



Artisan Technology Group is your source for quality new and certified-used/pre-owned equipment

- FAST SHIPPING AND DELIVERY
- TENS OF THOUSANDS OF IN-STOCK ITEMS
- EQUIPMENT DEMOS
- HUNDREDS OF MANUFACTURERS SUPPORTED
- LEASING/MONTHLY RENTALS
- ITAR CERTIFIED SECURE ASSET SOLUTIONS

SERVICE CENTER REPAIRS

Experienced engineers and technicians on staff at our full-service, in-house repair center

*InstraView*SM REMOTE INSPECTION

Remotely inspect equipment before purchasing with our interactive website at www.instraview.com ↗

WE BUY USED EQUIPMENT

Sell your excess, underutilized, and idle used equipment. We also offer credit for buy-backs and trade-ins. www.artisanng.com/WeBuyEquipment ↗

LOOKING FOR MORE INFORMATION?

Visit us on the web at www.artisanng.com ↗ for more information on price quotations, drivers, technical specifications, manuals, and documentation

Contact us: (888) 88-SOURCE | sales@artisanng.com | www.artisanng.com

PC/AT TEST PROCEDURE
Catalyst Enterprises, Inc.
Version 3.0
February 8, 2000

SCOPE

This document describes how to locate damaged ICs on Catalyst Enterprises, Inc. PC/AT Hot Swap Extender Boards.

EQUIPMENT REQUIRED

In addition to the PC/AT board, a power supply and a DMM are required. The power supply must have +12V, -12V and +5V each with a 200 milliamper minimum. Connect +12V, -12V, +5V, and GND to the PC/AT Extender.

THEORY OF OPERATION

The QS3384P or equivalent ICs are MOSFET switches used to isolate the signals between the BUS and the UUT. These switches can get damaged, either because of electrostatic shock to the extender board or if UUT is removed and or inserted when the power is left ON or when a bad UUT causes short between signals and power pins of the extender.

The symptoms of the damage to the IC's explained above can be:

- 1- Extender is not recognizing the UUT. In this mode, most likely, the ON resistance of the IC has been increased to much more than typical 5 to 10 Ohms expected.
- 2- The system has problem booting. In this mode the damage has caused leakage from the signals to the GND or VCC.
- 3- Extender recognizes the UUT but the operation of the UUT is bad. In this mode either one of the two things could have happened, large On resistance or large leakage from signal pins to power or ground.

TEST SETUP

Please note that incorrect wiring of the PC/AT Extender Card to the power supply can cause permanent damage. The power supply should be set at 200 milliamper current limit to prevent serious damage if the damaged IC's go in to latch up mode.

Only signal pins need to be measured, all power pins may be by-passed.

TEST-A

An increased ON resistance is the problem that occurs most, to isolate this problem;

1. Set the DMM in the OHM mode, connect an additional lead between the DMM ground and the GND terminal of the PC/AT Extender.
2. Turn the power supply ON and make sure the extender power switch is ON.
3. Use the leads of the DMM, positive and negative, and measure resistance between the pin of the edge finger and the corresponding connector pin of the top connector on the extender board. Repeat this process for all the pins on both sides of the extender board. All pins should have less than 15 Ohms resistance between them, except as noted in Table 1.

For example: pin 2 side B on the top connector and pin 2 side B on the edge fingers.

TEST-B

1. Set the DMM to the DC VOLT mode, make sure the additional lead between the DMM GND and GND terminal on the PC/AT Extender is still connected.
2. Make sure the power is still ON.
3. Probe each signal pin of the extender board at the top connector, with the DMM positive lead, making sure each signal is less than 3 Volts unless otherwise noted in Table 1. Signals while a voltage level close to 3 Volts or higher indicating leakage to VCC.

TEST-C

1. Make sure the setup of TEST-B is still in place.
2. In addition to the lead between the DMM GND and the GND terminal of the PC/AT Extender, connect a lead between the positive terminal of the DMM and the +5V terminal of the PC/AT Extender through a 10K Ohm resistor. Note that the DMM now reads about +5 Volts, referred to as VH here on.
3. Probe all the signal pins on the extender board top connector, with just the DMM positive lead, making sure each signal is no less than 0.2 V from VH (+5V) Volts unless otherwise noted in Table 1.

Example: If VH is at 5V signals should be no less than 4.8V. Signals at voltage level below VH indicating leakage to GND.

If you have noticed a problem, then replace the IC(s) associated with the signal(s) indicating problem.

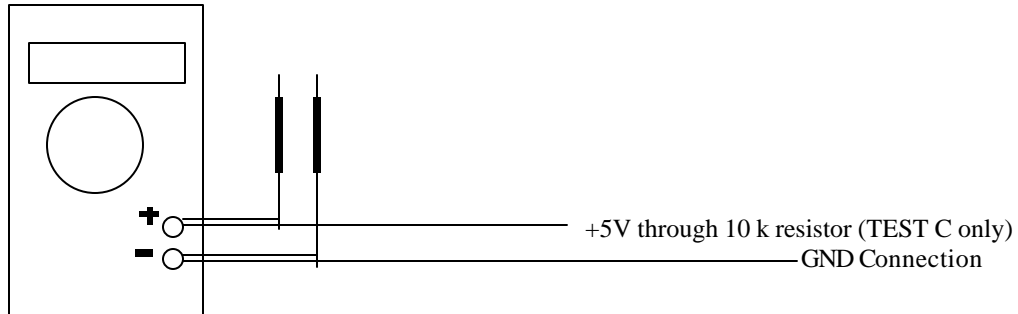
If all above tests have passed, the problem you are experiencing most likely is not related to damaged QS3384SO.

NOTE: Keep the PC/AT extender board clean. Make sure after each rework and touch up the flux is washed away completely. Contaminated boards will cause false readings in the leakage tests.

Catalyst

Enterprises, Inc.

EXAMPLE SETUP



| PIN NUMBER | RESISTANCE <15 OHMS | | V < 3V | | V = VH | |
|------------|---------------------|--------|--------|--------|--------|--------|
| | SIDE B | SIDE A | SIDE B | SIDE A | SIDE B | SIDE A |
| 1 | | | | | | |
| 2 | N/A | | N/A | | N/A | |
| 3 | | | | | | |
| ↓ | | | | | | |
| 18 | | | | | | |
| 19 | SEE | | | | | |
| 20 | NOTE 1 | | | | | |
| 21 | | | | | | |
| 22 | | | | | | |
| 23 | | | | | | |
| ↓ | | | | | | |
| 31 | | | | | | |
| | SIDE D | SIDE C | SIDE D | SIDE C | SIDE D | SIDE C |
| 1 | | | | | | |
| 2 | | | | | | |
| 3 | | | | | | |
| ↓ | | | | | | |
| 16 | | | | | +5V | |
| 17 | | | | | | |
| 18 | | | | | | |

TABLE 1

Note 1: On board Rev B or before Signal B19 may read more than 100 Ohms. On boards Rev C and higher signal B20 may read more than 150 Ohms. This is normal and not considered to be a problem.



Artisan Technology Group is your source for quality new and certified-used/pre-owned equipment

- FAST SHIPPING AND DELIVERY
- TENS OF THOUSANDS OF IN-STOCK ITEMS
- EQUIPMENT DEMOS
- HUNDREDS OF MANUFACTURERS SUPPORTED
- LEASING/MONTHLY RENTALS
- ITAR CERTIFIED SECURE ASSET SOLUTIONS

SERVICE CENTER REPAIRS

Experienced engineers and technicians on staff at our full-service, in-house repair center

*InstraView*SM REMOTE INSPECTION

Remotely inspect equipment before purchasing with our interactive website at www.instraview.com ↗

WE BUY USED EQUIPMENT

Sell your excess, underutilized, and idle used equipment. We also offer credit for buy-backs and trade-ins. www.artisanng.com/WeBuyEquipment ↗

LOOKING FOR MORE INFORMATION?

Visit us on the web at www.artisanng.com ↗ for more information on price quotations, drivers, technical specifications, manuals, and documentation

Contact us: (888) 88-SOURCE | sales@artisanng.com | www.artisanng.com