

# INITIALIZING THE DTS-207(x) DIGITAL TIME SYSTEM

*CAUTION: ALWAYS ALLOW A 30 MINUTE WARM-UP PERIOD  
PRIOR TO PERFORMING SYSTEM CALIBRATIONS*

## TURN “ON” AND PERFORM EXTERNAL CALIBRATION (Probe Deskew)

1. Turn on the DTS. Let the unit warm-up for 30 minutes.
2. Go to menu “11” (See reverse side of instructions) using the “MENU” up/down buttons on the front panel, place cursor on “CLEAR” using the “MENU” side arrows and then press the “FUNC” key.
3. Connect coax cables or probes between the CAL1 output and CH1 as well as between the CAL2 output and CH2.
4. Press the “EXT CAL” button and execute the AC calibration procedure as directed on the front panel.
5. This completes the “EXT CAL” process and the DTS is ready to make measurements. If desired, perform the “External Calibration Check” (shown below) to verify that the deskew process was performed properly.

## EXTERNAL CALIBRATION CHECK

1. After EXT probe or cable Calibration is complete, press “Continuous” measure mode and place the cursor on “FCN” in Menu “1”. Scroll through the options (TPD++, PW+, Period, etc.). Record the measurement values for each option. Cross cable connections at Cal signal connectors. Scroll through the measurement options again and record their measurement values for each option. The average of the two measurements for each option should be as follows:

1. TPD++ .....0.000ps  $\pm$ 10ps
2. TPD-- .....0.000ps  $\pm$ 10ps
3. TPD+- .....2500.000ps  $\pm$ 10ps
4. TPD-+ .....2500.000ps  $\pm$ 10ps
5. PW+ .....2500.0000ps  $\pm$ 10ps
6. PW- .....2500.000ps  $\pm$ 10ps
7. Period .....5000.000ps  $\pm$ 10ps
8. Freq .....200.000MHz  $\pm$ 1KHz

The TT+ and TT- measurements for both channels should read between 1300ps and 1500ps if the 10% - 90% trigger levels have been set by using “Pulse Find.”

## USING “PULSE FIND”

2. Select “PEAK” for the waveform type in menu “11”. With the DTS in any “TPD” measurement mode and the coax cables or probe still connected to the calibrator outputs, push the “PULSE FIND” button. The DTS will now measure the voltages on both channels and display the results in menu window “15”. With the calibrator connected, the voltage measured in window “15” should be, approximately, plus or minus equal values of voltage. The exact voltage value depends on the amount of probe or cable attenuation present between the “CAL” outputs and the Channel inputs.

## THE DTS IS NOW INITIALIZED

3. The DTS is now ready to make a time or voltage measurement on the input channels. Connect the deskewed probes or cables to the circuit to be measured and refer to the DTS-207(x) User’s Guide for a description of the various time and voltage measurement features.

NOTE: To use the DTS-207(x), the user will need to set the reference voltages or perform a pulse find on the new signals.

