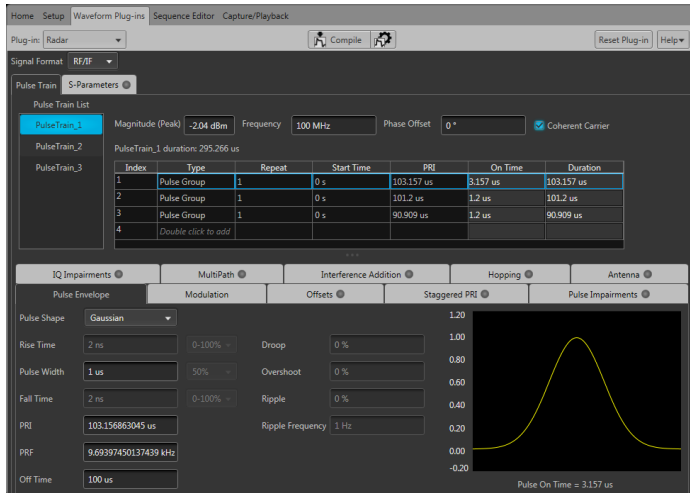


Applications for SourceXpress® and AWG70000/5200 series generators

RADAR Plug-in Datasheet



The Tektronix RADAR plug-in is a simple and flexible tool to create RADAR pulsed waveforms with various modulations and impairments for the purpose of building complex and real world RADAR test signals. The plug-in integrates into the SourceXpress waveform creation platform, and the AWG70000 series and AWG5200 series arbitrary waveform generators.

Key features

- Allows the creation of multiple pulses and pulse groups to simulate scenarios like Multiple Target Returns and Antenna scanning
- Customize pulses and add impairments to simulate real world signals
- Wide variety of intra-pulse modulations (such as LFM, Barker, Piecewise LFM, Non Linear FM,...), catering to different kinds of pulse compression schemes
- Simulate antenna scanning with different beam profiles to simulate real world target returns for RADAR receivers and Electronic Warfare (EW) scanners
- Define Inter Pulse-hopping Patterns in both Frequency and Amplitude to generate signals for anti-jamming applications
- Simulate Doppler frequency shifts, staggered PRI, Multipath and other features to help customers test their RADAR receivers for real world scenarios in the lab
- S-Parameter emulation (requires license)
 - Directly convolve Scattering parameters with the pulse to recreate the channel characteristics. Cascading S-Parameters allows you to cascade up to six Touchstone files of the same format to emulate a cascaded channel

- Offline Mode
 - Designed to also run on an external PC via the SourceXpress PC application, thereby reducing the time taken to synthesize large waveforms and leaving the instruments free for continued testing
- Seamless transition between design and playback
 - The easy to use graphical user interface integrates seamlessly with the user interfaces of the SourceXpress PC application and the Tektronix AWG70000 series and AWG5200 series generators
- Designed for integration for automated test or manufacturing
 - Programmatic Interface allows for integration into existing workflows

Ultimate Radar signal flexibility

The Radar plug-in provides the ultimate in flexibility for creating Pulsed Radar waveforms. It gives users the ability to build custom Radar Pulse suites starting from pulse-to-pulse trains to pulse groups. It supports a variety of modulation schemes including LFM, Up-Down Chirp, QPSK, BPSK, Barker/Frank/Polyphase Codes including P1/P2/P3/P4, Step FM, Nonlinear FM, User-defined Step FM/AM and Step PM/AM, and Custom Modulation. It also has the ability to generate pulse trains with staggered PRI to resolve Range and Doppler ambiguity, frequency hopping for Electronic Counter-Counter Measures (ECCM), and pulse-to-pulse amplitude variation to simulate Swerling target models, including antenna scan patterns, clutter, and multipath effects. Add as many topics as you want for a description.

Complex environments

Commercial, Electronic Warfare, Simulation and design RADAR applications are becoming more complex as environments, threats and RADAR needs become more complex. To meet these needs, the Radar plug-in allows for the development, recreation and simulation of real world radar signals in an easy to use environment.

Requirements

- Plug-in installed with SourceXpress on PC:
 - SourceXpress software version 5.3 or greater
 - PC operating systems: Windows 7 (64 bit), Windows 8 (64 bit), Windows 10 (64 bit)
- Plug-in installed on compatible instruments:
 - AWG70000 Series, firmware version 5.3 or greater
 - AWG5200 Series, firmware version 6.0 or greater

Ordering information

Models

RADARFL-SS01 RADAR plug-in with a floating license that can be reassigned to different Tektronix instruments or PCs.

RADARNL-SS01 RADAR plug-in with a node locked license tied to a single instrument or PC.

The RADAR plug-in can be downloaded for free and a trial license is available. Complete functionality and continued use requires the purchase of a license.

Visit the [SourceXpress](#), [AWG70000](#), or [AWG5200](#) product pages to obtain the software and license.

How to purchase

To purchase, visit the Tektronix web site to request a quote or contact your nearest sales representative.

Additional information

This and other plug-ins are available for SourceXpress and compatible waveform generators.

Use the following website links to view available application plug-ins, downloads, and trial licenses.

- [SourceXpress website](#)
- [AWG70000 Series website](#)
- [AWG5200 Series website](#)

Licensing

Each plug-in (for SourceXpress, the AWG70000A Series generators, and the AWG5200 Series generators) requires the purchase of a license before they are functional. Some plug-ins may require additional licenses to unlock specific plug-in features. 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: 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 Host ID or product model/serial number.
- Floating licenses can be moved between different Host IDs or product models.

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

Certifications



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.

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For Further Information. Tektronix maintains a comprehensive, constantly expanding collection of application notes, technical briefs and other resources to help engineers working on the cutting edge of technology. Please visit www.tek.com.

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