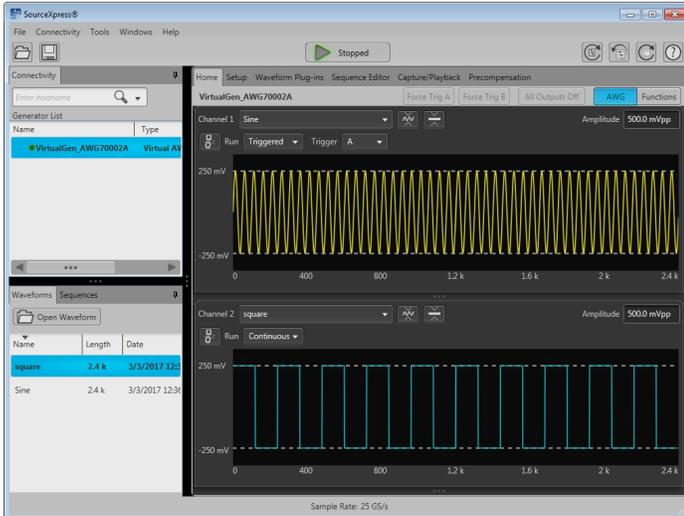# Waveform Creation and Instrument Control Environment for PC

SourceXpress® Datasheet

SourceXpress is a PC based software environment that enables Tektronix waveform creation plug-ins, simulates the native environment of a Tektronix AWG70000 or AWG5200 series Arbitrary Waveform Generator, and provides control of a connected generator. SourceXpress allows you to create signals anywhere without being tied to a signal generator. SourceXpress brings a uniform look and feel to waveform creation while enabling an ever growing library of waveform creation plug-ins.

Key features

- PC-based instrument control that simulates the AWG70000 or AWG5200 Series interface

- Free up instruments to create waveforms offline

- Use your Windows tablet or your powerful PC workstation
  - Windows 7 (64 bit), Windows 8 (64 bit), and Windows 10 (64 Bit) operating systems supported

- Single, Consistent UI: Customer only needs to learn one interface to control multiple instruments. This UI will be standard for future instruments as well. Customer have a single platform for instrument control and waveform generation for all their Tek sources.

- Multi-Instrument Control: Customers who have large racks of instruments or multi-instrument setups will have a single interface to control and feed all of their signal sources.

- Stay on the cutting edge of Tek: SourceXpress plug-ins provide quicker access to new signal generation capabilities, standards, and functionality.

- Work Seamlessly and Remotely with your Signal Generator: Develop offline waveforms with the same UI that is used on the AWG70000 and AWG5200 Series generators. Easily fine tune or change the waveform out of the lab and then apply those changes when the signal generator is available.

Virtual generators

You can create as many virtual instruments you like, each with different configurations. Use the Connectivity > Connect to Virtual Generator... menu. When connected to a virtual instrument, you can create all your waveforms or sequences, create setups specific to instrument types, all in the absence of an instrument. Then when an instrument is available, you can simply recall your saved files.

Connect to instruments

With SourceXpress installed on a networked PC, SourceXpress can remotely connect and control any AWG70000 or AWG5200 Series instrument on the network. The interface of the selected instrument is displayed in the SourceXpress application window, providing you access to all instrument controls, directly from SourceXpress.

Quick instrument search and connect

The connectivity tab provides a window for you to directly enter the computer name (hostname) or IP address of a networked instrument you wish to connect to. You can obtain the correct hostname, go to the target instrument, select Computer > Properties and note the computer name.

This method bypasses the search mechanism found in the Connectivity > Connect to Instrument... menu.

Selecting the active generator

From the Connectivity tab, you select which instrument you want to access, regardless if it's a virtual generator or a connected instrument. Making the generator active brings its display into view.

Creating a multi-channel generator

When working with AWG70000 Series generators, you can group up to four generators together (of the same model) to work in coordination with each other, forming a gang of generators. The channels of all generators are then displayed together on the Home screen of SourceXpress. This gives the appearance of a single generator with up to eight channels (four AWG70002 generators ganged together) with the ability to control all eight channels from a single screen.

File types supported

SourceXpress supports the same file types as the Tektronix AWG70000 and AWG5200 Series instruments.

File format	Description
.AWGX [1]	Setup file created by Tektronix AWG70000 or AWG5200 Series instruments or SourceXpress. Setup files can contain multiple waveforms and multiple sequences.
.WFMX [1]	Waveform file created by Tektronix AWG70000 or AWG5200 Series instruments.
.AWG [1]	Setup file created by Tektronix AWG5000 or AWG7000 Series instruments.
.WFM [1]	Waveform file created by Tektronix AWG400/500/600/700/5000/7000 Series Instruments. Waveform file captured by Tektronix TDS/DPO/MSO/DSA Series instruments
.ISF [1]	Waveform file captured by Tektronix TDS/DPO/MSO/DSA Series instruments.
.PAT [1]	Waveform file created Tektronix AWG400/500/600/700 Series instruments.
.IQT [1]	Waveform file captured by Tektronix RSA3000 Series instruments.
.TIQ [1]	Waveform file captured by Tektronix RSA6000/5000, SPECMON, MDO4000 Series instruments or by SignalVu-PC.
.TFW [1]	Waveform file created by Tektronix AFG3000 Series Instruments.
.TXT [1]	ASCII file created by Tektronix AWG5000 or AWG7000 Series instruments. If using Excel, use .csv files by first changing the file extension to .txt. (The batch file load uses .csv files directly.)

File format	Description
.RFD [1]	Waveform file created by Tektronix RFX100 RFXpress Advanced RF/IF/IQ waveform software.
.SXD [1]	Waveform file created by Tektronix SDX100 SerialXpress high-speed serial data signals software.
.MAT	Matlab file type, Level 5 or Level 7.3. (Must conform to Tektronix file format.)
.TMP	Midas BLUE file type. (Must conform to Tektronix file format.)
.PRM	Midas BLUE file type. (Must conform to Tektronix file format.)
.SEQX [1]	Sequence file created by Tektronix AWG70000 or AWG5200 Series instruments.
.SEQ [1]	Sequence file created by Tektronix AWG400, AWG500, or AWG600 Series instruments.

Suggested PC requirements

- Intel® Pentium® 4 or AMD Athlon® 64 processor (2 GHz or faster)
- Windows 7 SP1 (64 bit) , Windows 8 (64 bit) , Windows 8.1 (64 bit) , Windows 10 (64 bit)
- 4 GB of RAM minimum, 8 G of RAM recommended
- 5 GB of available hard-disk space, 10 GB recommended (disk space depends on the number and size of waveforms)
- 1366 x 768 display (1920 x 1080 recommended)
- OpenGL® 2.0, 32-bit color, and 1 GB of VRAM

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[1] Proprietary Tektronix file format.

Ordering information

SourceXpress is a free application available for download at www.tektronix.com/downloads.

Application plug-ins are available for purchase to enhance the capabilities of SourceXpress.

Information on SourceXpress and available Plug-Ins are available at www.tektronix.com/sourcexpress.

Plug-in licensing and activation

Optional plug-in applications to SourceXpress require the purchase of a license before they are fully functional. Each optional plug-in requires its own license. Licenses are managed within the Tektronix Asset Management System (Tek AMS). The Tek AMS web site address is www.tektronix.com/products/product-license. Product license management requires a login account.

There are two types of licenses available for plug-in applications: node-locked (NL) and floating (FL).

- Node Locked Licenses provide your own copy of the application on your instrument or personal computer and are permanently assigned to a specific Hostid or product model/serial number.

- Floating licenses can be moved between different Hostids or product models.

    Use the Tektronix Asset Management system to check in and check out floating licenses.

Plug-ins

Plug-ins increase the capabilities of the arbitrary waveform generators. Various plug-ins are available providing unique types of waveforms or additional compensation. Each plug-in has its own installation file which installs seamlessly into the generators. After installation, it simply becomes a new menu selection. No other configuration is necessary.

Plug-in	Description	Nomenclature	Licensed enhancements
Multitone & Chirp plug-in	Create generate chirps, notches and tones	MTONENL-SS01 MTONEFL-SS01	
PreCompensation plug-in	Create correction coefficients that can be applied on waveforms to get flat frequency and linear phase response	PRECOMNL-SS01 PRECOMFL-SS01	
High Speed Serial plug-in	Create pre-distorted waveforms to test a device's conformance to standards	HSSNL-SS01 HSSFL-SS01 HSSPACKNL-SS01 HSSPACKFL-SS01	S-Parameters and Intersymbol Interference unlocked with S-Parameters plug-in license Spread Spectrum Clocking unlocked with Spread Spectrum Clocking plug-in license (Licensed enhancements are included with HSSPACK)
RF Generic plug-in	Create digitally modulated signals with multiple carrier groups	RFGENNL-SS01 RFGENFL-SS01	S-Parameters unlocked with S-Parameters plug-in license
Optical plug-in	Create waveforms with complex modulation schemes for optical testing	OPTICALNL-SS01 OPTICALFL-SS01	S-Parameters unlocked with S-Parameters plug-in license Spread Spectrum Clocking unlocked with Spread Spectrum Clocking plug-in license
OFDM plug-in	Create Single or Multiple OFDM based Frames with one or more bursts	OFDMNL-SS01 OFDMFL-SS01	S-Parameters unlocked with S-Parameters plug-in license
RADAR plug-in	Create RADAR pulsed waveforms with various modulations and impairments	RADARNL-SS01 RADARFL-SS01	S-Parameters unlocked with S-Parameters plug-in license
	RADAR and Environment waveform creation plug-ins packaged together	RDRPACK1NL-SS01 RDRPACK1FL-SS01	
	RADAR, Environment, and OFDM waveform creation plug-ins packaged together	RDRPACK2NL-SS01 RDRPACK2FL-SS01	

Plug-in	Description	Nomenclature	Licensed enhancements
Environment plug-in	Create real world scenarios for commercial, electronic warfare, and simulations for monitoring and receiver testing	ENVNL-SS01 ENVFL-SS01	
Spread Spectrum Clocking plug-in	Adds SSC capability to the High Speed Serial and Optical plug-ins	SSCFLNL-SS01 SSCFLFL-SS01	
S-Parameters plug-in	Adds S-Parameter capability to the RF Generic, High Speed Serial, Optical, OFDM, and RADAR plug-ins	SPARANL-SS01 SPARAFL-SS01	

Plug-ins require the purchase of a license before they are fully functional.

There are two types of licenses available for each plug-in: node-locked (NL) and floating (FL).

● Node Locked Licenses (NL) provide your own copy of the application on your instrument and are permanently assigned to a product model/serial number.

● Floating Licenses (FL) can be moved between product models.

Tektronix is registered to ISO 9001 and ISO 14001 by SRI Quality System Registrar.

Product(s) complies with IEEE Standard 488.1-1987, RS-232-C, and with Tektronix Standard Codes and Formats.

11 Dec 2018   76W-60185-1

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