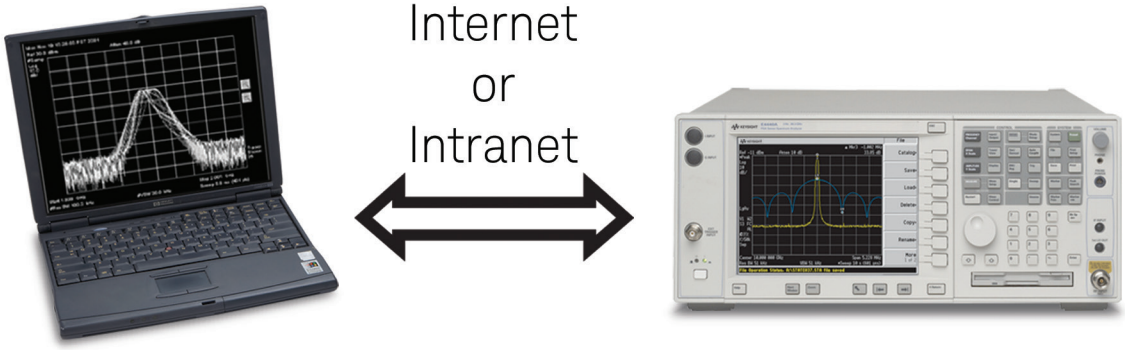
Keysight PS-X10-100
Web Remote Control Software for the MXA-N9020A, EXA-N9010A, Series Spectrum Analyzers

Technical Overview



MXA / EXA Direct Internet/ Intranet connection

KEYSIGHT TECHNOLOGIES

Remote Control Over the Internet

The BenchLink Web Remote Control software is a utility that enables users to remotely control PSA, ESA-E, ESA-L series spectrum analyzers, and E7400A series EMC analyzers over the Internet or your company Intranet[1]. On the analyzer side, the instrument is connected to a local server computer via a GPIB or a LAN interface. The server computer must be connected to the Internet/Intranet. Multiple users can simultaneously access the analyzer from anywhere in the world by using a client computer connected to the Internet/Intranet. No special software is needed on the client side other than a standard web browser such as Microsoft Internet Explorer or Netscape Navigator.

Applications

The BenchLink Web Remote Control software is very useful in any application requiring remote viewing and control of the spectrum analyzer.

Signal Monitoring

Regulatory agencies and service providers must often monitor frequency bands to insure the quality and integrity of wireless communication systems. With the BenchLink Web Remote Control software, remote operators can monitor and document activity using a variety of displays – the standard spectrum analyzer display, a “waterfall”, a “spectrogram”, an “analog+” or a “persistence” display.

CATV Monitoring

CATV fiber hubs are typically situated in scattered locations throughout a city. Save valuable time by installing spectrum analyzers at hub sites and antenna sites, and monitoring activity over the network. The “analog+” display enables both field and manufacturing TV engineers to visualize and document transmitter intermodulation performance and AM linearity.

Satellite Earth Station Monitoring

Monitor the performance of multiple satellite bands and/or different sites from one convenient location. The “persistence” display emulates a phosphorescent CRT, allowing the engineer to confidently determine persistent signals from occasional ones.

Manufacturing Process Monitoring

Many electronic manufacturing processes run continuously 24 hours a day, 7 days a week. Engineers must often monitor the progress of a specific test at inconvenient hours. The BenchLink Web Remote Control software makes it possible to do this by using a laptop computer from home or while traveling.

1. The client(s) and server(s) must all reside inside your company Intranet or all be placed on the open Internet for this system to operate correctly. This software does not bypass typical customer firewall security in any way.

Features

BenchLink Web Remote Control software provides direct control of the following spectrum analyzer functions:

- start/stop frequency
- center frequency/span/zero span
- reference level
- attenuator
- resolution video bandwidth
- video and power averaging
- sweep time and number of sweep points
- factory and user presets
- preferences such as auto align on/off, IF auto ranging on/off
- global auto couple on/off
- markers
- detectors

In addition

- Users can remotely capture and save snapshots of bit-mapped screen images and frequency/amplitude pairs.
- Up to six user-settable markers unique to each client are available. Marker computation and display are performed on the client's browser to maximize the trace update rate.
- Operators who want to perform more advanced activities can send standard ASCII-based SCPI commands from remote client PC to the spectrum analyzer or other instruments connected to the server.
- User-definable color mapping, continuous tracing, and graphical zooming provide powerful visualization and analysis capability to all engineers.

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- Markers

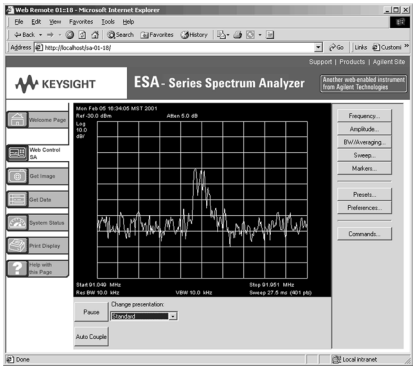

Figure 1 Standard display

Figure 2 Spectrogram display

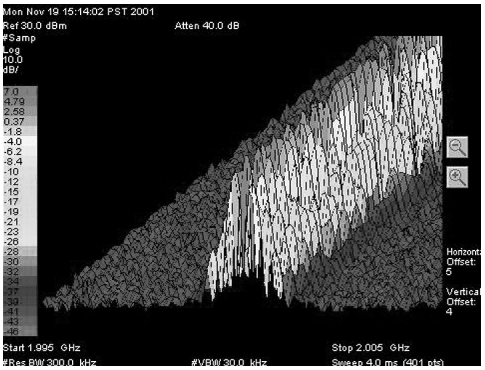

Figure 3 Waterfall display

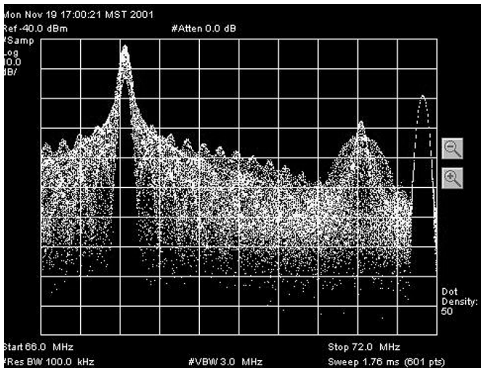

Figure 4 Analog+ display

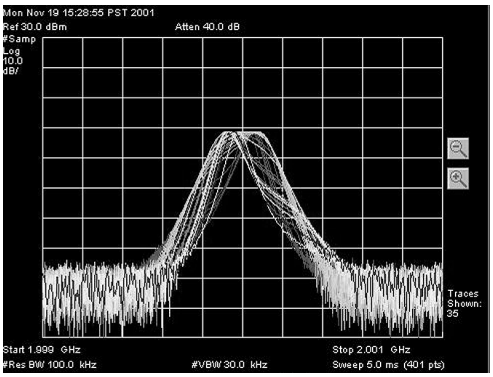

Figure 5 Persistence display

System Requirements for Revision 1.2

Server PC minimum requirements

- Computer running Windows 2000 (Service Pack 4) or Windows XP (Service Pack 2).
- 180 MHz Pentium II CPU or better.
- 128 MB RAM or more.
- 100 MB free disk space.
- 15" monitor capable of more than 256 colors and at least 1024 x 768 pixels (only required if you want to run a browser client on the server PC itself).
- Has a working connection to a local area network (LAN), with TCP/IP installed and configured such that it can "ping" all required clients.
- Desktop PC with at least one free PCI expansion slot that is capable of containing a supported PCI-GPIB card (see supported PCI-GPIB interface cards below).

  OR

- Laptop computer with at least one free PCMCIA slot that is capable of containing a PCMCIA-GPIB card (see supported PCMCIA-GPIB interface cards below).

  OR

- PC configured to control a LAN-GPIB gateway(s). These gateways can be connected to the spectrum analyzer to allow remote connectivity over TCP/IP networks. See supported LAN-GPIB gateways below.

Client PC minimum requirements

- Desktop or laptop computer running Windows 95/98/Me/2000/NT 4.0/ XP or better.
- Intel Pentium CPU or better.
- Has a working connection to a local area network (LAN), with TCP/IP installed and configured such that it can "ping" all required servers. (Note that neither "ping" nor a browser can connect to a server inside an organization's firewall if that client's PC is not also inside the same firewall).
- 15" monitor capable of more than 256 colors and at least 1024 x 768 pixels.
- Either Microsoft Internet Explorer 4.0 with service pack 2 (or later) or Netscape Navigator 4.5 (or later) installed and working.

PCI-GPIB interface card

- Keysight 82350A PCI-GPIB interface card
- National Instruments® PCI-GPIB interface card

PCMCIA-GPIB interface card

- ComputerBoards PCM-GPIB PCMCIA interface card with Windows 2000 drivers
- National Instruments PCMCIA-GPIB for Windows 2000 interface card

LAN-GPIB gateways

- Keysight E2050A
- National Instruments GPIB-ENET
- National Instruments GPIB-ENET/100

Point	Frequency (Hz)	Trace (dBm)	Attenuation
1	*1921800000*	-80.28	6.0
2	*1921859000*	-92.82	
3	*1921918000*	-79.87	Center Frequency (Hz)
4	*1921977000*	-84.86	1951300000
5	*1922036000*	-81.96	
6	*1922095000*	-98.99	Date/Time
7	*1922154000*	-83.58	Fri Mar 07 06:09:43 GMT-08:00 2008
8	*1922213000*	-86.77	
9	*1922272000*	-81.43	Instrument Model
10	*1922331000*	-91.48	N9010A

(the above mentioned represent a portion of the total possible measurements)

Capture frequency/amplitude data along with spectrum analyzer state information.

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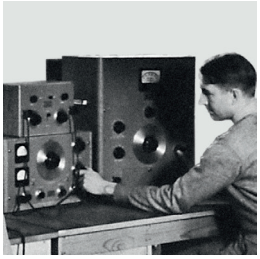

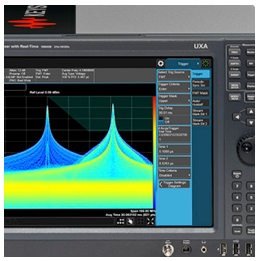

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Published in USA, December 1, 2017
5989-8185EN
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