NI PCI-6224

01 Preserve acquisition tasks

1. Export the acquisition configuration and identify the physical connector assignments used by the application. List the required analog, digital and counter tasks before changing any channel, terminal mode or timing configuration.

2. Retain the channel list, terminal configuration, ranges and timing settings from the acquisition task. Check that the saved task includes the intended physical channels rather than relying only on application-level signal names.

Record to retain	Preserve acquisition tasks
Circuit or system boundary	NI M Series PCI acquisition

PCI-6224

02 Check analog references

1. Verify differential or single-ended returns and the common-mode boundary. Inspect the signal source impedance before selecting the fastest conversion interval.

2. Check the signal return and common-mode condition at the connector with the real source connected. Establish the reference path appropriate to the selected terminal mode before interpreting offset or saturation as a software problem.

Record to retain	Check analog references
Circuit or system boundary	NI M Series PCI acquisition

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03 Assign shared digital terminals

1. Resolve Port 0 waveform use and PFI timing routes. Ensure static digital assignments do not conflict with trigger or clock functions.

2. Document which task owns each shared digital or timing terminal during the test. Resolve a resource conflict in the acquisition configuration before altering the external wiring to obtain a temporary result.

Record to retain	Assign shared digital terminals
Circuit or system boundary	NI M Series PCI acquisition

04 Test settling and throughput

1. Acquire known signals with representative inter-channel steps. Check both measurement error and sustained host transfer without overrun.

2. Run the intended channel sequence at the required aggregate rate and compare settled readings with a slower baseline. Investigate source impedance and settling when errors depend on scan order or rate.

Record to retain	Test settling and throughput
Circuit or system boundary	NI M Series PCI acquisition

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05 Accept the complete measurement task

1. Compare timing, trigger response and analog values against the test reference. Save the accepted configuration and calibration context with the application.

2. Record acquisition continuity, channel ordering and engineering conversion over a representative run. Confirm that stopping and restarting the task restores the intended resource assignments and does not leave downstream software using stale samples.

Technical basis: NI 6224 Device Specifications, 375202C-01.

Related product navigation

Siemens 6ES7231-4HF32-0XB0

Siemens 6ES7235-0KD22-0XA0

These are related references, not confirmed substitutes or an automatically approved assembly.