



APx500 v2.1 measurement software for APx585 and 586

What's new in v2.1

What's new in APx500 v2.1

APx500 Measurement Software v2.1 is scheduled for release in January 2008. This preview looks at the new and improved features in this release of the software

1. Improved Measurement Navigator
2. New digital I/O options
3. Input and output switcher support
4. Improved automation functionality
5. New measurements
 - Dedicated Noise measurement
 - 6-Digit frequency counter
 - DC Level over time
6. New user interface refinements
7. Improved API: more calls, full documentation & samples
8. New Labview 8.2/8.5 sample Virtual Instruments

For more information or a demonstration please contact your local AP sales partner or visit ap.com/products.

Control PC Requirements

- Physical PC requirements have not changed with this new release:
 - 2 GHz processor
 - 2 GB RAM
 - USB 2.0
- Operating System Support
APx500 v2.1 is fully supported when running on computers using Microsoft Windows Vista and XP. This includes the ability to operate the software without special privileges, though administrator access is still required for the initial installation.



Winner of
Pro Audio Review's
PAR Excellence Award 2006

and
Test & Measurement
World's Best in Test 2007

About the APx500 Series multichannel audio analyzer

The APx is a dedicated multichannel audio analyzer that combines a next generation user interface with AP's legendary commitment to performance. It's the perfect audio analyzer for R&D and production test users who need speed and ease-of-use.

Available in an 8 or 16 channel configuration, the APx is capable of taking 14 measurements in as fast as 7 seconds, automatically generating a report of results and saving all test settings in a single, sharable project file.

The APx is designed for power amp and CD/DVD/MP3 manufacturers for use in R&D and production test, with multiple channels, Dolby/ DTS confidence testing, multitone analyzer, input regulation, and CEA-2006 & EIA/CEA-490-A measurements.

For more information visit ap.com.

Improved Measurement Navigator

In prior versions of APx software the measurement navigator was a simple static list of all the available measurements. In addition while signal paths could be added and removed, the system supported a total of only four signal paths.

In APx500 v2.1 the measurement navigator has been completely re-engineered to remove these limitations and add unprecedented flexibility.

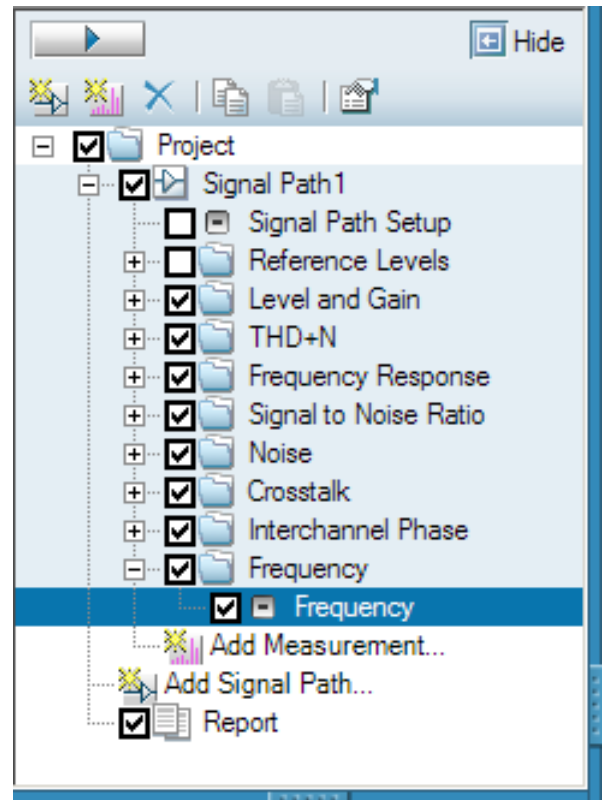
In the v2.1 measurement navigator you can:

- Create any number of signal paths
- Add, move, and delete signal paths
- Copy and paste signal paths

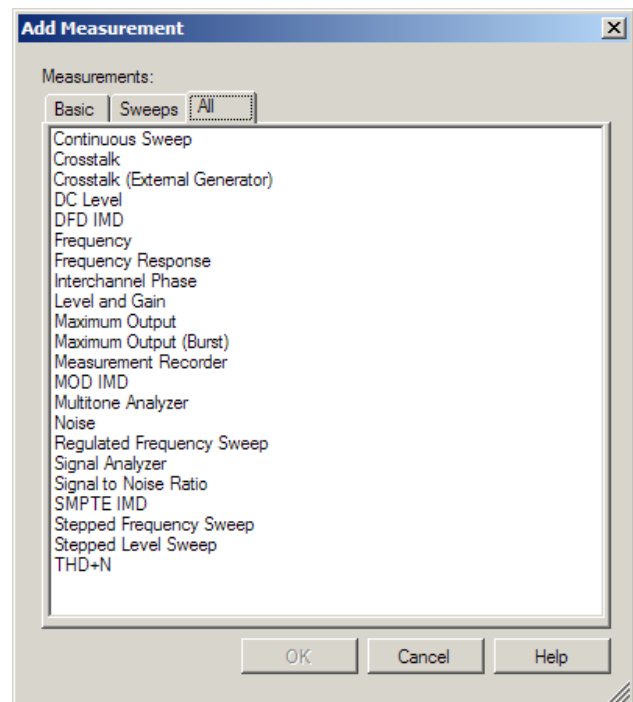
In addition in a signal path you can:

- Add any number of measurements
- Create more than one instance of any given measurement
- Rename measurements
- Add, move, and delete measurements
- Copy and paste measurements

This allows APx500 project files to contain a complete list of all the audio measurements you may wish to make on a particular device.



The new flexible Measurement Navigator

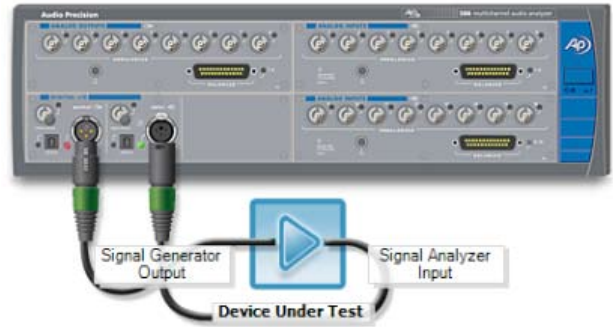


The new "Add Measurement" dialog

New digital I/O options

Concurrent with the APx500 v2.1 software release, the digital I/O module shipped with all APx585 and APx586 instruments will be updated.

The new module adds AES/EBU connectivity to the previously available coaxial (IEC60958/SPDIF) and Toslink options. In addition, when using the coaxial output connector, users can set the mode to consumer or professional which sets the output voltage and status bits appropriately. Finally, with either the prior or new digital I/O module, users can now use an internal loopback option when the output connector is set to any of the digital options. This is useful when troubleshooting measurement configuration issues.



The new signal path setup dialog



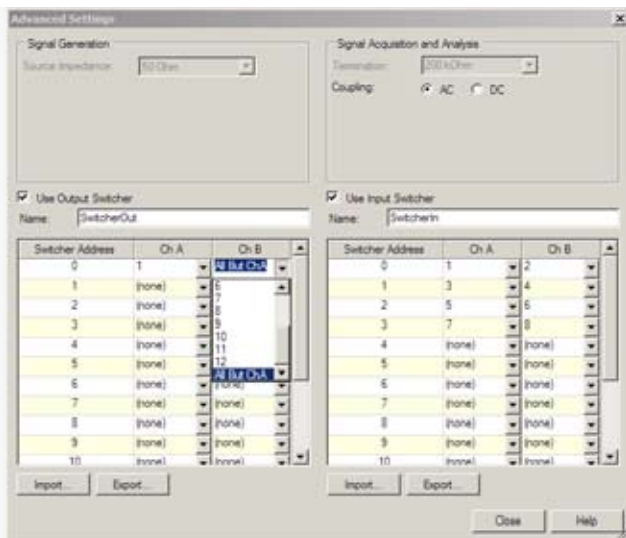
The new digital I/O front panel

Input and output switcher support

APx v2.1 adds support for AP SWR-2755 audio switchers. For customers who have devices with more than 16 channels, such as mixing consoles, the APx585 and APx586 offer as much as an 8-fold speed advantage over a two channel analyzer.

Up to 16 input and 16 output switchers can be controlled from the software and direct integration with the measurement navigator results in automatic switching of channels using different signal paths.

SWR-2755 switchers are interfaced to the APx system by using an APiB-USB adapter. A single adapter can be used to control up to 32 switchers.



The new switcher control dialog



Stack of AP SWR-2755 switchers

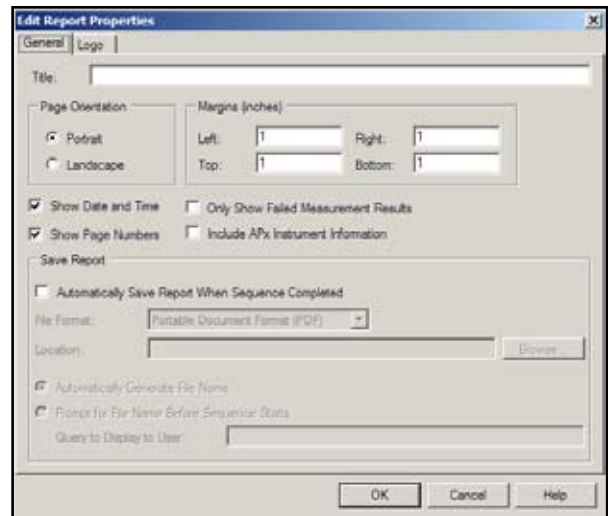
Additional automation capabilities

We have a strong focus on ease of use and built-in automation capabilities. We have expanded on these capabilities in the v2.1 release.

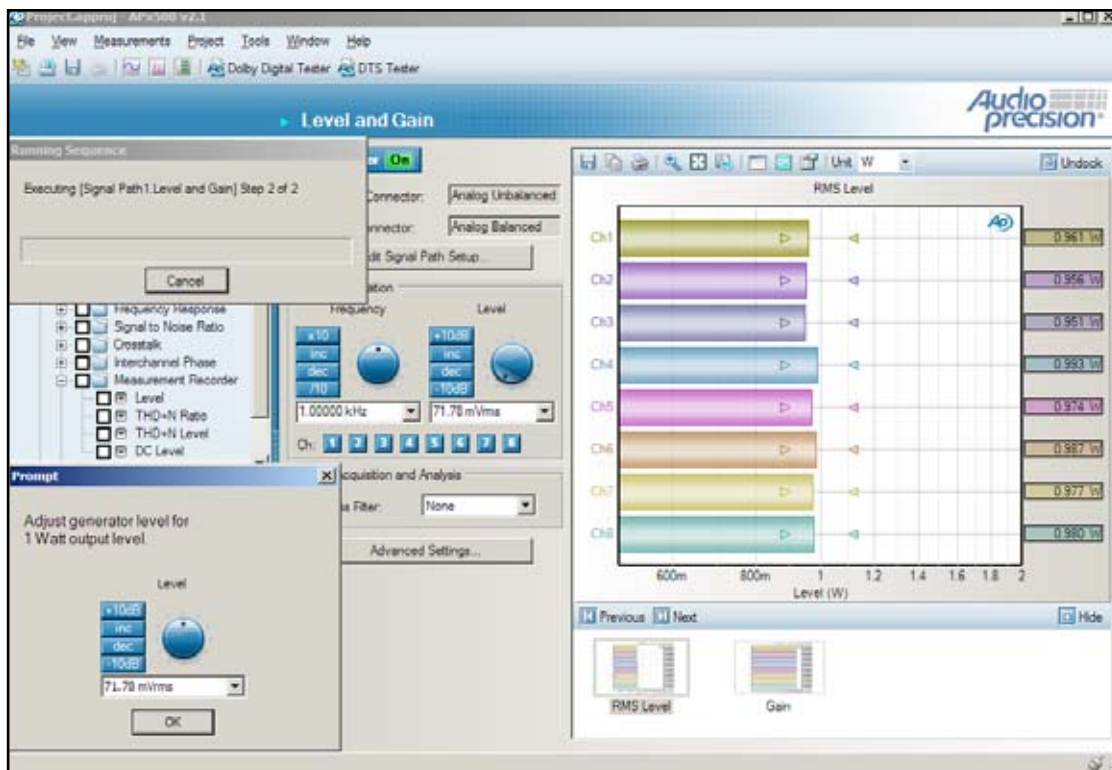
New features include:

- The ability to add measurement sub-steps, such as prompts, input requests, and calls to external programs before and after measurements. In the case of the SNR measurement you can even add a sub-step between the signal measurement and the noise measurement.
- Sub-steps can now be easily re-ordered, copied, and pasted.
- Calls to external programs can now wait for the program to return, or the sequence can continue immediately after launching the external program.
- For appropriate measurements such as Level and THD+N, prompts can optionally have a real-time generator control. This is for situations where technicians need to make adjustments during tests.
- New report options include adding the APx instrument information such as the serial number and calibration date. You can also choose to report only failed measurements.

- Reports can automatically be saved. You can choose the format the report is saved in and the folder where it is saved; also, you can have the system automatically generate a filename or prompt the user for the filename at the start of a sequence.
- The /run command line option allows you to create a desktop shortcut that automatically launches APx and runs the sequence. This function is also available by right-clicking on a project file.



File format property dialog



A sequence status dialog & custom user prompt

Other new measurements

- **Dedicated Noise measurement**

In prior releases of APx software customers used the level meter with the generator off or the instrument set to generator “none” in signal path setup when they wished to make a noise measurement. In APx v2.1 we have added a dedicated noise measurement function. This function provides low pass, high pass, and weighting filter selections and is optimized for making measurements of the noise floor of various types of devices.

- **6-Digit Frequency measurements**

With this release we have also added a six-digit frequency counter for customers who wish to make very high accuracy frequency measurements.

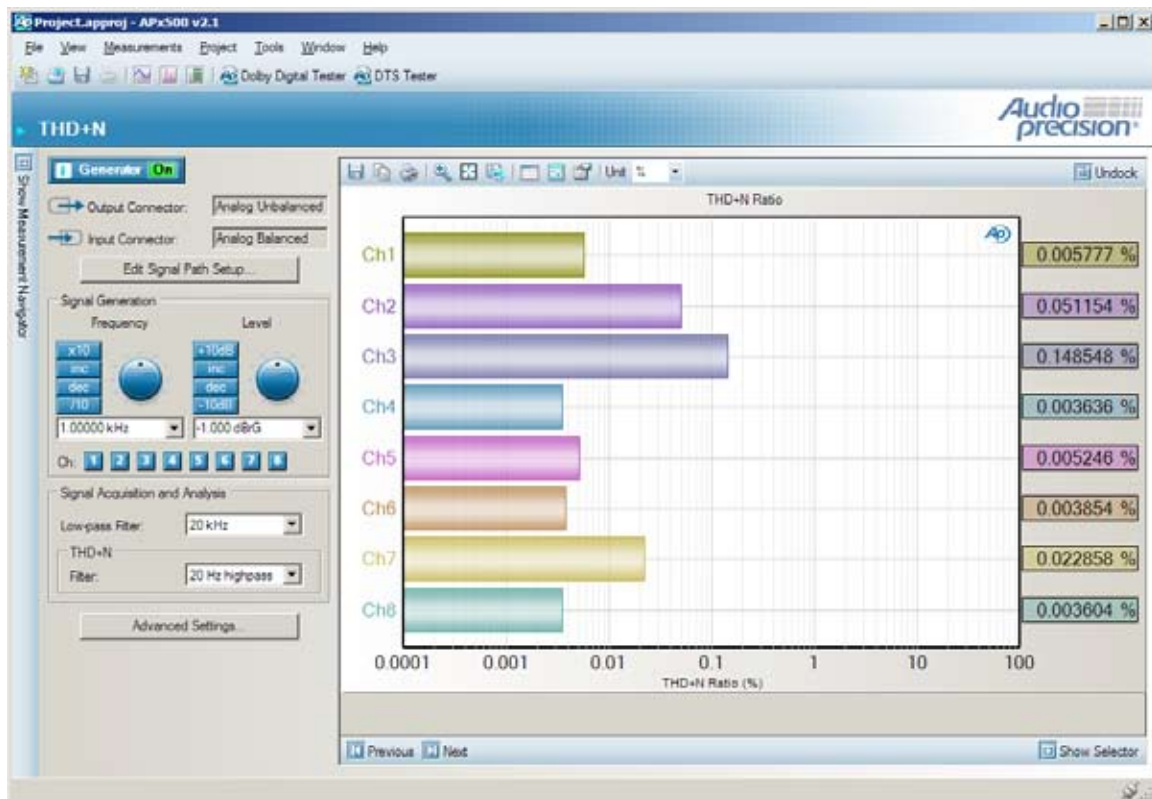
- **DC Level over time**

The measurement recorder can now plot DC level over time. Using signal processing techniques the system is able to independently plot the AC RMS level in the output of the device under test as well as the DC offset.

Other user interface refinements

User interface improvements have been made in all parts of the software, including:

- Individual generator channel on/off controls.
- The choice, when using the Auto Gen Level function, of automatically setting the generator level to the channel with the worst measured distortion or selecting a specific channel to measure.
- The ability to start and stop the signal monitors. Stopping the signal monitors improves the system performance when they are not required.
- AC/DC coupling is now a global control in the advanced settings of signal path setup. AC coupling is the default. Note that the APx585 and APx586 analog input hardware is DC coupled. AC coupling is implemented via signal processing algorithms. DC measurements are always DC coupled, regardless of the selection in signal path setup.
- The ability to show or hide the Measurement Navigator and the Selector, maximizing the view of the measurement results.



UI enhancements: Hidable Navigator, selectable channel generators, on/off for monitors

Improved API for automation and system integration

In v2.1 the .NET application programming interface has been greatly expanded. Almost all functions that are available from the graphical user interface can be accessed via the API. Full API documentation is available via a Windows help file.

The collection of sample code provided for programmers has been expanded to demonstrate how to:

- Start the software
- Hide/show the application
- Load a project file
- Run a sequence
- Return the results of a sequence
- Run an individual measurement
- Return the results of a measurement
- Enable/disable the input signal monitor
- Set the application in an idle mode where it consumes very little CPU
- Display measurement or sequence results in an on-screen grid
- Set the level and frequency of the currently active generator
- Extract the contents of a prompt associated with a measurement
- Extract the values of pass/fail limits
- Run a single measurement from the sequence including its sub-steps
- Set the switcher configuration
- Set dBrG to a specified value, or to the level of the generator
- Set dBrA and dBrB to a specified value, or to a level from a level meter
- Read back dBrA and dBrB

The sample code is provided in the Visual Basic.NET and C# programming languages.

New Sample Production Test

In addition, for customers looking to integrate APx into manufacturing lines, we have developed a sample production test application. This application, distributed in source code form, loads a predefined APx project file and provides a simplified interface for technicians performing quality assurance tests on manufacturing lines. Customers may use this application as is or modify it to suit their specific needs.

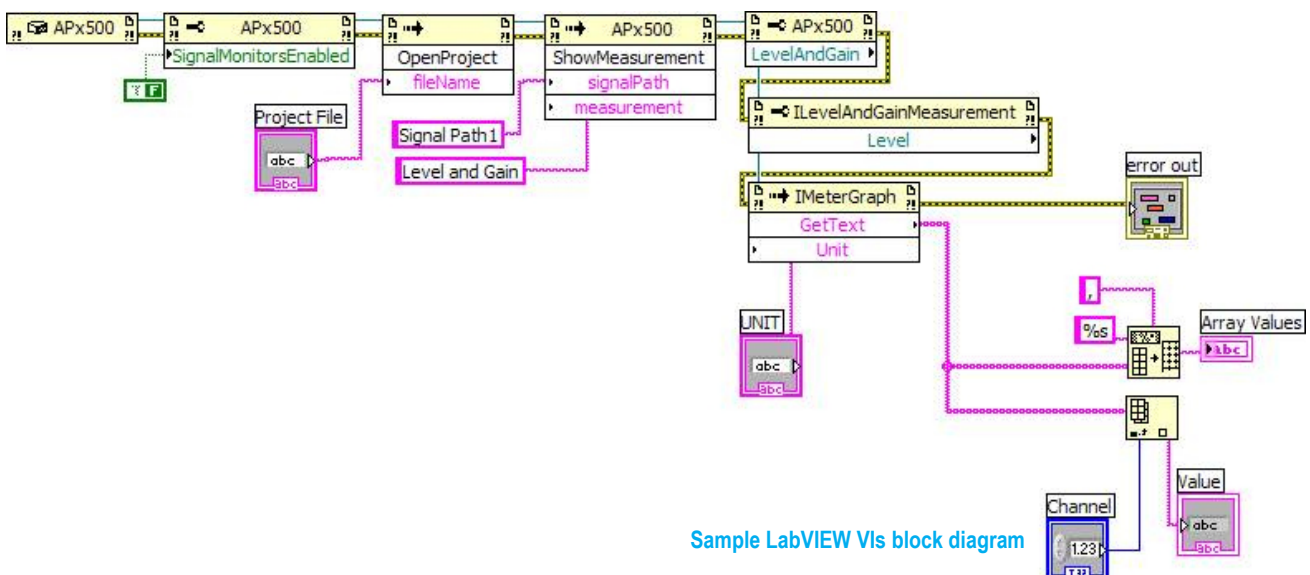


Sample test using new API commands

Labview Virtual Instrument Samples

APx500 v2.1 includes Labview 8.2/8.5 virtual instrument samples which demonstrate how to access and control the APx585 and APx586 instruments.

This includes loading project files, returning measurement results, and controlling various measurement parameters.



Sample LabVIEW VIs block diagram



True audio test automation without scripting or coding

New with APx500 v2.1, automate your audio test with any sequence of measurements you can think of.

Add multiple instances of measurements from a pop-up menu, create Operator prompts, then customize settings and limits for each selection. Plus new API calls and new LabVIEW sample VIs.

APx will run all the tests and report the results against limits in a PDF or as data ready for export to another application.

No audio test solution is faster or easier.

An APx500 setup for a home theater receiver test. The Operator has created a series of measurements to be made at a 1 watt output level, followed by a 25 watt level, Line Out and Digital Out tests. The THD+N in the first signal path has failed its limit and has been flagged.

