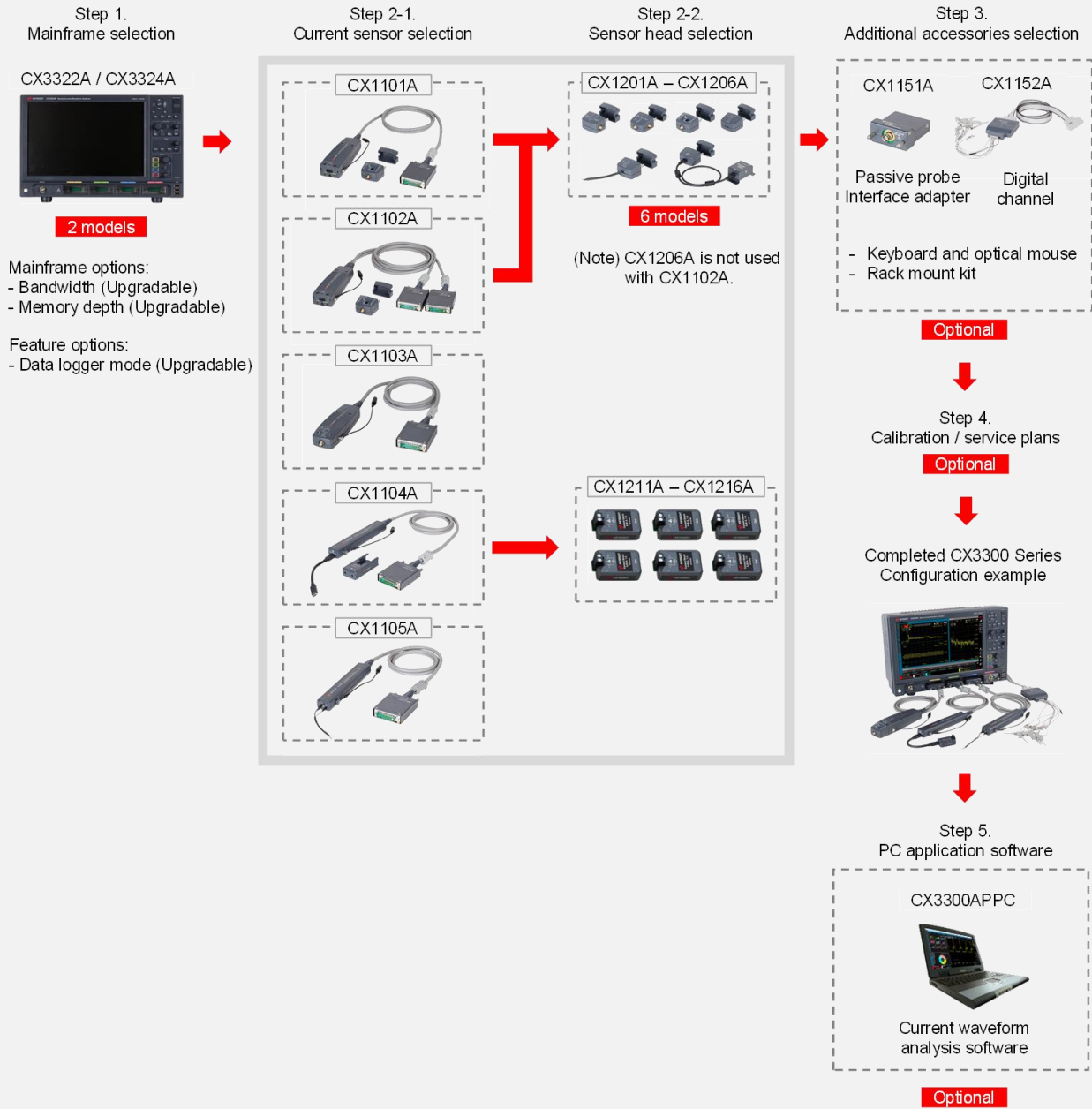


# CX3300 Series Device Current Waveform Analyzer



## Overview of the CX3300 Series Configuration Steps

The overview of the configuring steps for the CX3300 Series Device Current Waveform Analyzer (CX3300A Series) is shown below.



This configuration guide has step-by-step instructions to help you configure your CX3300 Series with the related accessories, to meet specific test requirements. For detailed specifications, refer to the CX3300A Series Device Current Waveform Analyzer - Data Sheet (5992-1430EN).

# Configuring your Keysight CX3300 Series Device Current Waveform Analyzer

## Step 1. The CX3300 Series model and options selection

There are four initial key parameters that you will need to select;

1. The number of channels (two or four)
2. The measurement bandwidth (50 MHz, 100 MHz or 200 MHz)
3. The measurement memory depth (4 Mpts, 16 Mpts, 64 Mpts or 256 Mpts)
4. One feature option; data logger mode

Note: Upgrade products are available for the bandwidth, the memory depth and the data logger mode. If you want to upgrade in future, you can order them.

### Step 1-1. Selecting the CX3300 Series model

The CX3300 Series contains the following two models. Select one model.

Model	Description
CX3322A	Device Current Waveform Analyzer, 1 GSa/s, 14/16-bit, 2 Channel
CX3324A	Device Current Waveform Analyzer, 1 GSa/s, 14/16-bit, 4 Channel

### Step 1-2. Select the bandwidth options

The CX3322A and CX3324A have the following three bandwidth options.

Select one from the options.

Option	Description
B05	Bandwidth – 50 MHz
B10	Bandwidth – 100 MHz
B20	Bandwidth – 200 MHz

### Step 1-3. Select the memory options

The CX3322A and CX3324A have the following four memory options.

Select one from the options.

Option	Description
004	Memory – 4 M pts/ch
016	Memory – 16 M pts/ch
064	Memory – 64 M pts/ch
256	Memory – 256 M pts/ch

Step 1-4. Select data logger mode for the CX3300 Series: Optional

Option	Description
STG	Data logger mode for CX3322A and CX3324A

Your chosen CX3300 Series configuration will be one of the combinations shown in the table below.

Model	Description
CX3322A	Device Current Waveform Analyzer, 1 GSa/s, 14/16-bit, 2 Channel
CX3322A-OC-BW	Bandwidth Options – Factory Installed
CX3322A-B05	Bandwidth – 50 MHz
CX3322A-B10	Bandwidth – 100 MHz
CX3322A-B20	Bandwidth – 200 MHz
CX3322A-OC-MEMORY	Memory Options – Factory Installed
CX3322A-004	Memory – 4 M pts/ch
CX3322A-016	Memory – 16 M pts/ch
CX3322A-064	Memory – 64 M pts/ch
CX3322A-256	Memory – 256 M pts/ch
CX3322A-OC-FEATURE	Feature Options – Factory Installed
CX3322A-STG (Optional)	Data logger mode for CX3322A
CX3324A	Device Current Waveform Analyzer, 1 GSa/s, 14/16-bit, 2 Channel
CX3324A-OC-BW	Bandwidth Options – Factory Installed
CX3324A-B05	Bandwidth – 50 MHz
CX3324A-B10	Bandwidth – 100 MHz
CX3324A-B20	Bandwidth – 200 MHz
CX3324A-OC-MEMORY	Memory Options – Factory Installed
CX3324A-004	Memory – 4 M pts/ch
CX3324A-016	Memory – 16 M pts/ch
CX3324A-064	Memory – 64 M pts/ch
CX3324A-256	Memory – 256 M pts/ch
CX3324A-OC-FEATURE	Feature Options – Factory Installed
CX3324A-STG (Optional)	Data logger mode for CX3324A

Note: The CX3322A does not have a dedicated digital trigger input.  
 The CX3324A supports the digital channel using the CX1152A Digital Channel interface cable.

## Step 2. The current sensors and sensor heads selection

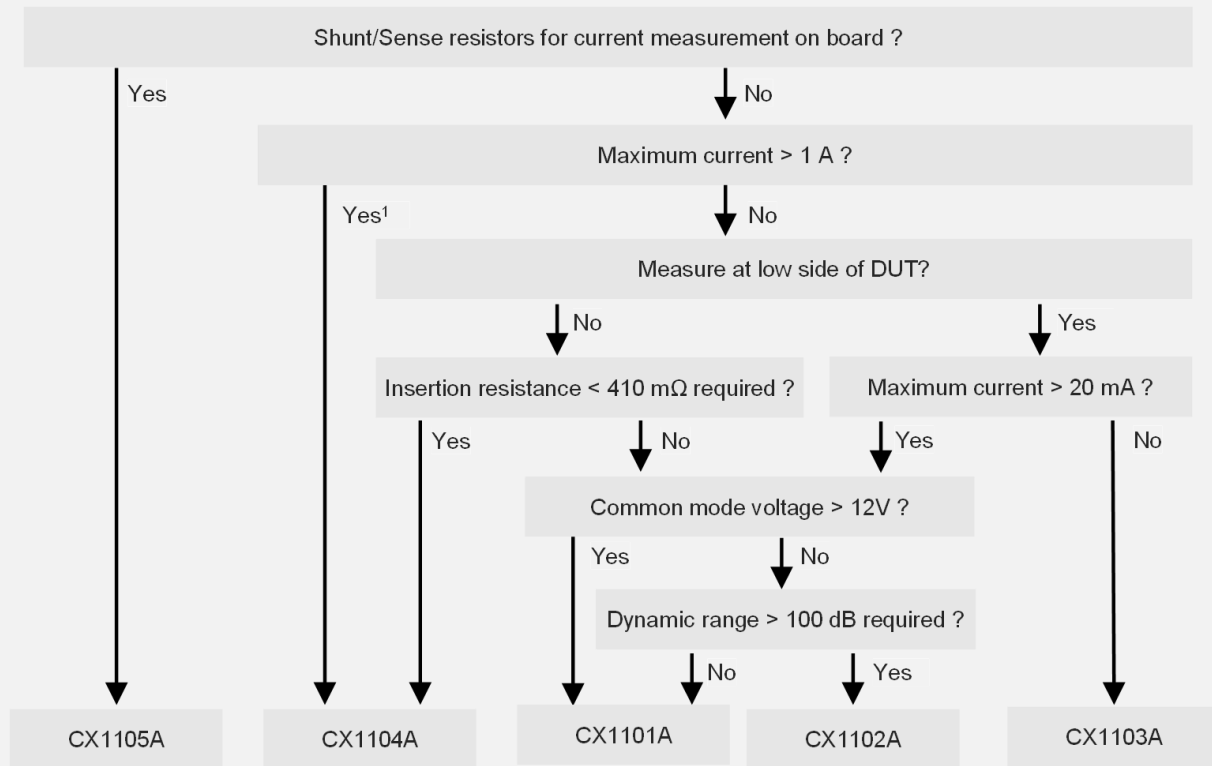
### Step 2-1. Select the current sensors

The following three current sensors are available: Select the necessary sensors.

Model	Description
CX1101A	Current Sensor, Single Channel, $\pm 40$ V, 100 MHz, 40 nA - 1A <sup>1</sup>
CX1102A <sup>2</sup>	Current Sensor, Dual Channel, $\pm 12$ V, 100 MHz, 40 nA - 1 A <sup>1</sup>
CX1103A	Current Sensor, Low Side, 200 MHz, 100 pA - 20 mA
CX1104A	Current Sensor, Selectable Resistive Sensor Head, $\pm 40$ V, 20 MHz
CX1105A	Differential Sensor, Single Channel, 100 MHz

1. The CX1101A and the CX1102A include 1 pcs. of CX1203A.
2. The CX1102A must be connected to two channels of a mainframe for the operation.

### Quick Selection Chart of Current Sensors



1. The CX1101A with CX1206A also supports up to 10 A. (Maximum bandwidth (-4 dB) is 3 MHz.)

For further information, refer to the Device Current Waveform Analyzer, 7 Hints for Precise Current Measurements – Application Note (5992-2118EN).

## Step 2-2. Select the optional current sensor heads

The following table shows the six current sensor heads that are available. According to the descriptions provided in the table, select the necessary current sensor heads which correspond with the current sensors selected in step 2-1.

For CX1101A and CX1102A

Model	Description
CX1201A	Sensor Head, Coaxial Through
CX1202A	Sensor Head, Coaxial Through with V Monitor
CX1203A	Sensor Head, Coaxial Termination <sup>1</sup>
CX1204A	Sensor Head, Twisted Pair Adapter
CX1205A	Sensor Head, Test Lead Adapter
CX1206A	Sensor Head, High Current Adapter with Expander, 10 A

For CX1104A

Model	Description
CX1211A	Resistive Sensor Head, 15 A, 5.5 mΩ
CX1212A	Resistive Sensor Head, 10 A, 8 mΩ
CX1213A	Resistive Sensor Head, 5 A, 23 mΩ
CX1214A	Resistive Sensor Head, 3 A, 53 mΩ
CX1215A	Resistive Sensor Head, 2 A, 103 mΩ
CX1216A	Resistive Sensor Head, 0.25 A, 1 Ω

The following table shows the compatible combinations of current sensors and current sensor heads.

Current sensor	CX1201A	CX1202A	CX1203A	CX1204A	CX1205A	CX1206A
CX1101A	✓	✓	✓ <sup>1</sup>	✓	✓	✓
CX1102A	✓	✓	✓ <sup>1</sup>	✓	✓	N/A
CX1103A	N/A	N/A	N/A	N/A	N/A	N/A

Current sensor	CX1211A	CX1212A	CX1213A	CX1214A	CX1215A	CX1216A
CX1104A	✓	✓	✓	✓	✓	✓
CX1105A	N/A	N/A	N/A	N/A	N/A	N/A

1. The CX1101A and the CX1102A include 1 pcs. of CX1203A.

### Step 3. Optional accessories selection

The following accessories are available for the CX3300 Series. Select the necessary accessories from the lists.

#### Interface accessories

Model	Description
CX1151A	Passive Probe Interface Adapter <sup>2</sup>
CX1152A <sup>1</sup>	Digital Channel, 10 M $\Omega$ Input, $\pm$ 25 V, 8 Channel

#### Other accessories

Model	Description
CX3300A-KBD	Keyboard and Optical Mouse
CX1903A	Rack Mount Kit for CX3300 Series
CX1905B	Attachment for 3D Probe Positioner <sup>3</sup>

1. Cannot be used with the CX3322A.
2. The N2843A Passive Probe, 10:1, 500MHz, 1.2m is recommended for use with the CX1151A.
3. The N2787A 3D Probe Positioner is recommended for use with the CX1905B. CX1905A is obsolete and cannot be used with CX1104A or CX1105A.

## Step 4. Calibration plan selection

### Step 4-1. Select the relevant calibration services (optional)

Keysight's factory calibration and Certification of Calibration (COC) are provided as standard. The optional ANSI Z540 and CCC with test data are available as following.

		Calibration service Option	
		-A6J ANSI Z540-1-1994 Calibration	-UK6 Commercial calibration certification with Test Data
Mainframe	CX3322A	✓	✓
	CX3324A	✓	✓
Current sensor	CX1101A	✓	✓
	CX1102A	✓	✓
	CX1103A	✓	✓
	CX1104A	✓	✓
	CX1105A	✓	✓
Sensor Head	CX1201A-CX1206A	N/A	N/A
	CX1211A-CX1216A	✓	✓
Interface accessories	CX1151A	✓	✓
	CX1152A	N/A	N/A

### Step 4-2. Select any re-calibration/re-certification services (optional for CX3322A and CX3324A)

Keysight's re-calibration / re-certification optional calibration service is available for CX3322A and CX3324A. The calibrations include a proof of compliance according to the calibration standard. Select one from the following list.

Description	Product number
Calibration Assurance Plan - Return to Keysight - 3 years	R-50C-011-3
Calibration Assurance Plan - Return to Keysight - 5 years	R-50C-011-5
ANSI Z540-1-1994 Calibration - 3 years	R-50C-021-3
ANSI Z540-1-1994 Calibration - 5 years	R-50C-021-5

## Step 5. Optional PC application software selection

Offline instrument PC software is available. You can choose optimal license type and term according to your needs.

Model	Description	License type	License term
CX3300APPC	Current Waveform Analytics Software	Node-Lock	Perpetual Subscription (6, 12, 24, 36 months)
		Transportable	
		USB Portable	
		Floating	

## Upgrade License Products

Upgrade products are available for the bandwidth and the memory depth. If you want to upgrade in future, you can order it.

### CX3322A upgrade

Model	Description
CX1601U	Bandwidth upgrade from 50 MHz to 100 MHz for CX3322A, Fixed perpetual license
CX1602U	Bandwidth upgrade from 50 MHz to 200 MHz for CX3322A, Fixed perpetual license
CX1603U	Bandwidth upgrade from 100 MHz to 200 MHz for CX3322A, Fixed perpetual license
CX1651U	Memory upgrade from 16 Mpts to 64 Mpts for CX3322A, Fixed perpetual license
CX1652U	Memory upgrade from 16 Mpts to 256 Mpts for CX3322A, Fixed perpetual license
CX1653U	Memory upgrade from 64 Mpts to 256 Mpts for CX3322A, Fixed perpetual license
CX1654U	Memory upgrade from 4 Mpts to 16 Mpts for CX3322A, Fixed perpetual license
CX1655U	Memory upgrade from 4 Mpts to 64 Mpts for CX3322A, Fixed perpetual license
CX1656U	Memory upgrade from 4 Mpts to 256 Mpts for CX3322A, Fixed perpetual license
CX1631U	Data logger mode upgrade for CX3322A, Fixed perpetual license

## CX3324A upgrade

Model	Description
CX1611U	Bandwidth upgrade from 50 MHz to 100 MHz for CX3324A, Fixed perpetual license
CX1612U	Bandwidth upgrade from 50 MHz to 200 MHz for CX3324A, Fixed perpetual license
CX1613U	Bandwidth upgrade from 100 MHz to 200 MHz for CX3324A, Fixed perpetual license
CX1661U	Memory upgrade from 16 Mpts to 256 Mpts for CX3324A, Fixed perpetual license
CX1662U	Memory upgrade from 16 Mpts to 256 Mpts for CX3324A, Fixed perpetual license
CX1663U	Memory upgrade from 64 Mpts to 256 Mpts for CX3324A, Fixed perpetual license
CX1664U	Memory upgrade from 4 Mpts to 16 Mpts for CX3324A, Fixed perpetual license
CX1665U	Memory upgrade from 4 Mpts to 64 Mpts for CX3324A, Fixed perpetual license
CX1666U	Memory upgrade from 4 Mpts to 256 Mpts for CX3324A, Fixed perpetual license
CX1632U	Data logger mode upgrade for CX3324A, Fixed perpetual license

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