



**SourceXpress®**  
**Waveform Creation Application**  
**Programmer Manual**







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# Table of Contents

## Getting Started

Introduction .....	1-1
Documentation .....	1-2

## Syntax and Commands

Command Syntax .....	2-1
Command Groups .....	2-3
Connectivity group commands .....	2-3
Waveform plug-in group commands .....	2-3
Command Descriptions .....	2-5

## Error messages

Error messages and codes .....	3-1
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# Getting Started





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# Introduction

The SourceXpress® programmatic interface works seamlessly with the AWG70000A series instrument's programmatic interface. Using a single VISA or raw socket session, it is possible to communicate with both SourceXpress and AWG70000A series instruments.

This programmer manual provides the commands for remotely control the SourceXpress software. The commands listed are unique to the SourceXpress application.

For the list of commands to control the features of an AWG70000A series instrument (through SourceXpress), refer to the *AWG70000A series Arbitrary Waveform Generators Programmer Manual*.

The AWG70000A series programmer manual also provides general information about Remote Control, GPIB Parameters, LAN Parameters, Connecting to an Instrument using GPIB, and setting up GPIB communication.

# Documentation

In addition to this SourceXpress Programmer Guide, the following documentation is included with the SourceXpress application:

- SourceXpress Help. The help provides in-depth operation and user interface help.
- SourceXpress User Manual (PDF). This is adapted from the SourceXpress help system.

For programming information about the AWG70000A series instruments, refer to the following documentation:

- *AWG70000A series Arbitrary Waveform Generators Programmer Manual*. This document provides programming information and commands for remotely operating an AWG70000A series instrument. This manual is available on the Tektronix Web site ([www.Tek.com/manuals](http://www.Tek.com/manuals)).

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# Syntax and Commands



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# Command Syntax

For information on Syntax Overview, Command and Query Structure, Clearing the Instrument, Command Entry, Parameter Types, SCPI Commands and Queries, refer to the *AWG70000A Series Arbitrary Waveform Generators Programmer Manual*.



# Command Groups

## Connectivity group commands

Table 2-1: Connectivity group commands and their descriptions

Command	Description
<a href="#">CONNectivity:ACTive</a>	Sets or returns the active generator using the connected generator's name.
<a href="#">CONNectivity:CONNect</a>	Connects SourceXpress to a remote generator using the generator's hostname, making the remote generator available for use by SourceXpress.
<a href="#">CONNectivity:DISConnect</a>	Disconnects the named generator from SourceXpress.
<a href="#">CONNectivity:REMove</a>	Removes the named generator from SourceXpress.
<a href="#">CONNectivity:STATus?</a>	Returns the connection status of the named generator.

## Waveform plug-in group commands

Table 2-2: Waveform plug-in group commands and their descriptions

Command	Description
<a href="#">WPLugin:ACTive</a>	Sets or returns the active waveform creation plug-in.
<a href="#">WPLugin:PLUGins?</a>	Returns all the available waveform creation plug-ins.





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# Command Descriptions

## CONNectivity:ACTive

This command sets or returns the active generator using the connected generator name. The active generator is the target of instrument operations. Only a single generator can be active at once.

The set version of this command must use the actual generator name as listed in the Generator List (in the SourceXpress application).

**Conditions**     The generator must be connected before it can become active.

**Group**     Connectivity

**Syntax**     `CONNectivity:ACTive <generator_name>`  
`CONNectivity:ACTive?`

**Arguments**     `<generator_name>::=<string>`

**Returns**     `<generator_name>::=` the name of the active generator.

**Examples**     `CONNECTIVITY:ACTIVE "MyGenerator"` makes the generator named "MyGenerator" the active generator.

`CONNECTIVITY:ACTIVE?` might return "MyGenerator", indicating that the generator named MyGenerator is the active generator.

## CONNectivity:CONNect (No Query Form)

This command connects SourceXpress to a remote generator using the generator's hostname, making the remote generator available for use by SourceXpress. You can also assign a unique generator name of the connected generator. If a name is not specified, then the hostname is used as the name for the connected generator. The generator name is the name that appears in the Generator List.

**Group**     Connectivity

**Syntax**     `CONNectivity:CONNect <hostname>[, <generator_name>]`

<b>Arguments</b>	<p>&lt;hostname&gt;::=&lt;string&gt; The hostname may consist of either the computer name of the instrument or the IP address of the instrument. The computer name can be found by viewing the Windows Computer Properties of the instrument.</p> <p>&lt;generator_name&gt;::=&lt;string&gt;</p>
<b>Examples</b>	<p>CONNECTIVITY:CONNECT "192.153.22.101","MyGenerator" connects to the instrument with the named IP address and names the instrument "MyGenerator".</p>

## CONNectivity:DISConnect (No Query Form)

This command disconnects the named generator from SourceXpress.

<b>Conditions</b>	You must use the name of the generator as listed in the Generator List in SourceXpress.
<b>Group</b>	Connectivity
<b>Syntax</b>	CONNectivity:DISConnect <generator_name>
<b>Arguments</b>	<generator_name>::=<string>
<b>Examples</b>	<p>CONNECTIVITY:DISCONNECT "MyGenerator" disconnects the remote generator named "MyGenerator".</p>

## CONNectivity:REMove (No Query Form)

This command removes the named generator from SourceXpress. If the named generator is the active generator, it is disconnected and removed without warning.

<b>Conditions</b>	You must use the name of the generator as listed in the Generator List in SourceXpress.
<b>Group</b>	Connectivity
<b>Syntax</b>	CONNectivity:REMove <generator_name>

<b>Arguments</b>	<generator_name>::=<string>
<b>Examples</b>	CONNECTIVITY:REMOVE "MyGenerator" removes the remote generator named "MyGenerator".

## CONNectivity:STATus? (Query Only)

This command returns the connection status of the named generator.

<b>Conditions</b>	You must use the name of the generator as listed in the Generator List in SourceXpress.
<b>Group</b>	Connectivity
<b>Syntax</b>	CONNectivity:STATus? <generator_name>
<b>Arguments</b>	<generator_name>::=<string>
<b>Returns</b>	A single <Boolean> value, 0 or 1. 0 indicates the named generator is not connected. 1 indicates the named generator is connected.
<b>Examples</b>	CONNECTIVITY:STATUS? "MyGenerator" might return 1, indicating that this generator is connected and available.

## WPLugin:ACTive

This command sets or returns the active waveform creation plug-in.

<b>Conditions</b>	This is an overlapping command.  Overlapping commands run concurrently with other commands, allowing additional commands to start before the overlapping command has finished.
<b>Group</b>	Waveform plug-in
<b>Syntax</b>	WPLugin:ACTive <plugin_name>

<b>Arguments</b>	<code>&lt;plugin_name&gt;::=&lt;string&gt;</code>
<b>Returns</b>	A single string representing the active waveform creation plug-in.
<b>Examples</b>	<code>WPLUGIN:ACTIVE "Multitone"</code> sets Multitone plug-in as the active plug-in. <code>WPLUGIN:ACTIVE?</code> might return "Multitone", indicating the Multitone plug-in is currently active.

## WPlugin:PLUGins? (Query Only)

This command returns all the available waveform creation plug-ins installed.

<b>Group</b>	Waveform plug-in
<b>Syntax</b>	<code>WPlugin:PLUGins?</code>
<b>Returns</b>	<code>&lt;string&gt;::= &lt;plugin_name&gt;,&lt;plugin_name&gt;,....</code> Plugin_name is the waveform module name(s).
<b>Examples</b>	<code>WPLUGIN:PLUGINS?</code> might return "Basic waveform,Multitone" indicating that the Basic Waveform and Multitone plug-ins are installed.

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# Error messages



# Error messages and codes

The following error codes are unique to the SourceXpress application.

**Table 3-1: Device errors**

Error code	Error message
2100	Unable to connect. Connection requires instrument firmware version {0} or greater.
2101	Unable to connect. Connection requires SourceXpress software version {0} or greater.
2102	Failed to connect. Failed to connect to generator.
2103	Generator not found. Generator not found in the Connected Generator list.
2104	Set to active failure. Failed to set a generator to be the active generator.
2105	Connection lost. Lost connection to the active generator.
2106	Name in use. Name already in use by another virtual generator.
2107	Invalid name. Unable to find virtual generator with the specified name.
2108	Disconnect failed. Cannot disconnect from the default virtual generator.
2109	Remove failed. Cannot remove the default virtual generator.





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# Index

## C

- Command Groups, 2-3
- CONNectivity:ACTive, 2-5
- CONNectivity:CONNect, 2-5
- CONNectivity:DISConnect, 2-6
- CONNectivity:REMove, 2-6
- CONNectivity:STATus?, 2-7

## D

- Documentation,
  - AWG70000A programmer, 1-2
  - SourceXpress programmer, 1-2
  - SourceXpress user manual, 1-2

## E

- Error codes, 3-1

## W

- WPLugin:ACTive, 2-7
- WPLugin:PLUGins?, 2-8