



SYCARD
TECHNOLOGY

PClextend 176/177 User's Manual

Preliminary

***M200062-00
February 2003***

***Sycard Technology
1180-F Miraloma Way
Sunnyvale, CA 94085
(408) 749-0130
(408) 749-1323 FAX***

1.0 Introduction

Sycard Technology's PCIextend 176 and 177 PCI extender cards are debug tools for 32 and 64-bit PCI development and test. PCIextend offers the following features:

- 4 layer construction to insure low noise environment
- All 32 and 64-bit signals accessible through test points
- All signals marked on silkscreen
- 5V, 3.3V, +12V, -12V, VIO and VAUX can be isolated through jumper blocks for current measurements
- Cutable 0603 size surface mount resistors pads allow for signal isolation
- LEDs indicate 3.3V, 5V, VIO, VAUX, +12V and -12V power status
- Convenient grounding points for scope probes or other test equipment
- Small prototype area for user circuitry
- Universal 64-bit host side connector usable in 3.3V/5V 32 and 64 bit hosts
- PCIextend 176 supports 5V 64-bit PCI Cards
- PCIextend 177 supports 3.3V 64-bit PCI Cards

2.0 Using the PCIextend 176/177

Using the PCIextend is relatively straightforward. The extender card is inserted into the desired slot in the host system. Then the PC Card under test is inserted into the card connector.

Caution: *Insertion and removal of the PCIextend should be done with care. The PCIextend and PCI card should be inserted with power OFF. Both card and extender should be inserted straight without any lateral movement or force. Proper care and use of the extender card will insure years of trouble free operation.*

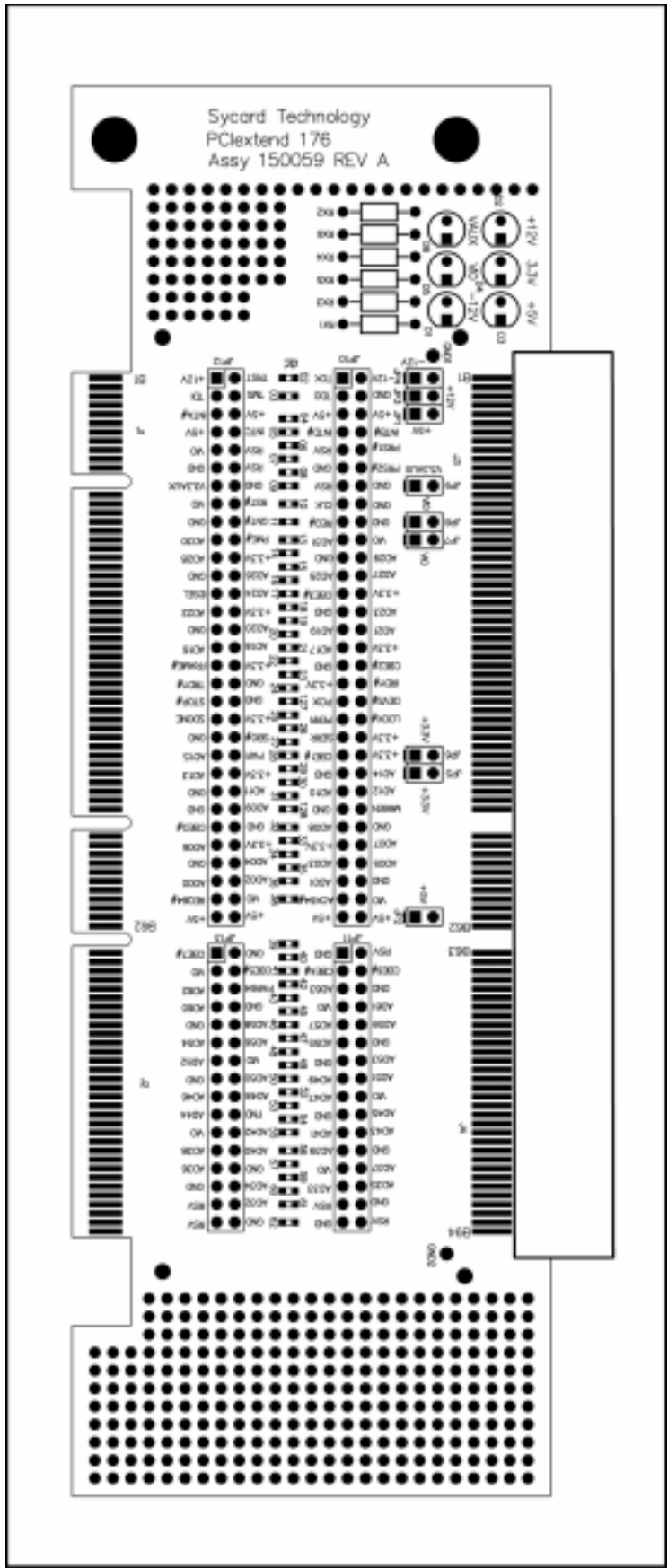


Figure 2.0-1 The PCIextend 176/177

2.1 Test points

All 32 and 64-bit signals on the interface are available to probe through standard 0.1" header posts. Several ground test points provide grounding points for logic analyzers and scopes.

2.2 Power Indicators

Six LED power indicators display the status of the slots 5V, 3.3V, VIO, VAUX, +12V and -12V status

Note: The power LEDs are designed to indicate the presence of power on the supply rails. The LEDs do not provide an accurate measurement of the voltage. Use a voltmeter to determine the actual operating voltage.

2.2 Current Measurements

The PCIextend 176/177 can isolate all 6 power supplies to measure power consumption. The following table lists the power supply jumpers.

Supply	Jumpers	Note
+5V Vcc	JP1 & JP2	Disconnect both jumpers for power measurements
+3.3V Vcc	JP5 & JP6	Disconnect both jumpers for power measurements
VIO	JP7 & JP8	Disconnect both jumpers for power measurements
+12V	JP3	
-12V	JP4	
3.3V VAUX	JP9	

To measure current, simply isolate the power supply by removing the appropriate jumper(s) and insert a series current meter.

Caution: Care must be taken to insure that the current measuring device is inserted before turning on power to the system. Improper power sequencing may cause a damaging latchup condition.

In some cases, the long leads of a current measuring meter may cause excessive voltage drop or noise in the system. The power drop or noise may cause the extended PCI board to fail. In this case it may be possible to add a low ohm resistor between the current isolation jumper and measure the voltage across this resistor to calculate current draw.

2.3 Isolation Resistor Pads

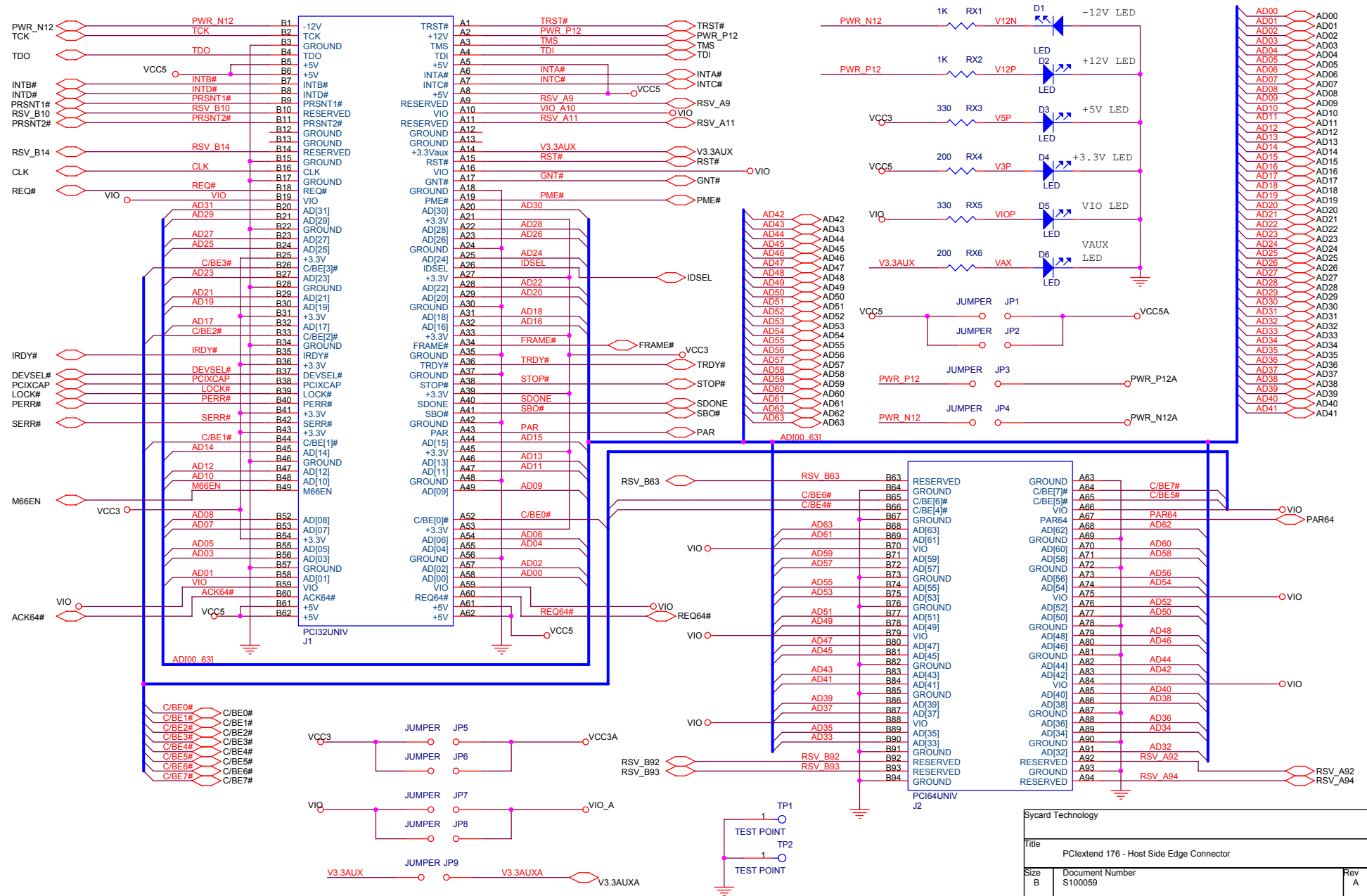
A series of 0603 sized surface mount pads allows the user to add series resistors to any signal. When shipped from the factory, the SMT resistor pads are shorted with PCB traces. In order to insert series resistor, these traces must be cut prior to soldering the resistor to the board. See schematic in Appendix A for resistor assignments.

2.4 Prototype area

Two small prototype areas on each side of the board allow the user to insert special test or development hardware. Through hole pads facilitate the attachment of DIP and discrete components.

Appendix

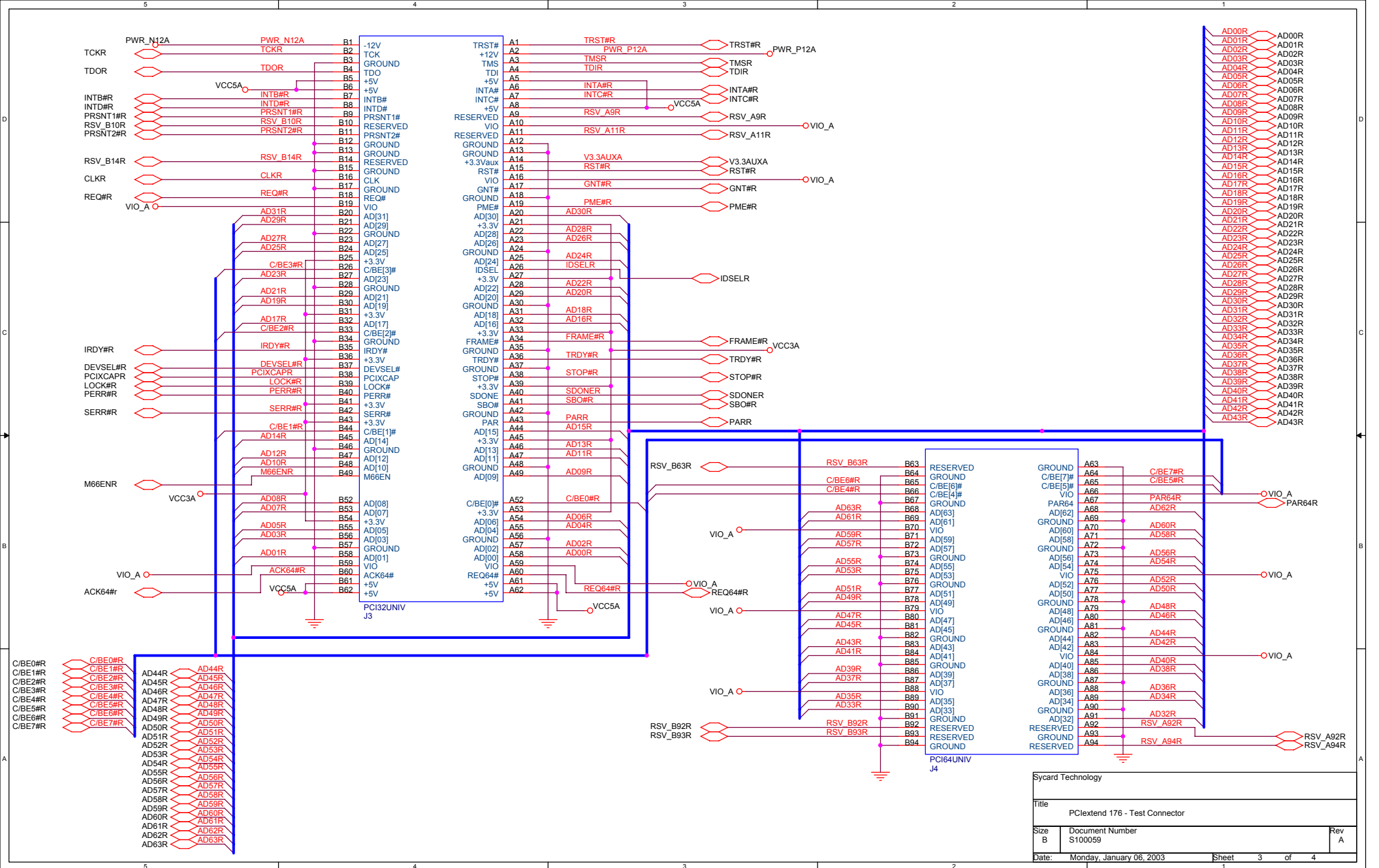
A. PCIextend 176/177 Schematic



Sycard Technology		
Title: PCIextend 176 - Host Side Edge Connector		
Size B	Document Number S100059	Rev A
Date: Friday, February 28, 2003	Sheet 1	1 of 4



Sycard Technology		
Title PClxtend 176 - Isolation Pads		
Size B	Document Number S100059	Rev A
Date:	Monday, January 06, 2003	Sheet 2 of 4



Sycard Technology		
Title: PC1extend 176 - Test Connector		
Size: B	Document Number: S100059	Rev: A
Date: Monday, January 06, 2003	Sheet: 3	of 4

