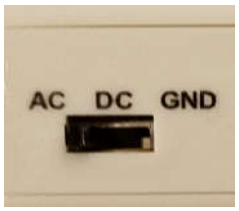
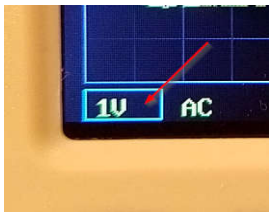
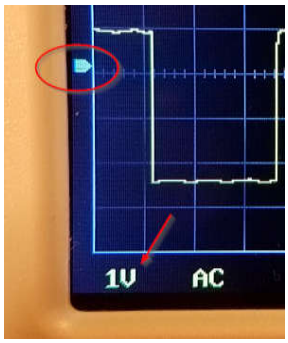
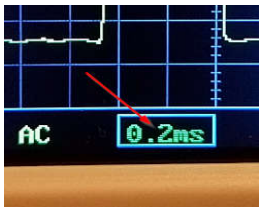
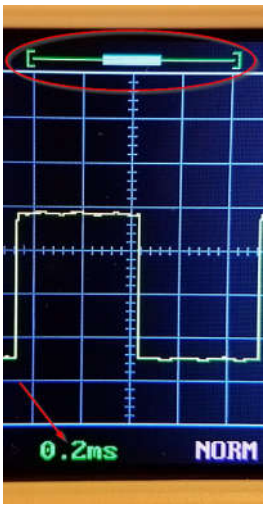
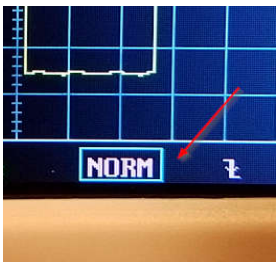
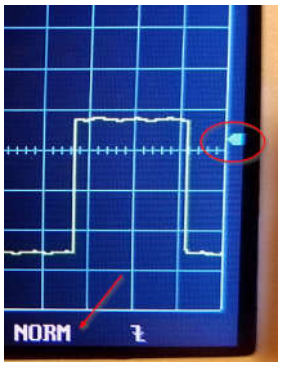
**JYE DSO Shell 150 Cheat Sheet**

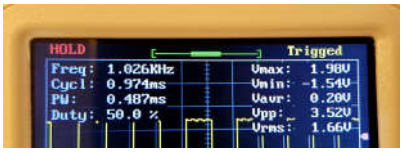
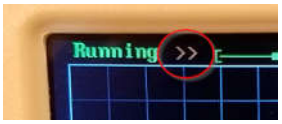
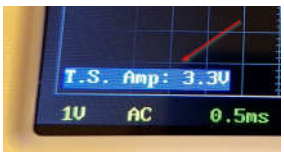
prepared by Mike Aiello N2HTT for FDIM Buildathon 2019

| Connectors | | |
|---|---|---|
| **Connector** | | **Function** |
| 9V DC |  | Input 9v to power scope, 5.5 x 2.1 mm barrel connector, center positive. Do not exceed 10vdc, possible damage to scope could occur. Located on bottom panel. |
| BNC |  | Attach scope probe here. Maximum input signal amplitude is 50v peak ( 100v peak-to-peak). Located on top panel. |
| 1KHZ |  | This tab provides a 1 kHz square wave reference signal to check that the scope is working. Connect the signal probe (red) to the tab, and set 1v/div and a timebase of 0.2ms/div to see a nice square wave display. |

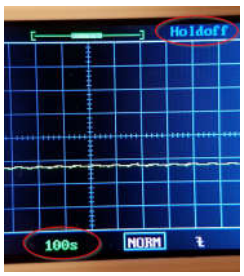
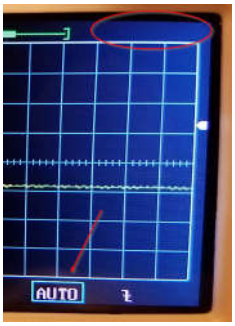
| Switches | | |
|---|---|---|
| **Switch** | | **Function** |
| OFF/ON |  | You guessed it. Located on bottom panel. |
| COUPLING |  | Select GND, DC, or AC. In GND position input is isolated from probes and held at ground. Located on top panel. |

| Single Button Functions | | | |
|---|---|---|---|
| **Button** | | **Short Press** | **Long Press (>3 seconds)** |
| [V/DIV] |  | Short press repeatedly until volts per division is highlighted in the lower left of the display, then use the adjustment knob to change the vertical scale (amplitude). | |
| [V/DIV] |  | Press again to remove the highlight from volts per divison value, now turning the adjustment knob will change the vertical position of the displayed waveform. You will see a small blue arrow that moves up and down along the left edge of the display. | Put selector switch into GND position (GND will display on the bottom edge of the display) and long press this button to realign the waveform with the vertical position. |
| **Button** | | **Short Press** | **Long Press (>3 seconds)** |
| [SEC/DIV] |  | Short press repeatedly until seconds per division is highlighted, (second from the left at the bottom of the display), and use the adjustment knob to change the horizonal scale (timebase). | |
| [SEC/DIV] |  | Press again to remove the highlight from seconds per divison value, now turning the adjustment knob will change the horizontal position of the displayed waveform. You will see green line with a thicker blue section along the top edge of the display indicating what portion of the stored wave is displayed. You will notice the word HOLD in red at the upper left corner, indicating that the display is showing stored data. | A long press of this button will re-center the display on the center of the stored data. |

| Button | | Short Press | Long Press (>3 seconds) |
|---|---|---|---|
| [TRIGGER] |  | Short press repeatedly until the trigger type is highlighted, (second from the right at the bottom of the display), and use the adjustment knob to cycle between AUTO, NORMal, and SINGle triggering mode. | |
| [TRIGGER] |  | When NORMal mode is displayed, press again to remove the highlight from the trigger mode, now turning the adjustment knob will change the trigger level. You will see blue arrow move up and down along the right edge of the display indicating the voltage threshold to trigger. | |
| [TRIGGER] |  | Short press repeatedly until the trigger edge is highlighted, (rightmost symbol at the bottom of the display), and use the adjustment knob switch between rising edge and falling edge triggering. | |

| Button | Short Press | Long Press (>3 seconds) |
|---|---|---|
| [OK]   | Short press repeatedly to toggle between running and HOLD mode. In HOLD mode, short press [SEC/DIV] until the highlight appears and disappears on the timebase, and then you can use the adjustment knob to scroll through the display right and left. | A long press of this button will toggle the appearance of the measurements on the display.   |
| [ADJ]     | Short press repeatedly to toggle between normal adjustment mode and fast adjusment mode. In fast adjusment mode, a >> symbol appears along the top edge of the display, and turning the adjustment knob produces larger changes in vertical position, horizontal position, and trigger level. | A long press (> 3 secs) enables testsignal voltage (amplitude) setting mode, wherein each short press then toggles between 0.1 V (actually 0.14) and 3.3 Vpp. Another long press reverts to normal ADJ functions. |

| Multiple Button Functions | | |
|---|---|---|
| **Button** | **Short Press** | **Long Press (>3 seconds)** |
| [ADJ] + [SEC/DIV] | The currently displayed waveform is saved to EEPROM. Current contents of EEPROM are overwritten. | |
| [ADJ] + [TRIGGER] | The current contents of EEPROM are displayed, and the scope goes into HOLD mode. Pressing OK returns to running mode. | |
| [SEC/DIV] + [TRIGGER] | | Hold these two buttons down for about 3 seconds to restore factory settings. |

| Trigger States | | |
|---|---|---|
| Holdoff |  | Trigger is disabled until portion of data buffer prior to display is filled with data. You may see this with long timebase values. |
| Waiting |  | Trigger is waiting for scope signal to cross the threshold value in on the slope selected for triggering (rising or falling.) |
| Trigged |  | A triggering signal has been seen by the scope. |
| Rolling mode |  | When AUTO triggering is selected in combination with a timebase greater than 50ms, triggering is disabled and the signal is scrolled across the display continuously. |