

# CTRL7100A

## CTRL7100A Instrument Controller



The CTRL7100A enables the exceptional real time performance and streaming capabilities in the RSA7100A Real-Time Spectrum Analyzer and is available as a separate unit if additional controllers are needed.

### Key features

- High-performance multi-CPU processor for fast analysis of all results
- Professional-level GPU supplies the compute engine for real time spectrum analysis
- Streaming capture to internal RAID of over 2 hours at full 800 MHz bandwidth enables environment recording and analysis of long event sequences
- IQFlow™ provides continuous streaming of IQ data from the device to one or more clients, including RAID and 40 GbE
- SignalVu-PC and purchased licenses can be factory installed

### Applications

- Advanced radar/EW design evaluation
- Environment evaluation, monitoring and recording
- Wideband communications design
- Spectrum management

### The CTRL7100A is the compute engine for the RSA7100A wideband real time spectrum analyzer and enables streaming capture

The CTRL7100A is standard with every RSA7100A spectrum analyzer. It is a high performance computer with an advanced graphics engine that is the heart of the real time and streaming capability of the RSA7100A

Tektronix has designed the CTRL7100A to meet the specified performance of real time DPX operation with simultaneous streaming to RAID.



## Specifications

All specifications are guaranteed unless noted otherwise. All specifications apply to all models unless noted otherwise.

### General Characteristics

<b>CTRL7100A I/O</b>	PCIe 2x USB 3.0 on front panel
	2x USB 3.0 on rear panel
	2x USB 2.0 on rear panel
	17 removable drive bays (1 for OS, 16 for RAID)
	6 Mini-Display ports
	2x 10 Gbit Ethernet
	1x 40 Gbit Ethernet (Mellanox ConnectX-3 Ethernet Adapter) with QSFP connector type

<b>CTRL7100A RAID</b>	Disk size and lifetime, 800 MHz bandwidth
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RAID option	Total time of all records	Expected lifetime of disk
Option B at 1000 MS/s	55 min	290 hr
Option B at 1000 MS/s, stored unpacked	40 min	226 hr
Option C at 1000 MS/s	165 min	900 hr
Option C at 1000 MS/s, stored unpacked	120 min	680 hr

<b>CTRL7100A internal characteristics</b>	GPU: AMD W9100
	Dual Intel® Xeon® Processor E5-2623 v4 (10M Cache, 2.6 GHz)
	Clock 2.6 GHZ
	Internal Cache 10MB
	64GB DDR4 2133 MHz RAM
	Optional RAID controller and front-panel removable drives supports 4 GB/s streaming and up to 32 TB memory
OS: Windows 7	

### Physical Characteristics

<b>Physical dimensions</b>	Height: 450.9 mm (17.75 in)
	Width: 177.8 mm (7.0 in)
	Depth: 660.4 mm (26 in)
	Weight: 23.8 kg (52.4 lb) with Option C7100-B

**Environmental**

**Operating Temperature**

**Temperature** Operating: +10 ° C to + 35 ° C  
 Non-operating: -20 °C to +60 °C

**Relative humidity non-condensing, typical** Operating: 40 to 70 %

**Altitude** Operating: Up to 3000 m  
 Non-operating: Up to 12000 m

**Dynamics**

**Random vibration** Operating: 5-500 Hz, 1.0 G rms

**Shock operating** Operating: 15 G, half-sine, 11ms duration  
 Non-operating: 5-500 Hz, 2.28 G rms

**Shock non-operating** 25 G, half-sine, 11ms duration

**Ordering Information**

**CTRL7100A ordered as standalone**

The CTRL7100A is included with every RSA7100A ordered. The CTRL7100A instrument controller can be ordered without an RSA7100A if needed. Ordering information is shown below. SignalVu-PC application licenses can be purchased as options to the CTRL7100A and are installed by Tektronix, reducing your setup time.

Note: A PC monitor is not included with the CTRL7100A. Tektronix recommends the Dell UltraSharp U2414H 23.8 inch Widescreen IPS LCD Monitor, or any monitor that supports either mini-Display port or HDMI input and has a minimum 1920 x 1080 display resolution.

Includes: Installation and safety manual, PCIe cable, mouse, keyboard, Mini-Display Port to HDMI adapter, power cable, rackmount kit for controller. Controller rack-mount is 'telecom-style'. A server-style rackmount can also be used with the controller, available from third parties.

**CTRL7100A Options**

CTRL7100A Options	Description:	Ordering instruction
CTRL7100A	Controller	Base unit
Opt. C7100-A	Controller, no RAID storage	Select one
Opt. C7100-B	Controller, RAID storage, 20 minutes recording time at 800 MHz bandwidth (requires STREAMNL/FL-SVPC)	
Opt. C7100-C	Controller, RAID storage, >120 minutes recording time at 800 MHz bandwidth (requires STREAMNL/FL-SVPC)	
Opt. SV09	High performance real time (export class 3A002), node-locked license	Mandatory option

SignalVu-PC application licenses (node-locked) can be added to the CTRL7100A. The available optional licenses are shown below.

Floating licenses may be desired if you need to move analysis capability between controllers. A full list of floating licenses is in the SignalVu-PC datasheet.

SignalVu-PC licenses ordered as options to CTRL7100A (Factory installed on unit)	License type	Description
Opt. B800NL-SVPC	Node locked	800 MHz acquisition bandwidth
Opt. CUSTOM-APINL-SVPC	Node locked	Streaming API for customer-defined access of RSA7100A analyzer
Opt. STREAMNL-SVPC	Node locked	IQFlow™ streaming data to RAID (requires option C7100-B or C7100-C) and 40 GbE

SignalVu-PC licenses ordered as options to CTRL7100A (Factory installed on unit)	License type	Description
Opt. SVMHNL-SVPC	Node locked	General Purpose Modulation Analysis to work with analyzer of any acquisition bandwidth and MDO
Opt. SVPHNL-SVPC	Node locked	Pulse Analysis to work with analyzer of any acquisition bandwidth and MDO
Opt. TRIGHNL-SVPC	Node locked	Advanced triggers (Frequency Mask, Density) to work with RSA7100A
Opt. MAPNL-SVPC	Node locked	Mapping and signal strength
Opt. SV54NL-SVPC	Node locked	Signal survey and classification
Opt. SVTNL-SVPC	Node locked	Settling Time (frequency and phase) measurements
Opt. SV23NL-SVPC	Node locked	WLAN 802.11a/b/g/j/p measurement
Opt. SV24NL-SVPC	Node locked	WLAN 802.11n measurement (requires SV23)
Opt. SV25HNL-SVPC	Node locked	WLAN 802.11ac measurement to work with analyzer of acquisition bandwidth $\leq 40$ MHz and MDO4000B/C (requires SV23 and SV24)
Opt. SV26NL-SVPC	Node locked	APCO P25 measurement
Opt. SV27NL-SVPC	Node locked	Bluetooth measurement to work with analyzer of acquisition bandwidth $\leq 40$ MHz and MDO4000B/C
Opt. SV28NL-SVPC	Node locked	LTE Downlink RF measurement to work with analyzer of acquisition bandwidth $\leq 40$ MHz and MDO4000B/C
Opt. SVANL-SVPC	Node locked	AM/FM/PM/Direct Audio Analysis
Opt. SVONL-SVPC	Node locked	Flexible OFDM Analysis
Opt. CONNL-SVPC	Node locked	SignalVu-PC connection to the MDO4000B/C series mixed-domain oscilloscopes

### Power plug options for the CTRL7100A

Opt. A0	North America power plug (115 V, 60 Hz)
Opt. A1	Universal Euro power plug (220 V, 50 Hz)
Opt. A2	United Kingdom power plug (240 V, 50 Hz)
Opt. A3	Australia power plug (240 V, 50 Hz)
Opt. A4	North America power plug (240 V, 50 Hz)
Opt. A5	Switzerland power plug (220 V, 50 Hz)
Opt. A6	Japan power plug (100 V, 50/60 Hz)
Opt. A10	China power plug (50 Hz)
Opt. A11	India power plug (50 Hz)
Opt. A12	Brazil power plug (60 Hz)
Opt. A99	No power cord

### Language options for the CTRL7100A

Opt. L0	English manual
Opt. L5	Japanese manual
Opt. L7	Simplified Chinese manual

Opt. L10	Russian manual
Opt. L99	No manual

**Service options for the CTRL7100A**

**Opt. G3** - Three Year Gold Care Plan. Includes expedited repair of all product failures including ESD and EOS, access to a loaner product during repair or advanced exchange to reduce downtime, and priority access to Customer Support.

**Opt. G5** - Five Year Gold Care Plan. Includes expedited repair of all product failures including ESD and EOS, access to a loaner product during repair or advanced exchange to reduce downtime, and priority access to Customer Support.

**Calibration interval**

CTRL7100A Controller - Calibration service provides functionality check, no interval specified

**Warranty**

- CTRL7100A: 1 year
- SignalVu-PC software: 90 days

**Recommended accessories**

Item	Description
174-6990-00	Additional PCIe cable, PCIE X8, Straight connector on both ends, Molex
650-5991-00	Additional 512 GB solid-state drive with Windows 7, SignalVu-PC installed



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.



Product Area Assessed: The planning, design/development and manufacture of electronic Test and Measurement instruments.



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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](http://www.tek.com).

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