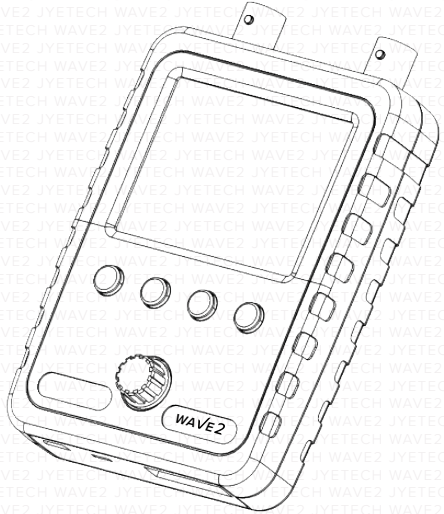
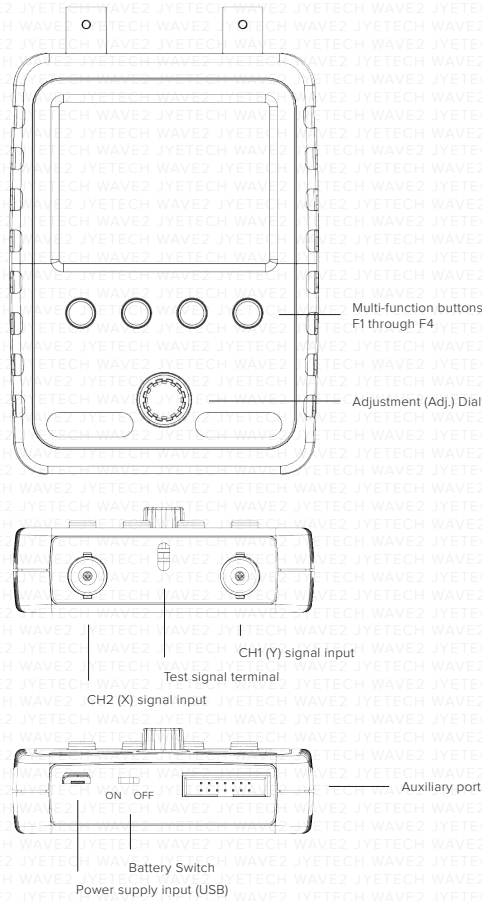


# QUICK START GUIDE (REV. 3)

## WAVE2 OSCILLOSCOPE



### CONTROL



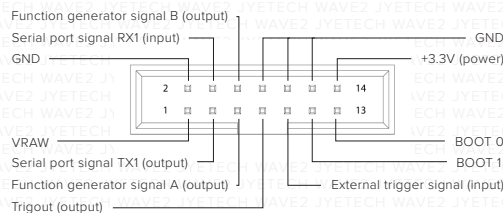
### POWER ON / OFF

- To Power ON Press the Adjustment Dial.
- To Power OFF Press and Hold the Adj. Dial for 2 seconds, or press the Adj. Dial to bring up Menu and select "PWR OFF".

### BATTERY SWITCH

When battery is installed, set the battery switch to ON position. Toggle between OFF and ON positions to hard-reset the WAVE2 when battery powered.

### AUXILIARY PORT PINOUT



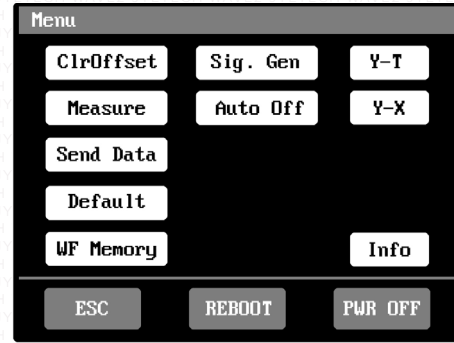
PCB REVISION 109-15800-00J OR LATER  
 FIRMWARE VERSION 113-15801-061 OR LATER

### WHAT'S INCLUDED

- WAVE2 Dual Channel Oscilloscope
- BNC Probes (x2)
- USB Power Cable
- Quick Start Guide
- Assembly Guide (included with 15801K only)

## Basic Operations

### MAIN MENU



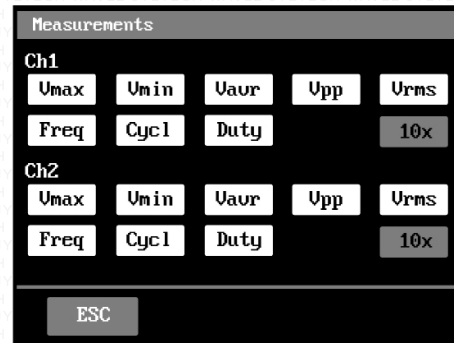
Press the Adj. Dial at any time to enter the main menu.

<b>ClrOffset</b>	Align Vertical Position (VPos) indicators to 0V	<b>F1</b> Previous
<b>Measure</b>	Enter measurement selection menu	<b>F2</b> Next
<b>Send Data*</b>	Send captured data via serial port	<b>F3</b> Exit
<b>Default</b>	Restore factory default settings	<b>F4</b> Select
<b>WF Memory</b>	Enter waveform save/recall menu	
<b>Sig. Gen</b>	Enter Signal Generator mode	
<b>Auto Off</b>	Enter Auto Power-Off menu	
<b>Y-T</b>	Enter Y-T plotting mode	Prev/Next
<b>Y-X</b>	Enter Y-X plotting mode	
<b>Info</b>	Display WAVE2 firmware details	Select

**ESC** Exit Menu  
**REBOOT** Reboot  
**PWR OFF** Power off

\*COM Port Settings: Data Bits: 8, Parity: None, Stop Bits: 1, Baud Rate: 115200 bps

### MEASUREMENTS

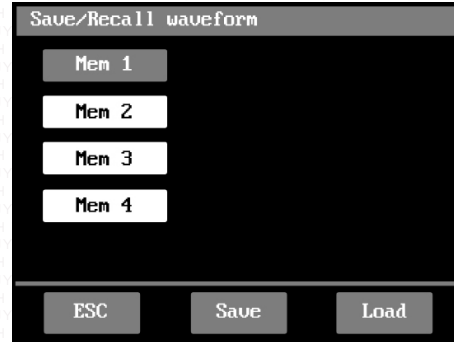


Select the waveform parameters to be displayed on screen.

<b>Vmax</b>	Maximum voltage of signal	<b>F1</b> Previous
<b>Vmin</b>	Minimum voltage of signal	<b>F2</b> Next
<b>Vavr</b>	Average voltage of signal	<b>F3</b> Exit
<b>Vpp</b>	Peak-to-Peak voltage of signal	<b>F4</b> Select
<b>Vrms</b>	Root-Mean-Squared (RMS) voltage of signal	
<b>Freq</b>	Most prominent Frequency of signal	
<b>Cycl</b>	Most prominent Wavelength of signal	Prev/Next
<b>Duty</b>	Most prominent Duty Cycle of signal	
<b>10x</b>	Select to auto-correct signal when 10x probe is used	Select

**ESC** Return to main menu

### WAVEFORM MEMORY

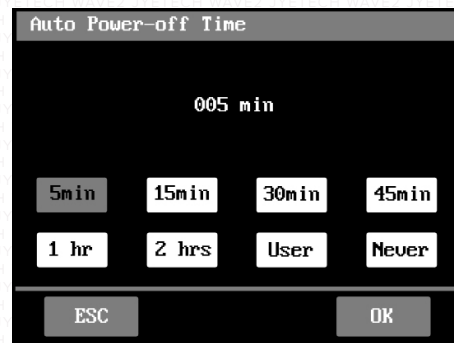


Select the memory for waveform to be saved or loaded.

<b>Mem 1 - 4</b>	Memory blocks 1 through 4	<b>F1</b> Previous
<b>ESC</b>	Return to main menu	<b>F2</b> Next
<b>Save</b>	Save the last displayed waveform to selected memory and return to the state before entering main menu	<b>F3</b> Exit
<b>Load</b>	Load waveform from selected memory. The loaded waveform is displayed in HOLD state	<b>F4</b> Select

Prev/Next  
Select

### AUTO POWER-OFF TIME (only enabled when the WAVE2 is running on battery and not connected to external power)



Select the Auto Power-Off time when the oscilloscope will turn off during periods of inactivity.

<b>User</b>	Customize auto power-off time	<b>F1</b> Previous
<b>Never</b>	Disable auto power-off	<b>F2</b> Next
<b>ESC</b>	Return to main menu without saving	<b>F3</b> Exit
<b>OK</b>	Confirm and exit	<b>F4</b> Select

Prev/Next, Adjust time (User mode)  
Select

# Plotting Modes

## Y-T MODE

HOLD state indicator  
 Horizontal Position (HPos) indicator  
 Power Supply / Battery Indicators  
 Test signal level (Holding down F1 to toggle between 3.3V and 0.14V)  
 Trigger level  
 CH1 signal (yellow)  
 CH2 signal (orange)

Scroll to adjust CH1 vertical position (1)  
 Scroll to adjust CH2 vertical position (2)  
 Scroll to adjust Trigger level (3)  
 Vertical Position (VPos) indicator  
 CH1 settings: Sensitivity, Couple, VPos  
 CH2 settings: Sensitivity, Couple, VPos  
 Timebase  
 Trigger settings: Trigger level, Trigger source, Trigger slope, Trigger mode

- F1** Previous parameter
  - F2** Next parameter
  - F3** Next sub-menu parameter
  - F4** Hold/release functionality
- Adjust selected parameter  
 Main menu

To adjust the Horizontal Position (HPos), either highlight the HPos indicator, or scroll horizontally on the screen until desired position.

## Y-X MODE

YPos indicator  
 Power Supply / Battery Indicators  
 HOLD state indicator  
 Y settings: Sensitivity, Couple, YPos  
 X settings: Sensitivity, Couple, XPos  
 XPos indicator  
 Trigger level  
 XPos indicator  
 Sampling rate (sample/s)  
 Trigger settings: Trigger level, Trigger source, Trigger slope, Trigger mode

Scroll to adjust Y-axis position (1)  
 Scroll to adjust X-axis position (2)

- F1** Previous parameter
  - F2** Next parameter
  - F3** Next sub-menu parameter
  - F4** Hold/release functionality
- Adjust selected parameter  
 Main menu

To adjust the Trigger levels when trigger sources are CH2 (X) or CH1 (Y), scroll to adjust the X-axis or Y-axis positions, respectively.

# Signal Generator Mode

The top Signal Plotting section controls are the same as those in Y-T Mode

Plotting Area / Parameters  
 Signal Parameters

SIGNAL PARAMETERS	
<b>Freq</b>	Frequency/cycle
<b>Vpk</b>	Amplitude (peak value)
<b>Ofs</b>	Offset
<b>Duty</b>	Waveform Duty Cycle
<b>Phase</b>	Phase in Degrees
<b>WF</b>	Choose Waveform
	- Sine
	- Square
	- Sawtooth
	- Stair

F1 Previous parameter  
 F2 Next parameter  
 F3 Next sub-menu parameter (when in Plotting Parameters section)  
 Next signal channel parameters (when in Signal Parameter section)  
 F4 Hold/release functionality  
 When Signal Parameter is selected, HOLD F4 + [Dial] for enter Manual Step Size Entry Mode

## MANUAL ENTRY OPERATIONS (Example shown is for Frequency)

Delete / Backspace  
 Toggle Frequency / Cycle state  
 Select unit to confirm entry  
 Exit digital pad

Value entered: 120.5

1 2 3 +/- Hz  
 4 5 6 . KHz  
 7 8 9 0 Cancel

## Touch Screen Calibration

- Press the Dial to power up the unit, followed by "F3" when the WAVE2 splash screen appears.
- During the calibration process, three white crosses will be displayed sequentially. Touch the center of each cross 8 times to calibrate the screen.
- Once the calibration process is complete, a green cross will appear on the screen and it will follow any subsequent touches on the screen to test the calibration results.
- Press the Dial to exit the calibration state and reboot the WAVE2 oscilloscope.