far mentioned instruments are not only live and accessible during your recordings, but also in offline mode for post analysis purposes. You can for example, simply choose an interesting part within the chart recorder and observe the real time changes in this part in the frequency domain. All instrument will behave as if analyzed recording has just taken place.

All of the various analyzing tools are not only available on the instrumentation computer itself, but SPviewIT can also be installed on systems which have no Spectrum boards mounted within. You can then run SPviewIT on these systems in demo mode with simulated signals for training, purposes or for the distributed post analysis of your acquired data.

This enables you to do further measurements while you colleagues observe and analyze the previously recorded data. For such distributed analysis SPviewIT gives you the possibility to divide up your recorded data into smaller files instead of one huge file while recording your data. These files can then be distributed over the network and may even be placed in the background, while your recording is still running. There is possibly no more effective way of recording and analyzing huge amounts of data than with SPviewIT.

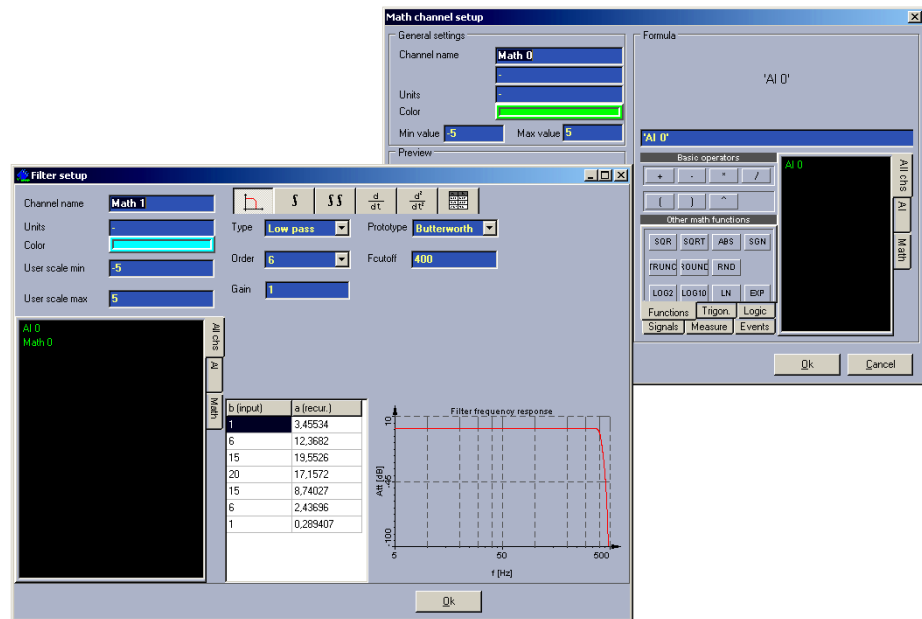
And here is the best thing of all: A complete set of analysis functions are included with the standard edition at no extra costs. So please install SPviewIT on as many workstations as you like and provide a tremendous enhancement to your data analysis!

Extensive real-time filter and mathematical functions

SPviewIT comes along with a wide range of different mathematical and filter functions which can be used on one or multiple signals even during the acquisition.

The calculated data is handled as a new internal signal without changing the recorded analog signal itself. With this non destructive calculation method, it is even possible to combine multiple calculated channels with real input channels in any combination and any order, for new calculations or filter transformations.

The setups for these mathematical and filter functions can be separately programmed for each channel.



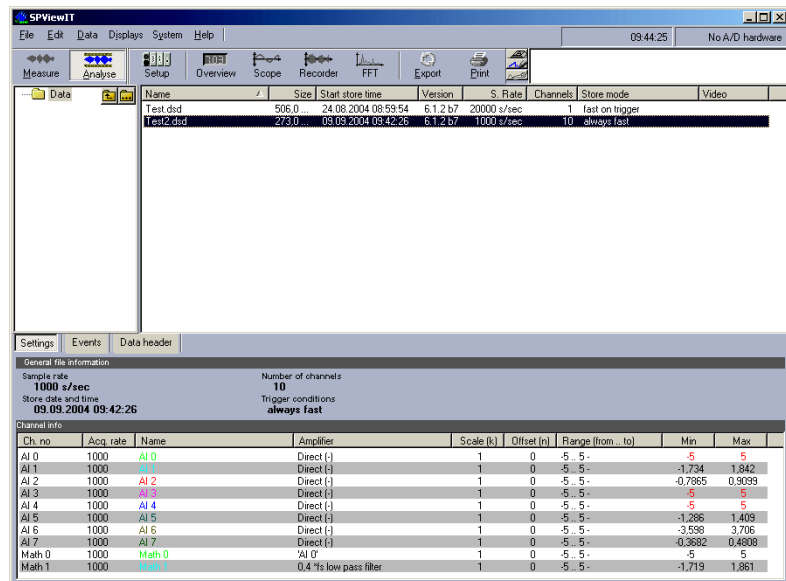
Build in file browser for easy access to your data

SPviewIT comes along with a built in file browser that assists you in managing and organizing your recorded data. This is especially useful if you need to deal with many recordings, each with numerous acquired channels.

The number of recorded channels (including the calculated ones using the math and filter functions), the used sampling rate, the channel settings (offset and input range), as well as the minimum and maximum value during measurement, are stored as meta data along with your recorded data.

In addition to all that static information you can also add your own comments onto the dataset in your recording session. In addition all meta information is provided in a separate event list that is automatically generated and stored.

Such events, which are all stamped with date and time, can be used to start and stop the acquisition as well as detected trigger events and user events. These user events can be activated by keyboard or mouse to mark interesting parts of the recording, possibly with a short comment.



Sophisticated documentation and export functions

To disburden the mostly necessary but extremely unpopular effort in documenting your measurements, SPviewIT can automatically generate a protocol that can be printed to any installed printer on demand. Virtually all setup parameters are stored for ISO9000 compliance. This enables you to automatically restore nearly every aspect of the software when later you load a data file, even if you open it on a different computer. All data is stored encrypted and the raw data cannot be altered within the program to comply with international conventions about data integrity.

In addition to the documenting functions, SPviewIT comes along with a wide range of export filters. The exported file types support programs such as Excel®, FlexPro®, MATLAB®, DIAdem™, FAMOS® or nSoft™ and you also have the possibility to store the data as a text file in ASCII format for universal access.

One of the really nice features of SPviewIT is the possibility of exporting data with the help of Active-X directly into Excel® and FlexPro®. With the help of these so called hot-scripts you can simply visualize data with the included or self programmed scripts. You can virtually make use of every of the destination program's functions. Once you have written the script, a professional looking report or presentation is just a mouse click away and can easily be repeated with every new set of acquired data.

Just record your data, choose the script and press the SPviewIT's export button. That's it. This helps save time as well as reducing the possibility of misusing one of the numerous functions of your visualizing software suite.

System requirements

	Standard application	High-performance application
Operating system	Windows 2000 or Windows XP	Windows 2000 or Windows XP
Central Processing Unit	Intel Pentium III 700 MHz or equivalent AMD Athlon processor or higher	Intel Pentium 4 2.4 GHz or equivalent AMD Athlon XP/ Athlon 64 processor or higher
Random access memory	256 MB or higher	512 MB or higher
Hard disk controller	On-board or additional PCI controller for IDE, serial ATA or SCSI drives	Very fast serial ATA or SCSI drives or multiple of these devices in an RAID0, RAID10 or RAID5 setup, to ensure the high transfer rates of up to 80 MByte/s to hard disk under all conditions
Free hard disk space for installation	Approx. 20 MB for SPviewIT plus additional space for post-processing software packages	Approx. 20 MB for SPviewIT plus additional space for post-processing software packages
Free hard disk space for storing your recorded data	As much as your operating system, file system and mainboard (BIOS) support	As much as your operating system, file system and mainboard (BIOS) support

Requirements concerning the hard disk drives

As the main benefits of SPviewIT is the possibility of high-speed data recording with a throughput of up to 80 MS/s, the computer's storage devices need to provide at minimum, the same speed for storing the data. Therefore in most cases it is necessary to work on local drives as the standard throughput of a 100 Mbit LAN is only about 12.5 MByte/s at best.

Even most of the common IDE drives (UltraDMA 100 or 133) only provide a maximum continuous transfer rate of about 20 MByte/s on write transfers under all conditions. Many of the new serial ATA (SATA) drives provide a much better transfer rate of about 40 MBytes/s, but even a single SATA drive is not capable of storing data at sufficient speed.

To enhance the throughput of today's hard disks to keep up with SPviewIT's maximum speed it is necessary to combine multiple fast SATA hard disk drives to a RAID system. Therefore a RAID0, RAID01, RAID10 or RAID5 system can be used, as these setups are build for increasing the throughput. We at Spectrum strongly recommend to use SATA drives as they provide a much better throughput even with single drives, being easier to hook up and also to provide a much better airflow inside your computer's case.

Of course you cannot record data with SPviewIT at higher rates than your hard disk drive(s) are capable of dealing with.

If you are not sure on your drive speed you can download a speed test program from the Spectrum website and check your installed drives. This program is using the same internal hard disk settings as SPviewIT does and therefore is a little bit more critical and realistic than usual benchmark programs. If you are planing to drive SPviewIT to the max and are not sure about which controller/drive combination will work best, just get in contact with us.

Supported acquisition boards

The following table is showing the hardware that is supported by SPviewIT. The given speeds are maximum values per channel when the given number of channels is activated. Note that these speeds are not supported by all members of a board's family. The MC.3112 series for example, is limited by it's hardware to 1 MS/s per channel, so the maximum achievable sample rate would be 1 MS/s per channel with either 1, 2, 4 or 8 channels enabled

Board family	Sample width	Maximum theoretical sampling speed per channel having the given number of channels activated							
		1 Channel	2 Channels	4 Channels	8 Channels	8 bit	16 bit	32 bit	64 bit
MI.20xx, MC.20xx	8 bit	80 MS/s	40 MS/s	20 MS/s					
MI.30xx, MC.30xx	12 bit	40 MS/s	20 MS/s	10 MS/s					
MI.31xx, MC.31xx	12 bit	25 MS/s	20 MS/s	10 MS/s	5 MS/s				
MI.40xx, MC.40xx	14 bit	40 MS/s	20 MS/s	10 MS/s					
MI.45xx, MC.45xx	16 bit	1 MS/s	1 MS/s	1 MS/s					
MI.70xx, MC.70xx	digital I/O (only input direction)					80 MS/s	40 MS/s	20 MS/s	10 MS/s
MX.20xx	8 bit	80 MS/s	40 MS/s						
MX.30xx	12 bit	40 MS/s	20 MS/s						
MX.31xx	12 bit	25 MS/s	20 MS/s	10 MS/s					
MX.40xx	14 bit	40 MS/s	20 MS/s						
MX.45xx	16 bit	1MS/s	1 MS/s						
MX.70xx	digital I/O (only input direction)					80 MS/s	40 MS/s	20 MS/s	

A detailed description of the maximum speed for all boards operating in standard mode, can be looked up in the dedicated datasheets, or in the complete product catalog.

30 days Trial Version

To evaluate SPviewIT with your Spectrum hardware, you can request a 30 days full functional trial licence. Simply send us an E-Mail with your name, the company name and the model numbers and serial numbers of the Spectrum boards to evaluate the software with. We then will send you a valid licence key by E-Mail.

Order information

Order No	Description
SPviewIT-str	SPviewIT streaming version with support of one Spectrum A/D or digital I/O board (only input direction) for Windows 2000 and Windows XP.
SPviewIT-mlt	Multiple Board option for simultaneous data acquisition with multiple synchronized Spectrum A/D and/or digital I/O boards.
SPviewIT-rmt	Remote Control option to operate your SPviewIT equipped computer remotely.

Technical changes and printing errors possible