

INITIALIZING THE DTS-2070 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 “1” (See reverse side of instructions) using the “MENU” arrow buttons on the front panel and place cursor on “CLEAR” then press the “FUNC” key.
3. Connect coax cables or probes between the CAL1 output and CH1 as well as the CAL2 output and CH2.
4. Press the “EXT CAL” button and perform the AC calibration procedure as directed.
5. This completes the “EXT CAL” process. If desired, perform the “External Calibration Check” (shown below) to verify the deskew process was performed properly, otherwise, the DTS is ready to make measurements.

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. Period5000.000ps \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 “1”. 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 “5”. With the calibrator connected, the voltage measured in window “5” should be approximately plus or minus equal values of voltage. The exact value of voltage 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-2070 User’s Guide for a description of the various time and voltage measurement features.

NOTE: To use the DTS-2070, the user will need to set the reference voltages or perform a pulse find on the new signals.

1	IEEE-488 WAVEFORM SCSI ADDR = 05 Peak ADDR = 00 CLEAR	Port Addresses/Pulse Finder Mode (Press Func to execute when Clear selected)	
2	Recall SETUPS Setup Save 1 Save 2 Save 3 Save 4	Memory (Press Func to RECALL/SAVE on selected setup)	
3	AUTO LOG PRINT SELECT STATUS Off Statistics Check	Printer (Press Func to execute)	
4	SIZE -- SAMPLE -- SETS DISPLAYED UNITS 0001000 0001 Autoscale	Statistics Settings	
5	MAX CHAN1 MIN MAX CHAN2 MIN +0.0000 +0.0000 +0.0000 + 0.0000	Pulse Find Peaks (Press Func for Pulse Find)	
6	/1000 MX= MN=	Statistics I (Press Func to display unfiltered values)	
7	FCN: TPD++  MEAS: TR: 50% - 50% CH: 1-2 RG = ± JT =	Main Function and Statistics II (Press Func for Pulse Find)	
8	CHAN 1 START VREF CHAN 2 STOP VREF  ± 0.0000v  ± 0.0000v	(Press Func for Pulse Find)	
9	1 EXTERNAL ARM 2 GATE  +0.0000v VREF  +0.0000v Off H	(Press Func for Pulse Find)	
10	SELECT EXTERNAL ARM START: Arm 1 STOP: Arm 1	Time Measurement Parameters	
11	SELECT ARM SEQUENCE Arm On Stop		Arming Sequence Selection
12	SELECT ARM ON COUNT START: 001 STOP: 001		Arm on Nth Count
13	STROBE INPUT CH DELAY VLEVEL SELECT: DC 1 009.500ns .	Voltage Measurement Parameters (Press Func to execute DC measure or strobing)	
14	UPPER LIMIT LOWER LIMIT FILTER ±2.499999999999 ±2.499999999999 Off	Time Filtering	
15	CABLE LENGTH MEASUREMENT MEASURE DLY = Off	Cable Measurement	