SYCARD TECHNOLOGY

PClextend 174 User's Manual

Preliminary

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1.0 Introduction

Sycard Technology's PCIextend 174 PCI extender card is a debug tools for 32-bit PCI development and test. PCIextend offers the following features:

- 4 layer construction to insure low noise environment
- All 32 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
- Cuttable 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 32-bit host side connector usable in 3.3V/5V 32-bit hosts

2.0 Using the PCIextend 174

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.*

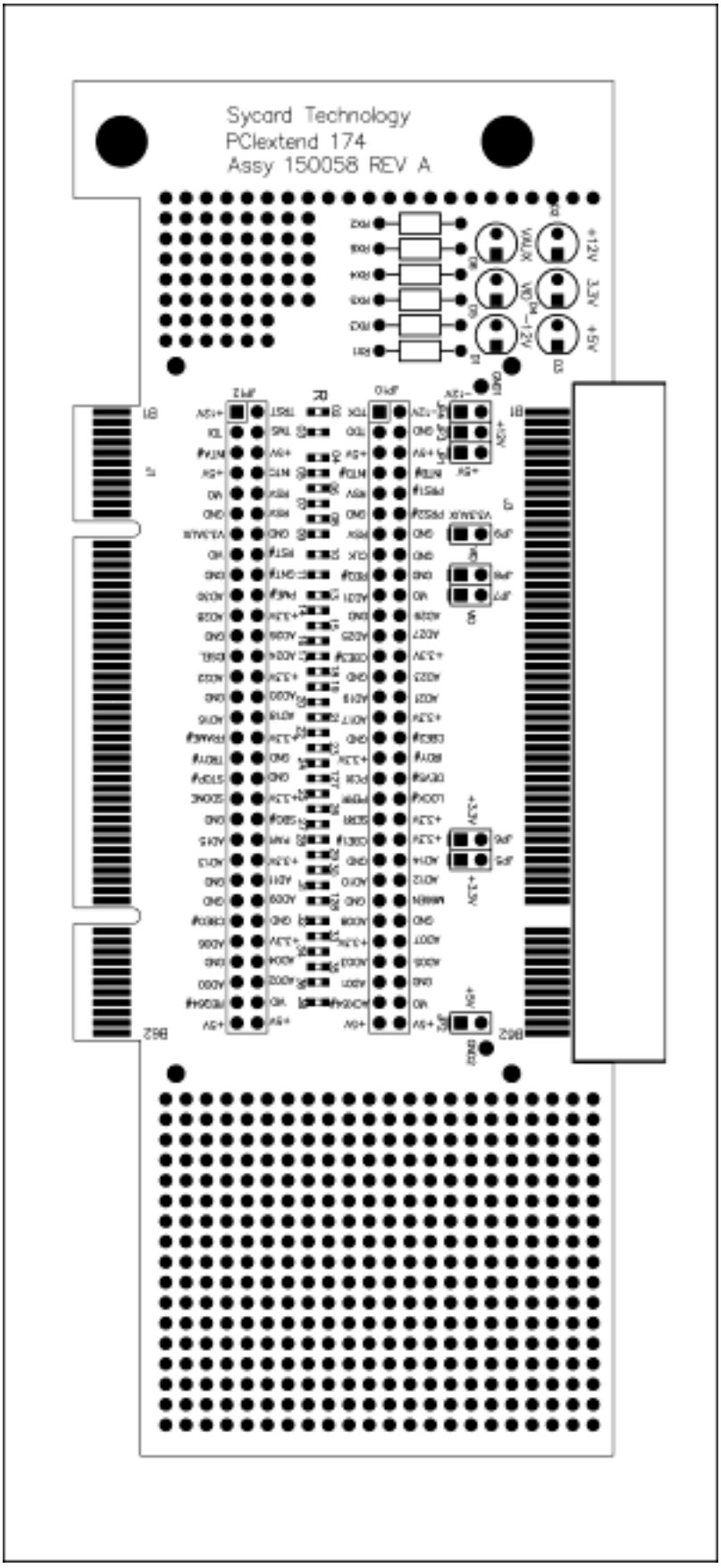


Figure 2.0-1 The PCIextend 174

2.1 Test points

All 32-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 174 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

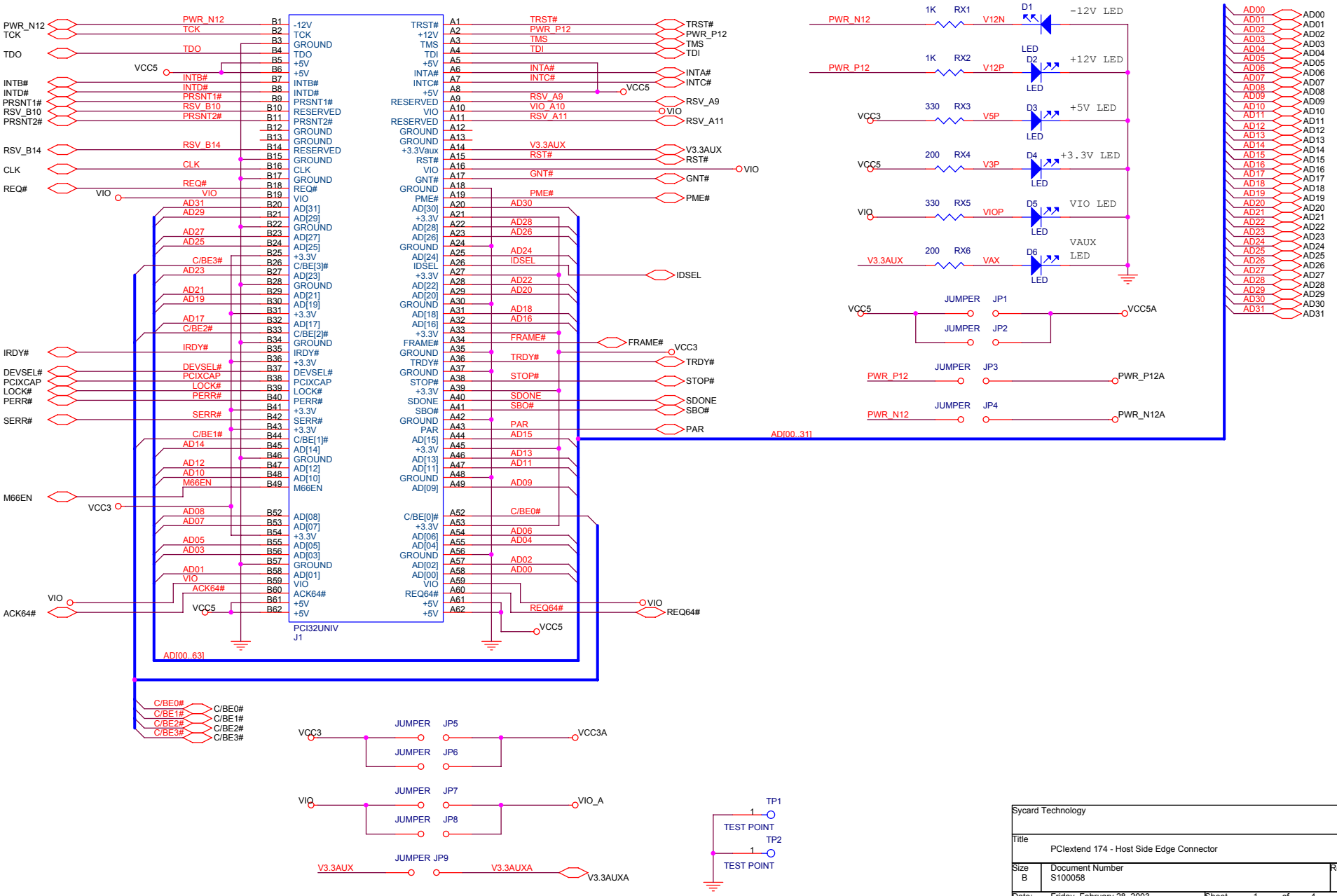
A series of 0603 sized surface mount pads allows the user to add series resistors to any signal. When shipped from the factory, the SMT resistor pads are shorted with PCB traces. In order to insert series resistor, these traces must be cut prior to soldering the resistor to the board. See schematic in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

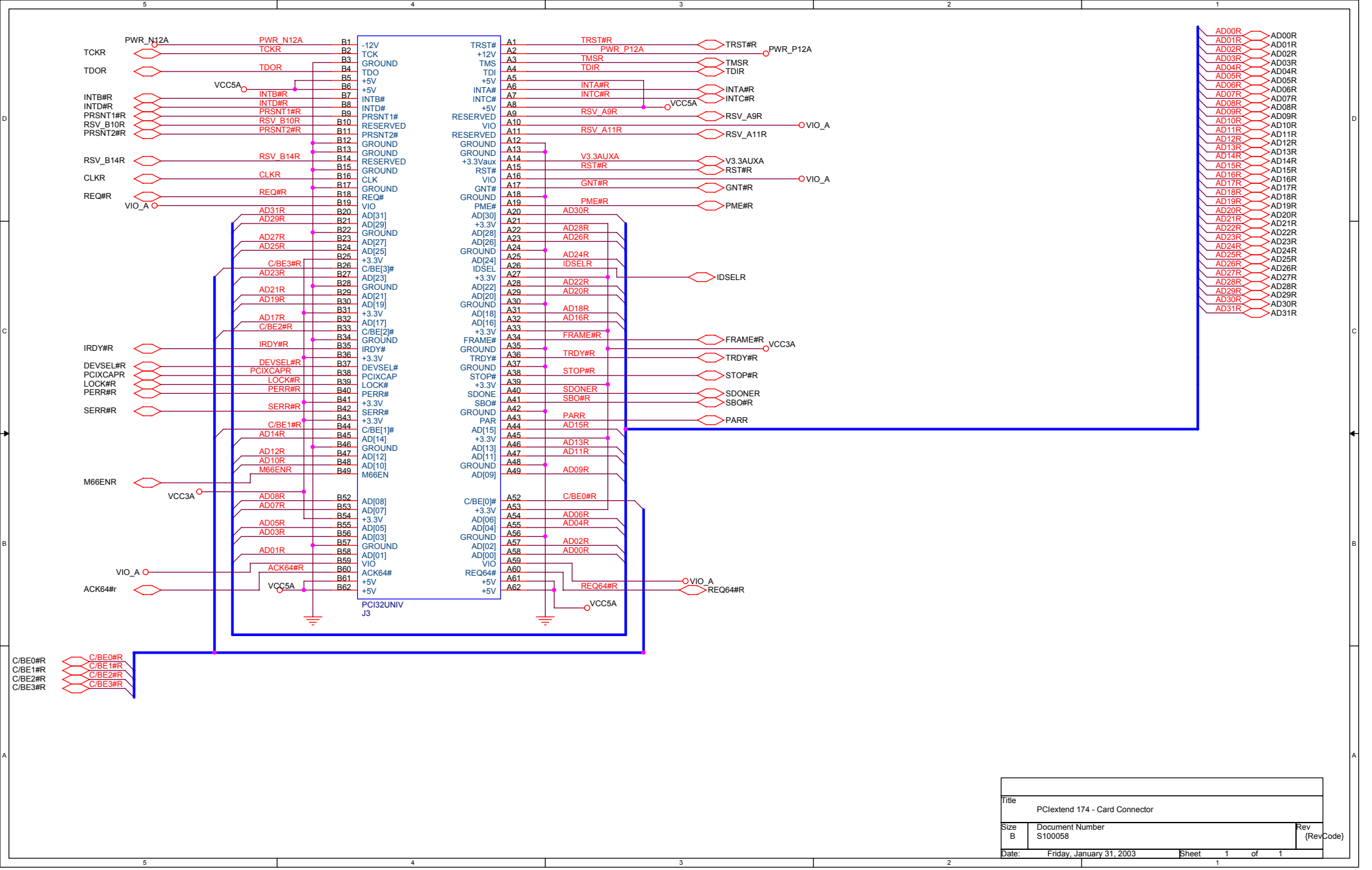
2.4 Prototype area

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 174 Schematic


PCI32UNIV
J1
AD[00..63]
AD[00..31]
PWR_N12
TCK
TDO
INTB#
INTD#
PRSNT1#
RSV_B10
PRSNT2#
RSV_B14
CLK
REQ#
IRDY#
DEVSEL#
PCIXCAP
LOCK#
PERR#
SERR#
M66EN
ACK64#
C/BE0#
C/BE1#
C/BE2#
C/BE3#
TRST#
PWR_P12
TMS
TDI
INTA#
INTC#
RSV_A9
VIO_A10
RSV_A11
V3.3AUX
RST#
GNT#
PME#
IDSEL
FRAME#
TRDY#
STOP#
SDONE
SBO#
PAR
REQ64#
VCC5
VCC3
VIO
-12V LED
+12V LED
+5V LED
+3.3V LED
VIO LED
VAUX LED
JUMPER JP1
JUMPER JP2
JUMPER JP3
JUMPER JP4
JUMPER JP5
JUMPER JP6
JUMPER JP7
JUMPER JP8
JUMPER JP9
TEST POINT
Sycard Technology
PCIextend 174 - Host Side Edge Connector
Document Number
S100058
Friday, February 28, 2003



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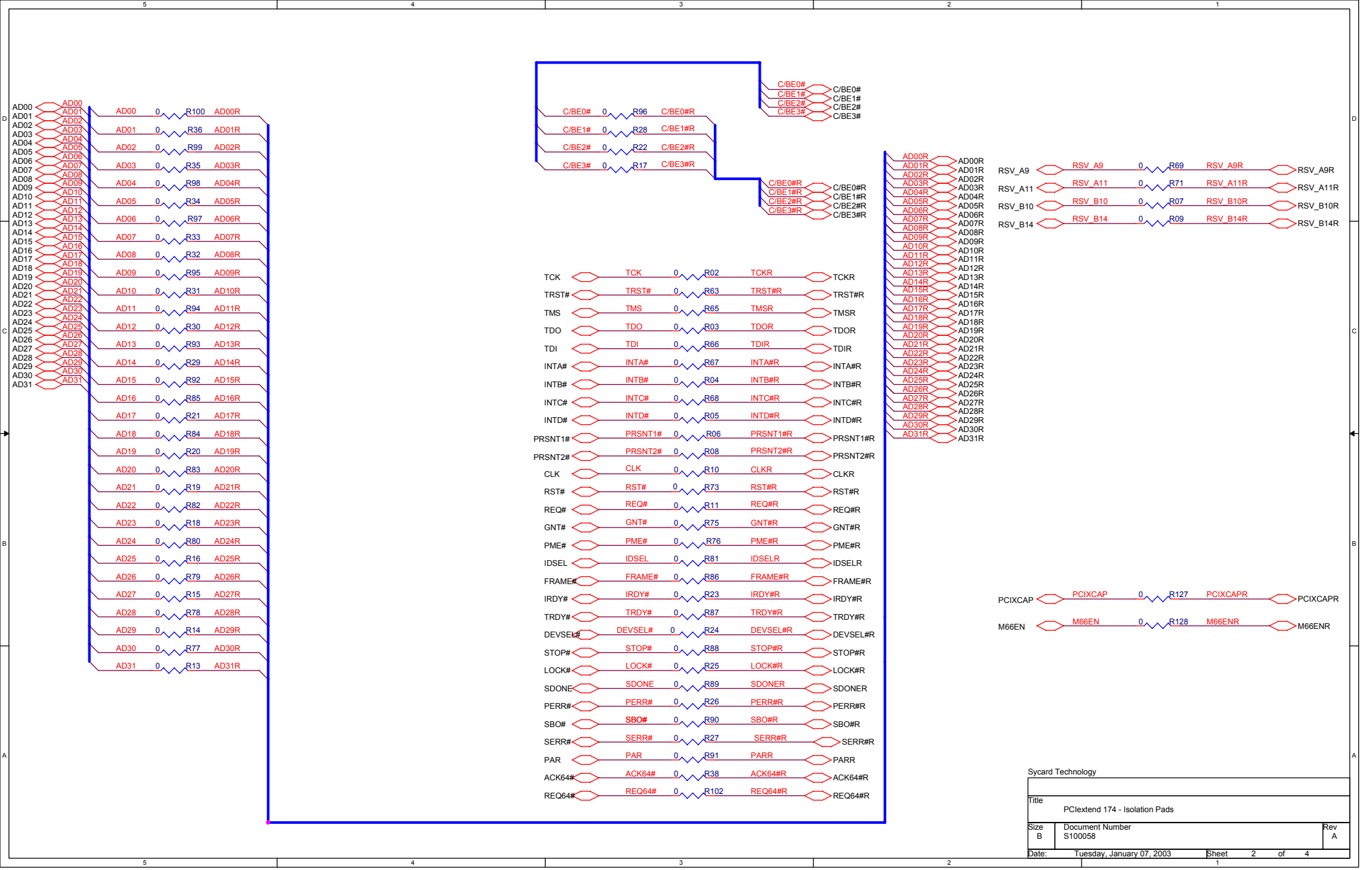

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Title: PCIextend 174 - Isolation Pads

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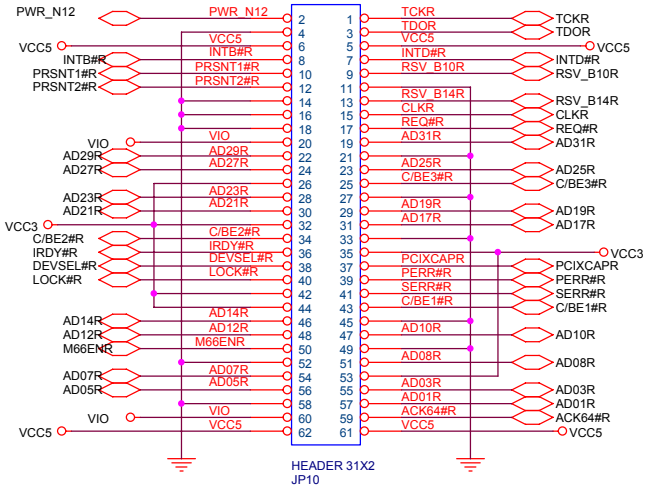
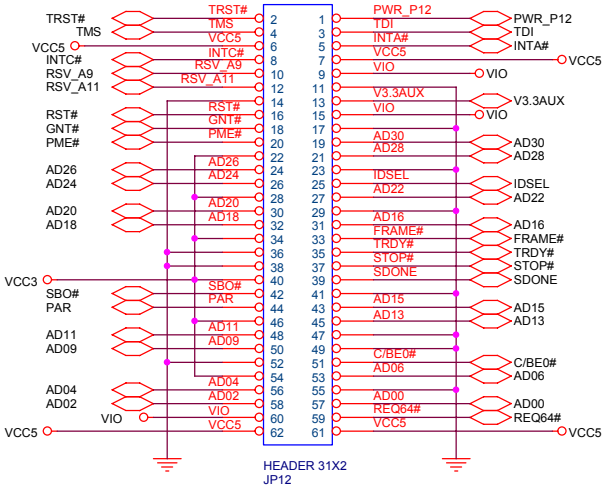
Date: Tuesday, January 07, 2003 Sheet 2 of 4





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