

E SERIES CALIBRATION FIXTURE

The E Series calibration fixture connects your calibration equipment to the E Series board you want to calibrate. The calibration fixture provides a simple connection scheme and eliminates the need to disconnect and reconnect cables at each step of the calibration procedure.

What You Need to Get Started

To set up and use your E Series calibration fixture, you need the following items:

- E Series calibration fixture
- E Series Calibration Fixture Installation Guide*
- 68-pin shielded cable
- Digital multimeter (DMM)
- Calibrator
- Counter
- E Series device to be calibrated
- Your computer

Optional Equipment

The hardware you need differs according to which E Series board you want to calibrate. Table 1 lists the recommended hardware for use with the Calibration Executive.

Table 1. Recommended Hardware

Device	Computer	Cable	Additional Accessories
AT-MIO-16E-10	Desktop	SH6868	
AT-MIO-16DE-10	Desktop	SH1006868	
AT-MIO-16E-2	Desktop	SH6868	
AT-MIO-64E-3	Desktop	SH1006868	
AT-MIO-16E-1	Desktop	SH6868	
AT-MIO-16XE-50	Desktop	SH6868	
AT-MIO-16XE-10	Desktop	SH6868	
AT-AI-16XE-10	Desktop	SH6868	
DAQCard-AI-16E-4	Desktop	SH6868	PSHR6868M cable assembly
DAQCard-AI-16XE-50	Desktop	SH6868	PSHR6868M cable assembly
DAQPad-MIO-16XE-50	Desktop	SH6868	DAQPad 68-pin cable adapter
PCI-MIO-16E-4	Desktop	SH6868	
PCI-MIO-16E-1	Desktop	SH6868	
PCI-MIO-16XE-50	Desktop	SH6868	
PCI-6071E	Desktop	SH1006868	
PCI-MIO-16XE-10	Desktop	SH6868	
PCI-6031E	Desktop	SH1006868	
PCI-6032E	Desktop	SH6868	
PCI-6033E	Desktop	SH1006868	
PXI-6040E	PXI	SH6868	
PXI-6070E	PXI	SH6868	
VXI-MIO-64E-1	VXI	SCXI-1356 shielded cable assembly	VXI-PCI8000 VXI-1200
VXI-MIO-64XE-10	VXI	SCXI-1356 shielded cable assembly	VXI-PCI8000 VXI-1200

Installing the E Series Calibration Fixture

Figure 1 shows the hardware components of your calibration system and how to connect them, as follows:

1. Connect a 68-pin cable from the back of the DAQ board to the calibration fixture.
2. Using standard banana plugs, connect the HI, LO, and Guard outputs from your calibrator to the Calibrator inputs of the test fixture.
3. Connect the HI and LO inputs of your DMM to the DMM outputs of the test fixture.
4. Using a BNC connector, attach your counter to the Frequency Counter connector of the test fixture.

The calibration fixture provides a cabling point between your calibration equipment and the unit under test (UUT). All cabling should pass through the calibration fixture. You should use only the shielded cables listed in Table 1 to connect the calibration fixture to the UUT.

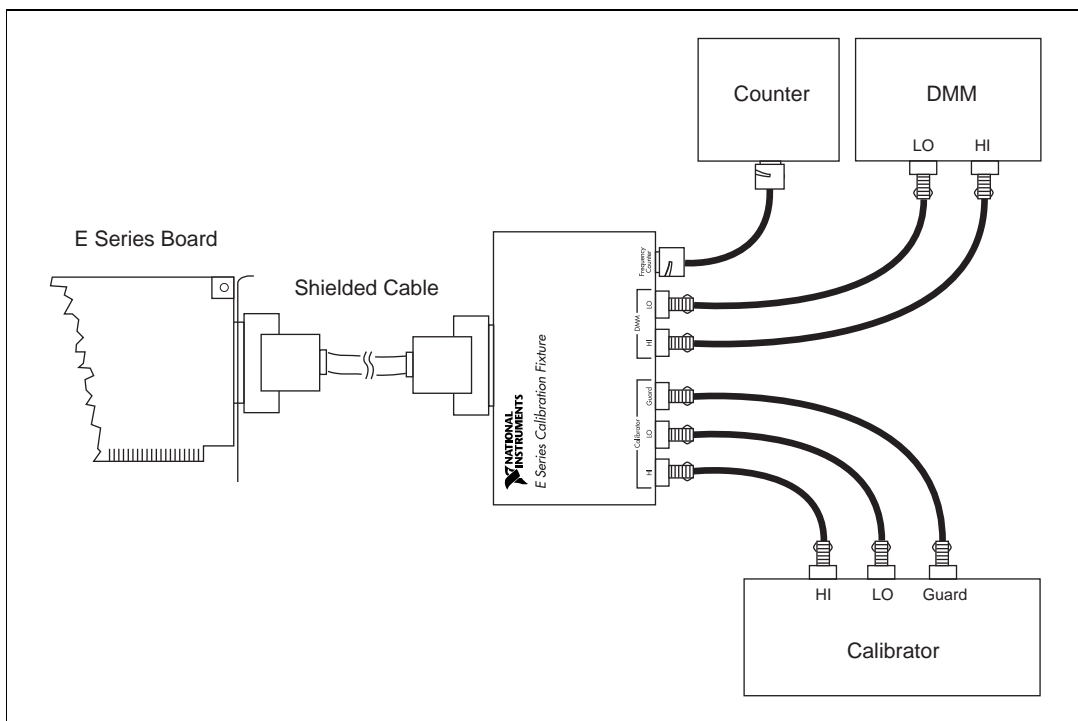


Figure 1. Calibration Fixture Connections

Operating the Calibration Fixture

The calibration fixture connects the DMM, calibrator, and frequency counter inputs to the correct pins on the E Series board. Because some E Series boards connections vary, the calibration fixture automatically reroutes the incoming signals according to which board is under test.

The digital input/output (DIO) lines on the UUT control the connections inside the calibration fixture. Table 2 shows how the digital lines affect the connections between the UUT and the external instruments.

Table 2. DIO Line Selection

Digital Control Line	Calibration Fixture Operation
DIO(0)	1 12-bit board selection, per the E Series calibrate function
	0 16-bit board selection, per the E Series calibrate function
DIO(1)	1 Selects DAC1 to be placed on the DMM output
	0 Selects DAC1 to be placed on the DMM output
DIO(2)	1 Selects FOUT to be placed on the Counter output
	0 Selects CTROUT(0) to be placed on the Counter output

