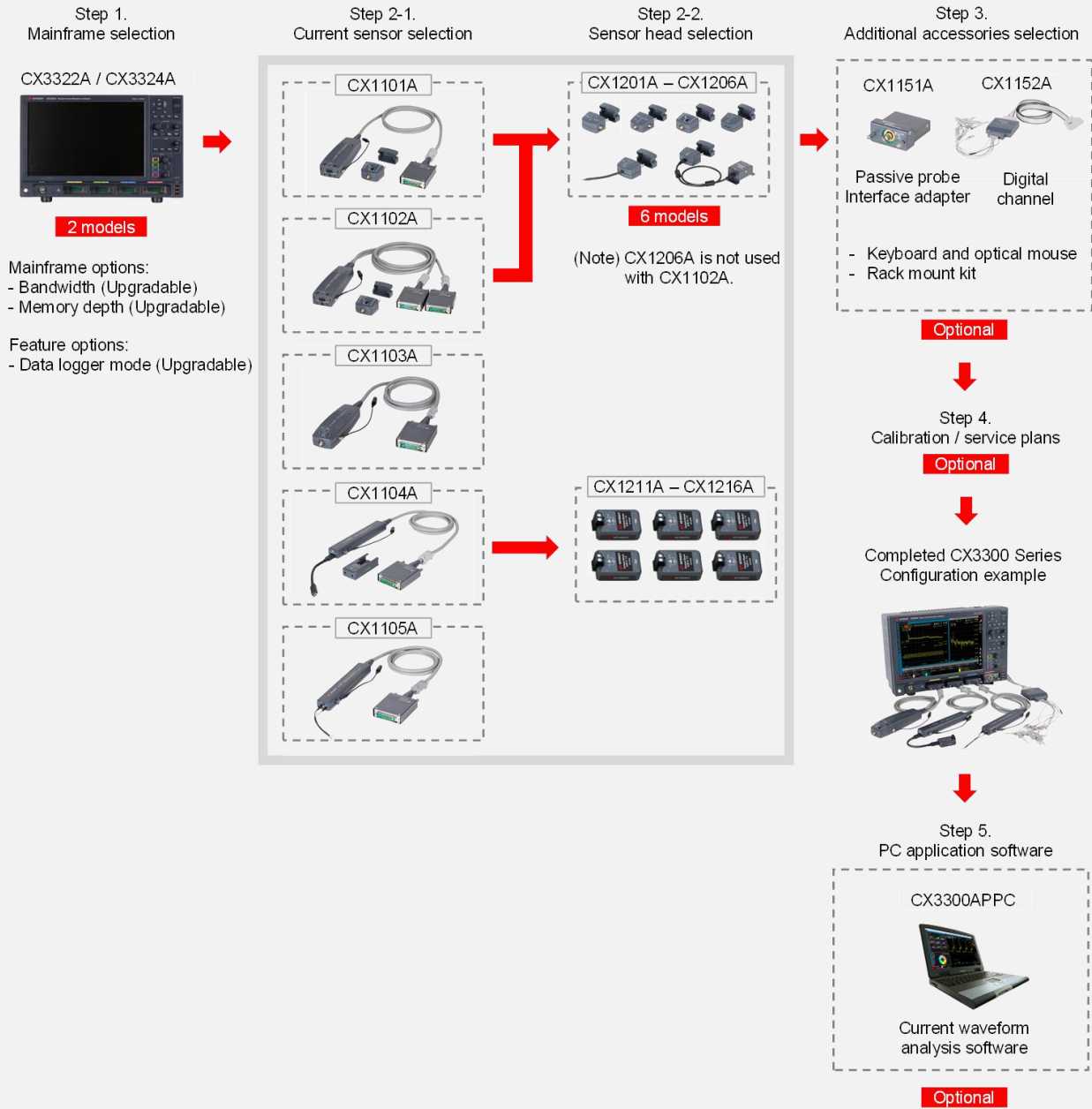


# CX3300 Series Device Current Waveform Analyzer



## 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

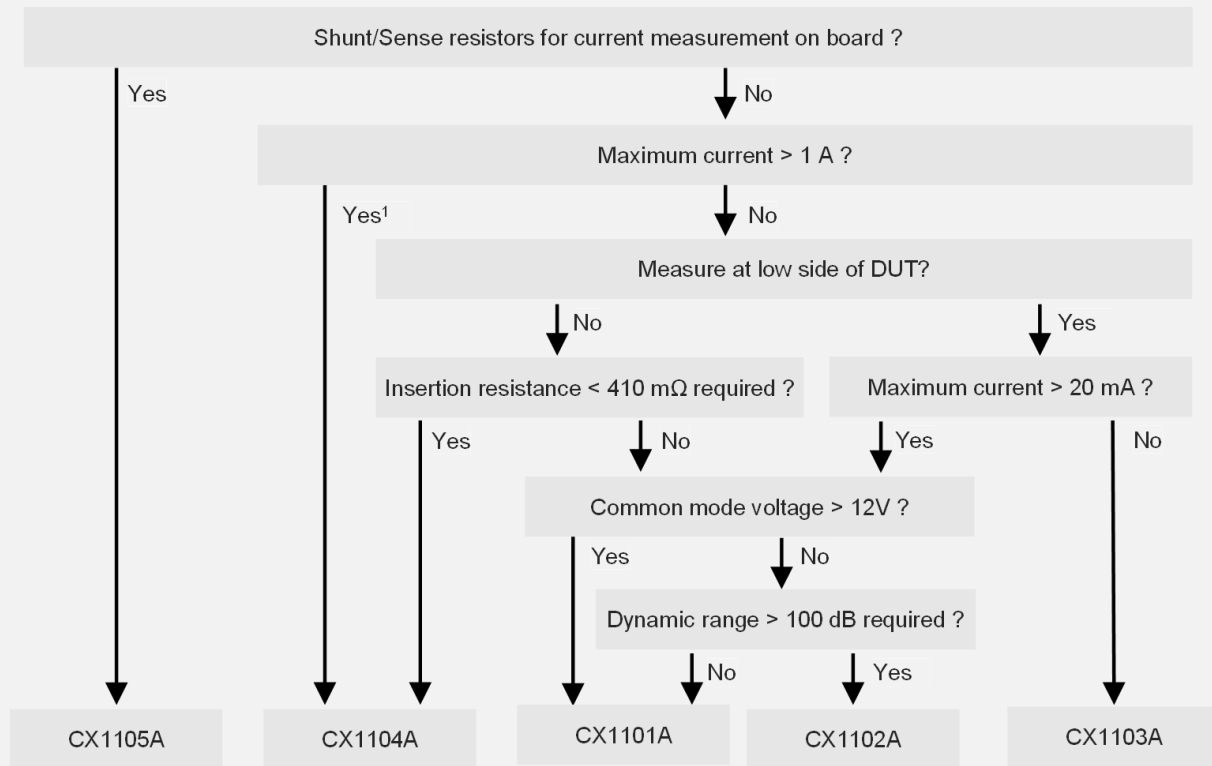
### Step 2-1. Select the current sensors

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<br>ANSI Z540-1-1994<br>Calibration | -UK6<br>Commercial calibration<br>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<br>Subscription<br>(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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