### The Front Panel at a Glance

Lighted keys indicate active keys or functions such as the currently active waveform (for example, above). The primary front panel features include:

1. **Graph Mode Key**
2. **On/Off Switch**
3. **Waveform Selection Keys**
4. **Functions/Sweep/Burst Keys**
5. **State Storage Menu Key**
6. **Utility Menu Key**
7. **Cursor Keys**
8. **Input Connector**
9. **Output Enable/Disable Key**
10. **DC On Softkey**
11. **Sync Connector**
12. **Knob**
13. **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 "DC On" key to display the Help Menu:

### Some Helpful Hints

1. Lighted keys indicate active keys or functions such as the currently active waveform (for example, above). Most keys toggle on (lighted) or off.
2. No signal is output unless the key is lighted.
3. To select dc volts from the front panel, press DC On and select the DC On softkey.
4. The key toggles between Graph Mode (lighted) and Menu Mode.
5. In Menu Mode, the 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.
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 and for a swept square wave. Both keys remain lighted, while the last key pressed determines which menu is displayed.
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.

### Quick Start Tutorial

**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.
   - Turn on the instrument.

2. **Connect the Instrument**
   - Connect an Output (Optional).
   - Connect a BNC cable to the Output connector. Then connect the cable to your test system or oscilloscope.

3. **Adjust the Handle**
   - Grasp the handle by the sides and pull outward:

4. **Turn Page for Step 2**

5. **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.

### Some Helpful Hints

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### Note to Printer:

This is FACE "E" (short face, folds inside)

(See folding diagram at right)
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 [key] is pressed (lit).

3. Select a Waveform
To select a waveform, press the appropriate key. For example, press the [key] to select a square wave. Try it.

The square wave menu is displayed.

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 [key] 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:

5. Change Waveform Parameters (Keypad)
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.

Key in a value on the keypad. The display changes. For example, enter 1.5:

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

6. Select Graph Mode
Press the [left] of front panel to select Graph Mode, which displays the waveform:

Press the [left] key to toggle 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:
1. The Front Panel at a Glance
2. “Some Helpful Hints”
3. The Agilent 33220A Function/Arbitrary Waveform Generator User's Guide

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.)

Tip: Go to Step 4 at Left.