

Front panel description

The Keithley Instruments Model 3390 Arbitrary Waveform Generator front panel is described in this section ([Figure 2-1](#)).

Figure 2-1:
Model 3390 front panel

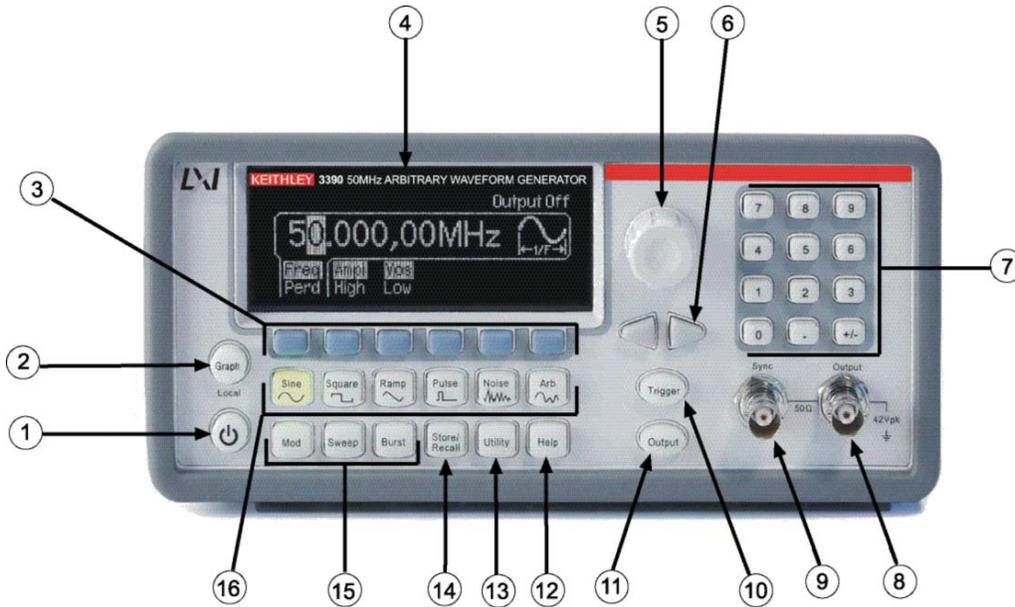


Table 2-1:
Item descriptions

Item	Description
1	Power key
2	Graph/Local key
3	Menu operation soft keys
4	Display
5, 6, 7	Navigation wheel, cursor keys, and numeric keypad
8	Output connector
9	Sync output connector
10	Trigger key
11	Output key
12	Help menu key
13	Utility menu key
14	Store/Recall menu key
15	Modulation, Sweep, and Burst keys
16	Waveform selection keys

Front panel

Power key

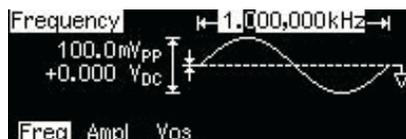
Press this key to turn the Model 3390 on. Press it again to turn the Model 3390 off.

Graph/Local key

Pressing the **Graph** key enables the graph mode ([Figure 2-2](#)). You can view the waveform visually in the graph mode and change the waveform parameters by rotating the navigation wheel and pressing the cursor keys. The parameter values that the navigation wheel can reach in the graph mode are limited due to resolution.

To make an exact entry, use the numeric keypad to enter the desired value. Press the **Graph** key again to return to the local mode.

Figure 2-2:
Graph mode



Menu operation soft keys

Press the soft key located directly beneath the desired parameter to select that parameter. Press the soft key again to select the display menu options. When a particular parameter is selected, the indicator will light accordingly.

Display

The Model 3390 display provides visual information on the present active settings. The display will update as you enter changes using the soft keys, navigation wheel, and cursor keys. Figures displaying different modes, operations, and selections are used throughout this publication.

The following figure is an example of the display in local mode ([Figure 2-3](#)). This mode is the default mode for the instrument display. Upon startup, the **Freq**, **Ampl**, and **Vos** indicators are lit. The default waveform output of the Model 3390 is sine waveform.

Figure 2-3:
Default local mode



Navigation wheel, cursor keys, and numeric keypad

Use the numeric keypad, cursor keys, and the navigation wheel to enter numerical and alphabetical parameters. Refer to [Section 4, Editing parameter values and settings](#) for further information.

Output connector

This connector houses the main signal output. Refer to [Section 4, Editing parameter values and settings](#) for details.

Sync output connector

The sync out signal is delivered at this connector. Refer to [Section 4, Front panel connections](#) for details.

Trigger key

Press the **Trigger** key to manually generate an immediate trigger that is independent of the trigger source. This is applicable to sweep, burst, and pattern out operations only.

Output key

Press the **Output** key to manually enable or disable the generation of waveform signals from the front-panel output channel. The default setting is OFF. The **Output** key is lit when enabled.

Help menu key

The **Help** menu key allows access to the following information:

- **View remote command error:** Error messages are issued when an incorrect remote command is sent to the instrument for output. These are stored in a queue and can be retrieved in the first-in-first-out (FIFO) order.
- **Get HELP on any key:** You can view a short description of any front-panel key by pressing and holding the key for a few seconds.
- **Generate a DC voltage level:** Instructions are provided for you to enable the DC-only voltage level option.
- **Generate a modulated waveform:** Follow the instructions provided to produce a modulated waveform.
- **Default state resetting:** Instructions enable you to return the instrument to the factory default state.
- **View a waveform in Graph Mode:** This information details use of the graph mode.
- **Synchronize multiple instruments:** Follow the detailed instructions for connecting multiple instruments.
- **KEITHLEY Technical Support:** Keithley Instruments technical support contact information is located here.

Utility menu key

The **Utility** menu key allows access to the following settings and parameters:

- **DC:** The DC offset voltage setting can be changed from the **Utility** menu. The default DC offset voltage is zero (0) volt for all functions.
- **Sync:** The sync out signal can be turned on and off from the **Utility** menu. All standard output functions (with the exception of DC and noise) can be associated with a sync-out signal. The signal is delivered at the Sync connector on the front panel.
- **Output Setup:** This key contains a number of different parameters. The output termination setting can be changed, voltage auto ranging can be turned on and off, waveform polarity can be specified as normal or inverted, the phase offset of the output waveform can be adjusted, and lastly, the 10 MHz time base output can be turned on and off.

- **I/O:** The general purpose interface bus (GPIB) and local area network (LAN) remote interface configurations can be set up through the **Utility** menu. In addition, you can view the universal serial bus (USB) interface identification here.
- **PATT Mode:** You can set up pattern output through the **Utility** menu. Pattern output provides five built-in patterns and up to four user-defined patterns that are stored in nonvolatile memory.
- **System:** Several system parameters can be accessed through the **Utility** menu. The error beeper and sound can be turned on and off, and the calibration and self-test menus can be entered.

Store/Recall menu key

The Model 3390 has five storage locations in nonvolatile memory to store instrument state. The stored instrument state holds all the parameters for the selected function, including the waveform, frequency, DC offset, amplitude, duty cycle, symmetry, modulation type, and modulation parameters.

The instrument may also be reset to its factory default settings.

Modulation, Sweep, and Burst keys

Modulation, sweep, and burst operations for the Model 3390 can be waveform-specific. The parameters for each operation are found in [Section 5, Waveform Output Operations](#).

Waveform selection keys

The Model 3390 has five types of standard waveforms: Sine, square, ramp, pulse, and noise (refer to [Section 5, Waveform Output Operations](#) for detailed information). In addition, there are five built-in arbitrary waveforms.