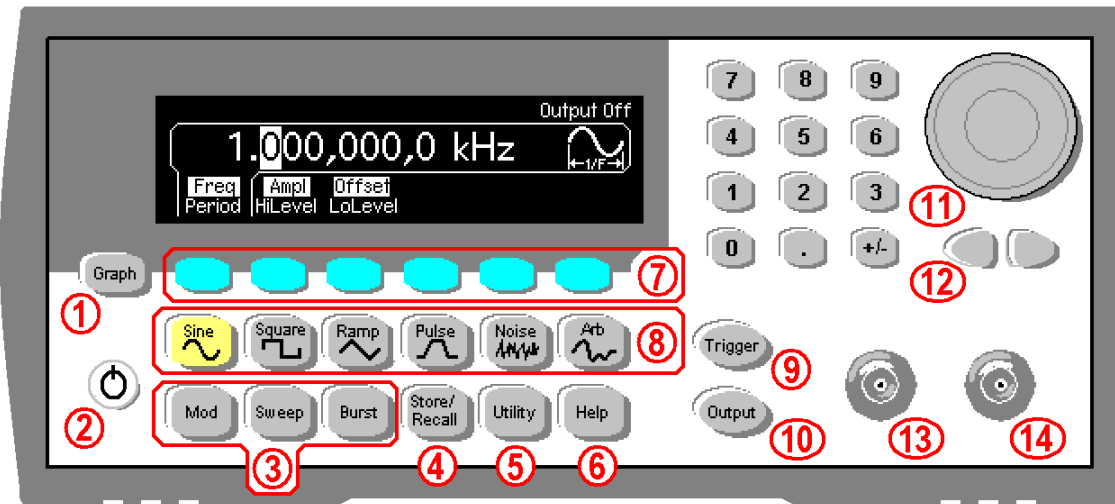


## The Front Panel at a Glance



Lighted keys indicate active keys and functions (for example **Sine** above).

### The Primary Front Panel Features:

- |                               |   |
|-------------------------------|---|
| 1 Graph Mode Key              | 8 Waveform Selection Keys                   |
| 2 On/Off Switch               | 9 Manual Trigger Key (Sweep and Burst only) |
| 3 Modulation/Sweep/Burst Keys | 10 Output Enable/Disable Key                |
| 4 State Storage Menu Key      | 11 Knob                                     |
| 5 Utility Menu Key            | 12 Cursor Keys                              |
| 6 Help Menu Key               | 13 Sync Connector                           |
| 7 Menu Operation Softkeys     | 14 Output Connector                         |

## Get Help on Any Key

Press and hold any function key or softkey to display a help topic for that key or feature.

For example, press and hold the **Sine** key:

Sine Function  
The Agilent 33220A can output a sinusoidal waveform at frequencies from 1  $\mu$ Hz to 20 MHz.  
• For DC, press [Utility] and select "DC On".

Or press **Help** to display the Help Menu:

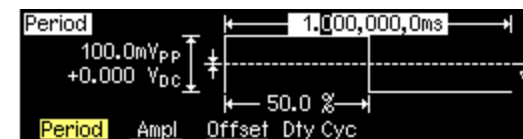
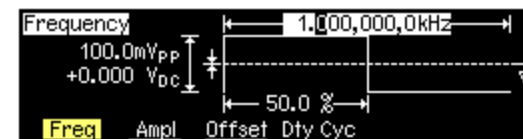
Highlight the desired topic and press SELECT.  
1 View the last message displayed  
2 View the remote command error queue  
3 Get HELP on any key

## Some Helpful Hints

1. Lighted keys indicate active keys or functions such as the currently active waveform (for example, **Sine**). Most keys toggle on (lighted) or off.
2. No signal is output unless the **Output** key is lighted.
3. To select dc volts from the front panel, press **Utility** and select the **DC On** softkey.
4. The **Graph** key toggles between Graph Mode (lighted) and Menu Mode.
5. In Menu Mode, the six softkeys allow you to select parameters and functions as shown in the softkey menu at the bottom of the display. Some softkeys toggle between related parameters. For example, the left softkey toggles between **Freq** and **Period** below:



6. In Graph Mode, the softkeys work just as in Menu Mode, except that only one label is displayed for each key. You can still toggle between related parameters such as **Freq** and **Period**:



7. You can specify a signal by its amplitude and offset, or by setting its **Hi Level** (maximum) and **Lo Level** (minimum) values. See Chapter 1 in the *User's Guide* for further information.
8. The modulation, sweep, or burst feature can be used in conjunction with several waveform types. For example, press **Square** and **Sweep** for a swept square wave. Both keys remain lighted, while the last key pressed determines which menu is displayed.
9. The Agilent 33220A provides a choice of GPIB, USB, or LAN connection to your PC. See "Remote Interface Configuration" in Chapter 3 of the *User's Guide* for further information.
10. You can create arbitrary waveforms on your PC and download them to your Agilent 33220A using the Agilent IntuiLink software provided with the instrument.

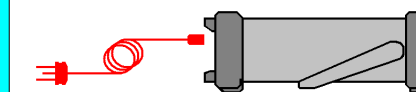
# Agilent 33220A 20 MHz Function/Arbitrary Waveform Generator Quick Start Tutorial

## Eight easy steps to learn the basics!

### 1. Prepare for Use

#### Connect the Power Cord.

Then plug in the instrument.

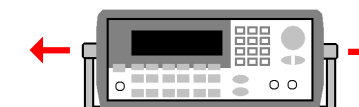


#### No Worries! Just Plug It In!

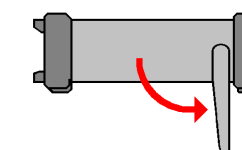
The Agilent 33220A automatically senses standard power line voltages. There are no switches to set or fuses to change.

#### Adjust the Carry Handle.

Grasp the handle by the sides and pull outward:

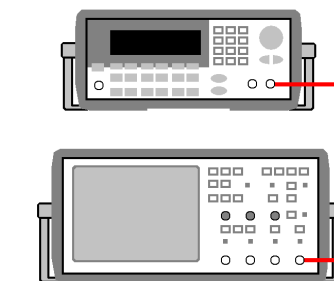


Then adjust the handle to the desired position:



#### Connect an Output (Optional).

Connect a BNC cable to the Output connector. Then connect the cable to your test system or oscilloscope:



Turn  
Page for  
Step 2

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33220-90004



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## 2. Turn On

Press the On/Off Switch: 

The self test takes a few seconds, and then the instrument defaults to Menu Mode with the sine wave function selected:



**Note:** To protect your equipment, no signal is output until the **Output** key is pressed (lighted).

## 3. Select a Waveform

To select a waveform, press the appropriate key. For example, press the **Square** key to select a square wave. Try it!



The square wave menu is displayed:

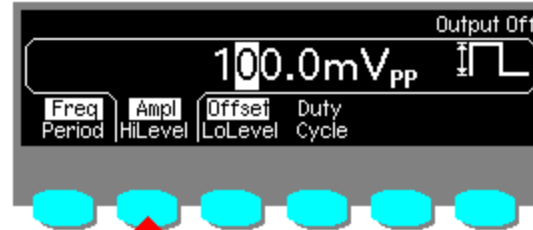


Go to Step 4 at Right



## 4. Change Waveform Parameters (Knob)

Use the six softkeys to select parameters. Some softkeys toggle between related parameters (for example: **Freq** and **Period**).

For example, press the **Ampl** softkey to select amplitude:



Now let's change the value using the knob.

First, use the cursor keys (   ) to select the first digit. Try it!



Now, use the knob to change the value (turn clockwise to increase). Set it to **500 mVpp**:



Now, press **Offset** to select that parameter:



Use the knob to set the offset to **-1.1 Vdc**:

■ Turn left past zero for a negative value.

■ Use the cursor keys to select digits.



**Tip** Another Way to Set Signal Levels

You can also specify a signal by setting its **Hi Level** (maximum) and **Lo Level** (minimum) values. (See Chapter 1 in the *User's Guide*.)

Go to Step 5 at Far Left, Below

## 5. Change Waveform Parameters (Keypad)

Now let's use the numeric keypad to set the **Period**.

Press the left softkey once to select **Freq**:



Then press it again to select **Period**:



Key in a value on the keypad. The display changes. For example, enter **1.5**. Try it!

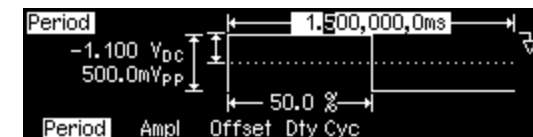


Press the softkey for the desired unit (for example, **msec**) to enter the value:



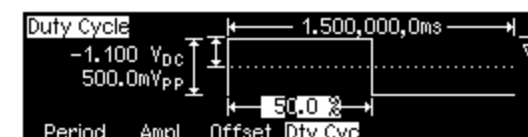
## 6. Select Graph Mode

Press **Graph** (left side of front panel) to select Graph Mode, which displays the waveform:



**Note:** The **Graph** key toggles between Graph Mode and Menu Mode. The key is lighted in Graph mode.

Now let's change the duty cycle. First press the **Dty Cyc** softkey:

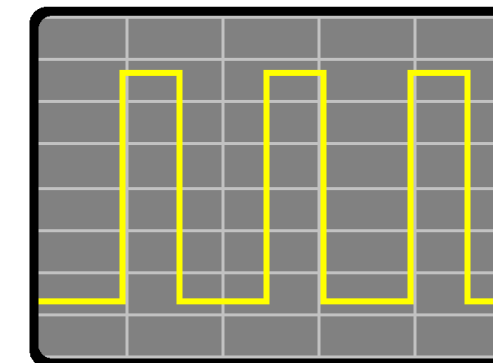


Use either the knob or the keypad to change the value to **35 %**:



## 7. Output the Waveform

You can view the waveform at any time on an oscilloscope if one is connected. Press **Output** to activate the Output connector.



## 8. For Further Information

Refer to the following for further information:

- The other side of this card:
  - "The Front Panel at a Glance"
  - "Some Helpful Hints"
- The Agilent 33220A built-in Help:
  - Press and hold any key for context-sensitive help on that key.
  - Press **Help** for the Help Menu.
- The *Agilent 33220A Function/Arbitrary Waveform Generator User's Guide*.