

iMPAct-to-Prinergy Migration

SCSI Switch Installation

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Revision History

Revision	Date	Author	Comments
0.1	May 15, 2000	Tom Derr	Original creation date.
1.0	May 24, 2000	Tom Derr	First release version.
1.1	June 5, 2000	Tom Derr	Updated cable part number.
1.2	May 22, 2001	Tom Derr	Additions regarding troubleshooting problems with SCSI switch operation & disqualification of Switch Option with single-box Prinergy.
1.3	Nov. 6, 2001	Tom Derr	Added port information for use with Digi ClassicBoard 4 PCI serial port card.

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1. INTRODUCTION

When migrating from an iMPAct to Prinergy workflow, customers may want a period of time where they can run their work from either system. Depending on the convenience of use, performance issues, and length of time they plan to run in a dual-workflow scenario, they will either need the iMPAct/Prinergy Dual Logon Option, or the Prinergy New Equipment Purchase/Lease Option – referred to in this document as the SCSI Switch Option.

This document provides instructions for installing and using a SCSI switch as part of a SCSI Switch Option iMPAct-to-Prinergy migration.

1.1 SCSI Switch Option

The Prinergy New Equipment Purchase/Lease – or SCSI Switch – Option should be used if the existing iMPAct hardware does not qualify as indicated in *Using iMPAct Hardware for Prinergy* (72-3401A), or if for other reasons the customer wants to purchase a new output server (render station). This option entails installing one SCSI and one COM port manual switch to allow each server to connect to the output device with a minimum of effort on the customer's part.

Note that this option is only supported for render station secondary servers. The Single Server SCSI Switch Option is not supported for Prinergy Direct, or other single server/output render station configurations. There have been problems with switching between servers in a SCSI Switch Option that require rebooting of the output station, and on a server with a database, this can cause further complications. For further information on troubleshooting connection problems, see *Section 6, Troubleshooting*.

1.2 Dual Logon Option

The Dual Logon Option is covered on the Migration Process page of the Prinergy 1.1 Technical Library site, and the procedure is detailed in *Dual Workflow Bridge Installation Procedures*.

This option involves re-purposing servers that meet the Prinergy minimum hardware requirements as outlined in *Using iMPAct Hardware for Prinergy* (72-3401A). However, this option is not available for Prinergy 2.0 installations, because Prinergy 2.0 must run on a Windows 2000 operating system, and Creo systems cannot be configured to have both Windows NT 4 and Windows 2000 boot options. **Therefore, the SCSI Switch Option is the only migration option available for iMPAct-to-Prinergy 2.0 migrations.**

2. TOOLS & PARTS REQUIRED

Tools	• Small slot-head screwdriver
Parts	• Two DB9, M-F, 6' screwlock pass-through serial communication cables (null-modem) • Two SCSI-3, M-M, 6' external data cables • One dual-position serial data switch (A/B) • One differential SCSI switchbox (Ancot UltraSwitch) • One DB9 M-M gender changer

Parts may be obtained directly by customers, or from Creo, referencing the following part numbers:

Part Number	Qty.	Description
16-3980	2	Serial cable, M-F, 6', DB9, shielded
16-3794	2	SCSI cable, M-M, 6', SCSI-3
94-3142	1	Ancot SCSI switch/SSU
94-3166	1	SWITCH, AB SERIAL (DB9)
94-3167	1	CONN, GENDER CHANGER, DB9, M-M, SERIAL (to connect a female-ended cable to a female connector)

Note: Other DB9 gender changers may be required depending on AB serial switch or serial cabling configuration.

The diagnostic port of a Creooutput device may be left connected to either host computer; it is not necessary for the normal workstation operation of the device. As an option, an additional serial A/B switch may be added and the diagnostic port switched between hosts as needed. For this configuration, add one additional AB serial (DB9) switch, two additional 6' serial cables (16-3980), and one additional male-to-male serial (DB9) gender changer.

3. CABLING REQUIREMENTS

Standard SCSI and serial connection cables are supplied with the Creo output device. The part numbers and description from a standard Creo BOM are noted here:

16-3460	CAB, DB9, M-F, 25', SCRWLK (two)
16-3503	CAB, SCSI-3, M-M, 25', EXTERNAL, PRE-MOLDED

One of the DB9 cables is for a diagnostic connection and does not need to be switched between hosts. The cable group can be separated near the host end and the diagnostic cable connected to the COM 3 port of one host that has been set up for modem access. This will be used by the Creo Response Center for remote diagnostics.

The following diagram shows an overview of the cable connections to be made:

Note: For newer systems using the Digi ClassicBoard 4 Serial Port PCI Card, the COM port connections are slightly different.

The Workstation Serial Interface is usually connected to COM3 in these configurations (the Digi Adapter's P1 cable connector), not COM1. This is the port that would need to be connected to the Serial A/B Switch Box as shown below.

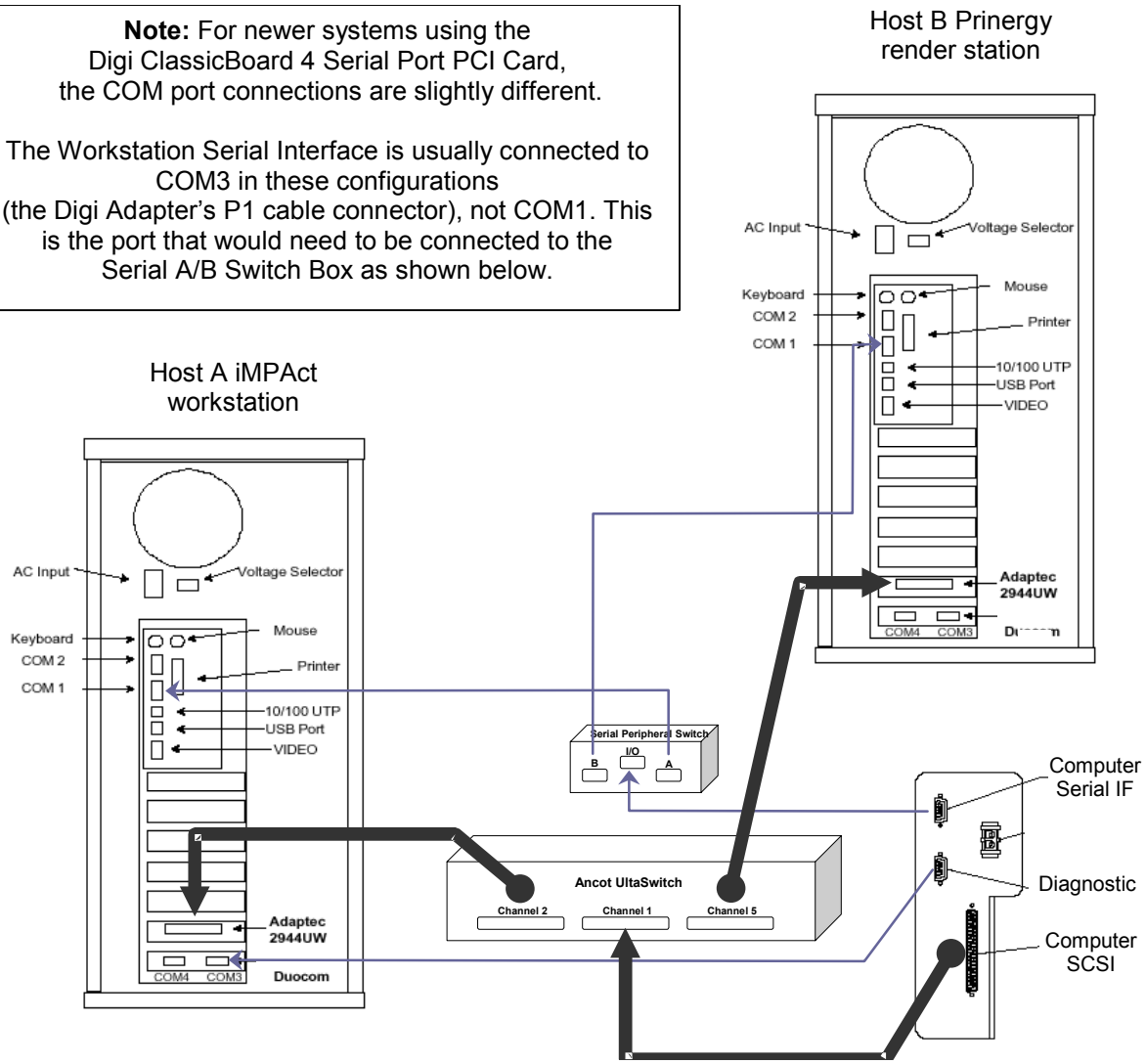


Figure 3-1**:** Overview of cable connections

3.1 Additional Workstation Serial Cables (2)

The workstation serial communications cable from the output device will be connected to the central I/O port of a serial A/B switch. Two additional serial cables will be required to connect from the switch to each of the hosts. These must be pass-through (null modem) serial cables (see the parts list in *Section 2, Tools & Parts Required*, or *Appendix A: Cabling Specifications*).

3.2 Additional SCSI-3 Data Cables (2)

The 25' SCSI-3 cable from the output device will connect to an Ancot SCSI bus switch. Two additional SCSI-3 cables will be required to connect to the host workstations. These must be

high quality male-male 68 pin SCSI cables, and should be kept to the minimum length necessary. The Ancot UltraSwitch has an internal resistance of 3 to 7 Ohms, which adds the equivalent of approximately 1' to the SCSI chain length.

3.3 Optional Diagnostic Port Switch Setup

If diagnostic port switching is desired between hosts (this is optional and not necessary for normal workstation operations), configure the connections as follows:

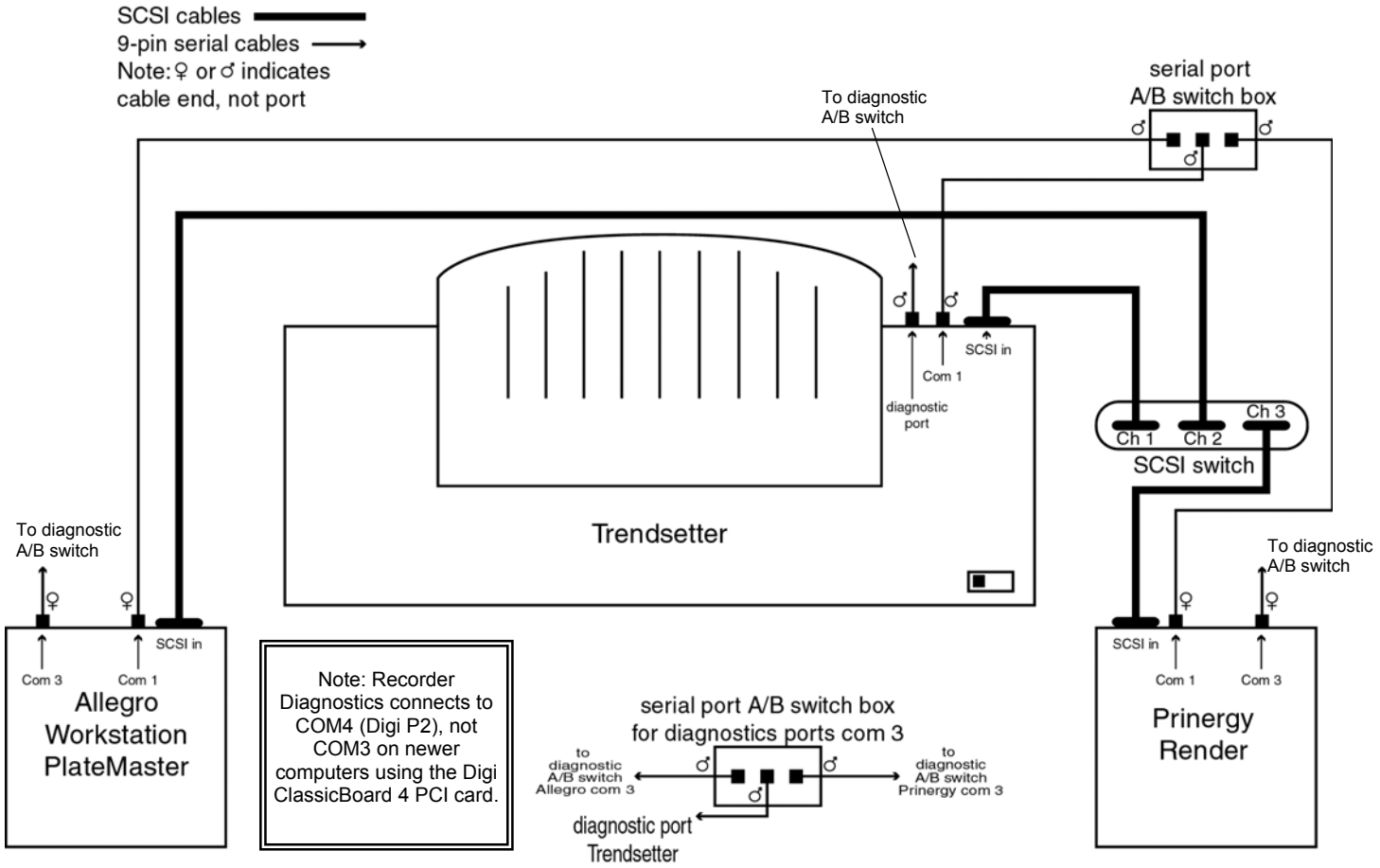


Figure 3-2: Cables and boxes for connecting two render stations to one Trendsetter

1	Ancot SCSI differential switch box (Ancot Ultra Switch/SSU) (94-3142)
2	Two serial port AB switch boxes
3	One standard 25-foot cable set for connecting between the switches and the Trendsetter: • 1 x SCSI-3, M-M, 25' (16-3503) • 2 x DB9, M-F, 25', SCRWLK (16-3460b)
4	Two 6-foot cable sets for connecting between the workstations and the switches, where each set contains: • 1 x SCSI-3, M-M, 6' (16-3502) • 2 x DB9, M-F, 6' (16-3980)

In total, there are twelve parts: three switch boxes and nine cables.

4. SCSI/COM SWITCH INSTALLATION

Creo has tested equipment for SCSI bus and COM port switching in limited situations, and will only install specified equipment. The equipment details are found in *Appendix B: Equipment Specifications*.

The SCSI bus multiplexer from Ancot has been used previously in demonstration facility setups at Heidelberg demo centers for some time now. Details on setting the system up with a Delta/Allegro workstation switching option can be found on the Trendsetter Connectivity Technical Library site (go to the site's home page and select Delta from the sidehead menu). The details there apply just as well to a dual workstation Prinergy/iMPAct installation.

WARNING: Always ensure that the output device and workstations are powered off before connecting or disconnecting any SCSI cabling.

4.1 Ancot SCSI Switch Connections

Figure 4-1 shows the back-end connectors for the Ancot UltraSwitch:

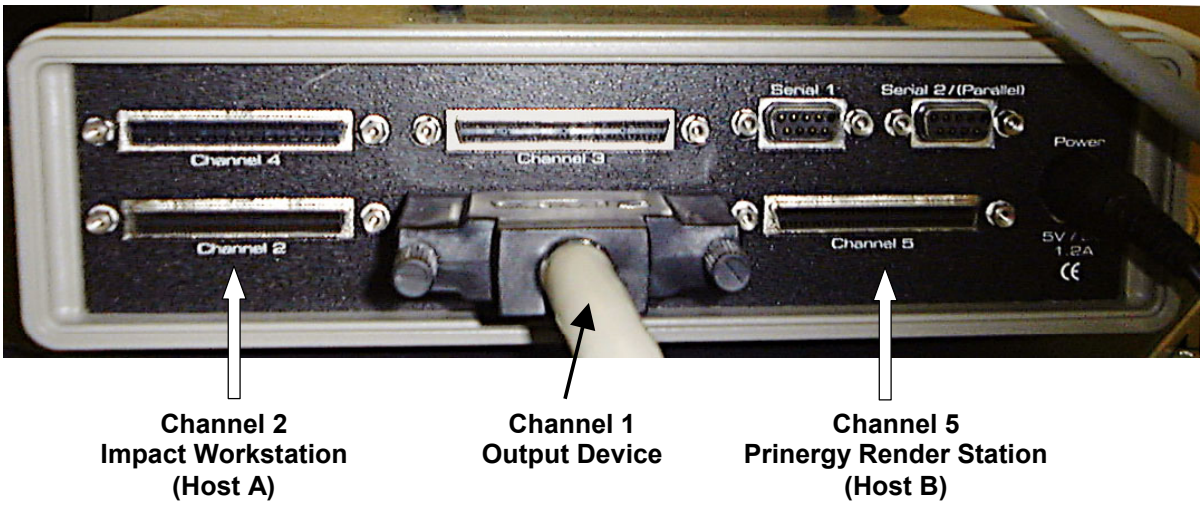


Figure 4-1: Back-end connectors for the Ancot UltraSwitch.

The connected SCSI-3 cable runs from the Creo output device to the Channel 1 connector as required. The recommended connections are Host A to Channel 2 and Host B to Channel 5. Power is connected through a provided 5V DC external regulated switching supply for 110-220 VAC, 50-60 Hz sources (auto-ranging) and draws less than 0.8 Amp at 115 VAC.

4.2 Com Port Data Switch Connections

Figure 4-2 shows the Creo workstation communications cable connected to the central I/O port as required:

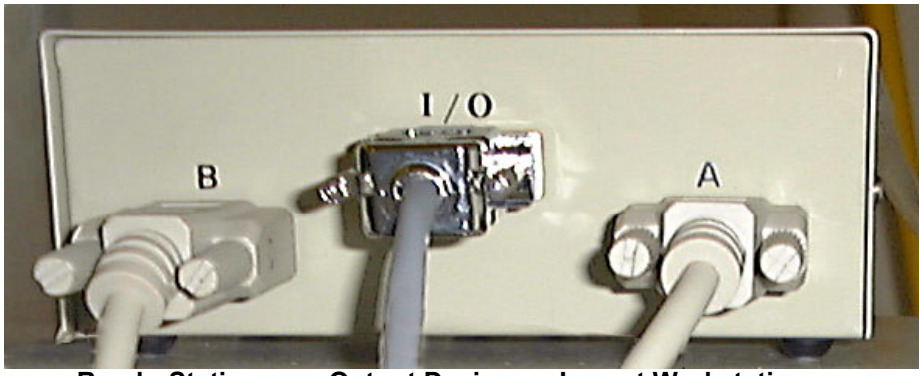


Figure 4-2: Workstation communications cable connected to central I/O port

Host A is connected from the A port on the switch to COM 1 on the iMPAct workstation (COM3, the Digi P1 connection, if the workstation is using the newer Digi ClassicBoard 4 PCI Card), and Host B from the B port on the switch to the COM 1 port of the Prinergy renderstation (COM3, the Digi P1 connection, if the renderstation is using the newer Digi ClassicBoard 4 PCI Card).

5. SCSI SWITCH OPTION OPERATION

As with normal startup procedures, ensure that the output device has been powered up before turning on the workstations.

1. Ensure power is on to the Ancot UltraSwitch.
2. Power on the Creo output device.
3. Ensure the serial COM port switch has the iMPAct workstation (Host A) selected.
4. Ensure that the iMPAct workstation (Host A) is selected on the Ancot UltraSwitch by noting indicator lights 1 and 2 are lit. If not, press the **Select** button until this is indicated.

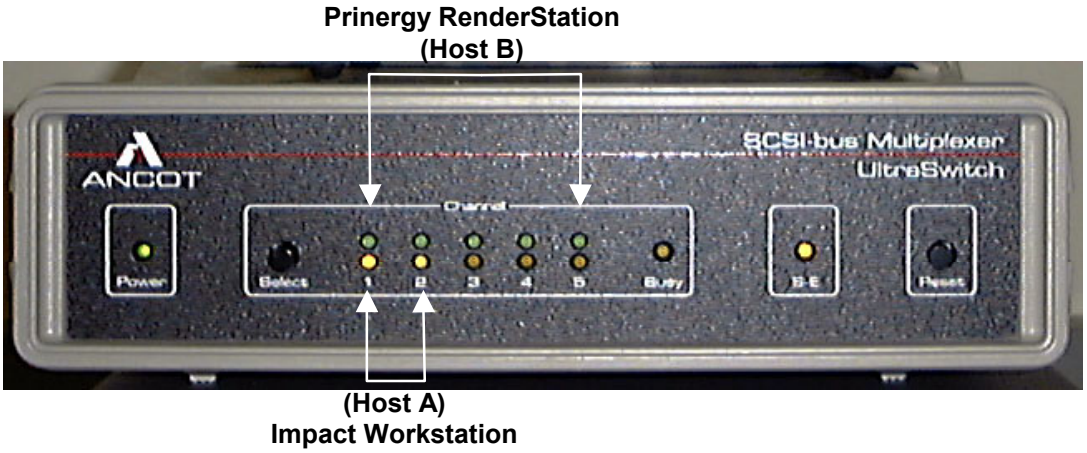


Figure 5-1: Selecting the iMPAct workstation on the Ancot UltraSwitch

5. Power on the iMPAct workstation and wait for the output control software to fully initialize and communicate with the output device.

6. Once Host A has completed initialization and shows it is ready for output, press the **Select** button on the Ancot UltraSwitch three times so that positions 1 and 5 are selected as shown by the LEDs.

7. Select the Prinergy render station (Host B) on the Serial Interface Port.

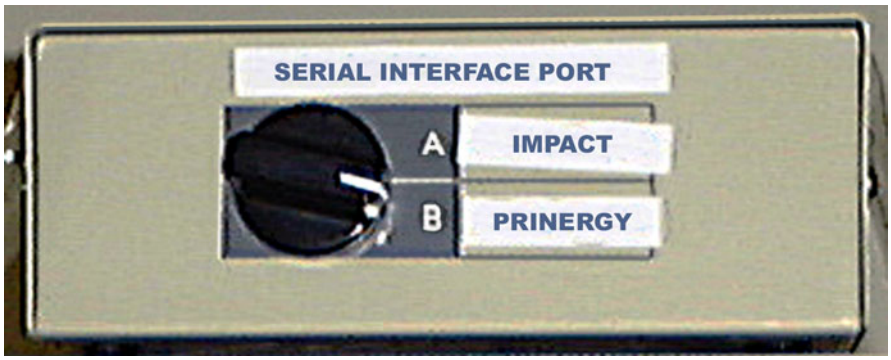


Figure 5-2: Selecting the Prinergy render station on the Serial Interface Port

8. Power on the Prinergy render station and wait for the output control software to fully initialize and communicate with the output device.

9. Once both output workstations have been fully started and initialized, you may switch the Serial Interface Port and UltraSwitch between hosts as needed. On the UltraSwitch, from the Host B position (indicator 5 lit on the UltraSwitch), press the **Select** button four more times to cycle through the selections until positions 1 and 2 are again lit for Host A.

CAUTION: Ensure that no output files are being processed before switching hosts!

When switching between hosts, the output control software should recognize the new connection after a short period in the new position. Ensure that both the UltraSwitch settings and the Serial Interface Port setting are pointing to the same host each time a selection is changed.

6. TROUBLESHOOTING

6.1 Connection Not Responding

If the output control software does not recognize the new connection after a few minutes, the connection may need to be re-synchronized.

A first step is to switch back to the original output server and then to the second output server again. This has been known to assist the newly connected server in recognizing the connection. If the server does not recognize the new connection, the following procedure for re-starting the output station must be followed:

1. Ensure that the serial and SCSI switches are in the correct positions for the selected host.
2. Power off the output device and the output workstation.
3. Start the output device again, and after one minute, power up the output workstation.

The workstation should now find the connection and establish communications with the output device.

6.2 Imaging or SCSI Errors

If you experience any imaging or SCSI errors, you must bypass the UltraSwitch to fully troubleshoot the problem.

1. Power down the output device and both output workstations.
2. Turn the power off to the UltraSwitch.
3. Disconnect the output device SCSI cable from the Channel 1 connector.
4. Disconnect the output device serial interface cable from the serial data switch.
5. Remove the SCSI output cable and COM 1 serial cable from the back of the workstation needed.
6. Connect the SCSI and serial interface cable from the output device directly to the ports on the back of the output workstation.

CAUTION: Take care in connecting the SCSI cable to the computer; the SCSI-3 connector pins can be bent or broken if inserted improperly or with too much force.

7. Power up the output device and workstation, and re-try the imaging. If problems persist, contact the CreoScitex Response Center for assistance.

For additional information on troubleshooting the connection, see the troubleshooting item “No SCSI connection between a Trendsetter and two workstations connected via the Ancot SCSI switch” in the Technical Library.

APPENDIX A: CABLING SPECIFICATIONS

Additional cables needed may be purchased through a local electronics supply house or from on-line sources found on the Internet. Two such on-line sources are:

RAM Electronics Industries Inc.
7980 National Hwy. Pennsauken, NJ 08110
Fax: 856-488-9196
www.RamElectronics.Net

National Technology
29516 Union City Blvd
Union City, CA 94587
www.national-tech.com

A-1 Workstation Serial Communication Cables

If ordering DB9 pass-through (null modem) serial cables directly, female-female serial cables may be used providing a male-connector serial switch box is ordered. RAM Electronics part numbers and ordering information are as follows:

NMM-72025-@	Null modem cable, DB9 female to female, 10'
NMM-72001-@	Null modem cable, DB9 female to female, 6'

A-2 SCSI-3 Data Communication Cables

When ordering 2 x SCSI-3 HPDB68 male-male external cable - 3' or 6', RAM Electronics part numbers and ordering information are as follows:

SCS-44040-A0	Ultra wide or wide differential SCSI cable, wide SCSI-3 HPDB68 male to wide SCSI-3 HPDB68 male, 34-pairs, with **thumb screws 3 feet long**.
SCS-44041-A0	Ultra wide or wide differential SCSI cable, wide SCSI-3 HPDB68 male to wide SCSI-3 HPDB68 male, 34-pairs, with **thumb screws 6 feet long**.

APPENDIX B: EQUIPMENT SPECIFICATIONS

B-1 Ancot SCSI Bus Multiplexer/Switch

The Ancot UltraSwitch is the only SCSI switching equipment that will be installed by Creo service engineers. It can be purchased directly through Ancot sales.

Model	UltraSwitch/SSU
Purchasing Information	WORLD HEADQUARTERS Ancot Corporation 115 Constitution Drive Menlo Park, CA 94025 US Sales Manager: Bret McDonald Tel: (650) 322-5322 Fax: (650) 322-0455 Email: sales@ancot.com www: http://www.ancot.com

B-2 Serial Data Switch

COM port data switches can be purchased through many local electronic supply houses. On-line products can be found through many suppliers as well. Specifications for a Belkin serial switchbox are presented here for comparison:

Model	2 port DB9M serial switchbox
Purchasing Information	Belkin part number: F1C034 2-port manual serial switchbox with DB9 male serial ports (one input port, two outputs - A or B)

APPENDIX C: ANCOT TECHNICAL DATA SHEETS

ANCOT CORPORATION

UltraSwitch

Universal SCSI Bus Switch



HIGHLIGHTS

- Allows switching and interconnection of multiple SCSI buses
- Bidirectional connection of all SCSI data and control lines
- Supports Single-Ended (SE) or High Voltage Differential (HVD) interfaces
- Supports both NARROW (8-bit) and WIDE (16-bit) buses
- Supports all SCSI data speeds up to Ultra (FAST/20, 40MBytes/sec over WIDE bus)
- Supports any legal mix of initiators and targets
- Switching can be manual via simple push-button or computer-controlled via serial port(s)
- Supports negotiation between two host systems
- Switching patterns supported include 1-to-2, 1-to-3, 1-to-4, and 2-to-2
- Disconnected branches are automatically terminated (HVD only)
- Does not require any reserved SCSI ID

The Ancot UltraSwitch provides complete bidirectional interconnection and switching of multiple high-speed SCSI buses. Up to five SCSI buses can be switched in a 1-to-many or 2-to-2 configuration, supporting connections of up to 60 devices in a SCSI network. The UltraSwitch allows easy sharing of expensive peripherals among multiple hosts, allows a single host to access a very large number of peripherals, and supports high-reliability, fail-safe architectures including dual host systems and multiple SCSI targets.

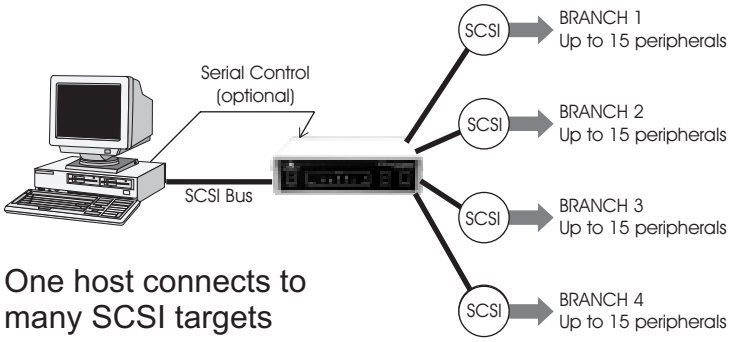
The UltraSwitch supports HVD ("Differential") or SE, WIDE or NARROW, and all SCSI speeds up to Ultra (40MBytes/sec on a WIDE bus).

The UltraSwitch can be operated under simple manual control or can easily by controlled by one or two host computer systems. When controlled by multiple hosts, the UltraSwitch supports a simple negotiation protocol to allow hosts to share control.

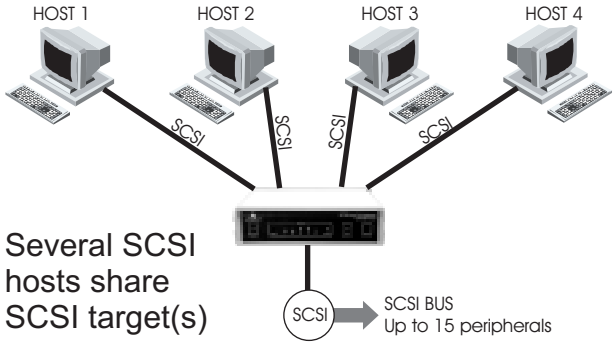
The Ancot UltraSwitch provides a convenient and affordable solution to many SCSI system design issues.

UltraSwitch — Universal SCSI Bus Switch

CONFIGURATION EXAMPLES

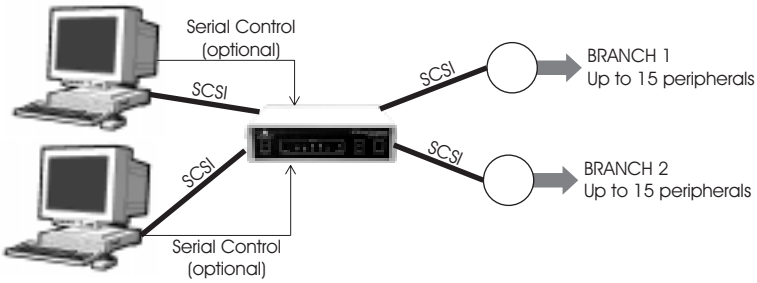


One host connects to many SCSI targets



Several SCSI hosts share SCSI target(s)

Two-to-two switching ("fail over" configuration)



INDIVIDUAL LINE SWITCH UNIT CHARACTERISTICS

- Branch-to-branch DC resistance: 3.5 ohm typ., 7 ohm max.
- Input capacitance: 25 pF
- Branch-to-branch propagation delay: 1 nanosec max.
- Response time: Tplh across switch 2 nanoseconds (typ.)
- "On" voltage: 6.2 V max (common, or any "on" branch bus)
- "Off" on any "off" branch bus: 6.2/-1.0 V
- "Off" current between common and single "off" branch bus: 0.5 microamp max.

SCSI TERMINATION

All disconnected channels are automatically terminated if used with differential SCSI busses. Automatic termination is disabled if used with single-ended busses.

PHYSICAL DESCRIPTION

FRONT PANEL: Ten switch status LED indicators, LEDs for ACTIVE, DIFFERENTIAL, and POWER. Two pushbutton switches, one for switch combination selection and one for system reset.

BACK PANEL: Five 68-pin high density 'P' type SCSI connectors, two DB-9 serial port connectors, and a 5-pin DIN female connector for +5 VDC power.

CE & FCC CERTIFICATION

The UltraSwitch is CE/FCC certified. The external power supply is CE, FCC, UL, and TUV certified.

PACKAGING & POWER

Housed in an elegant, high quality, metal enclosure
Dimensions: 10" W x 3" H x 10.5" D (25 x 7.5 x 27 cm)
Weight: 4.2 lb (1.9 Kg)
Power: External regulated switching 5 VDC power supply for 110-220 VAC, 50-60 Hz, auto-ranging

ORDERING INFORMATION

USwitch/SSU	Two serial ports for control by external host(s), US AC power cord
USwitch/SPU	One serial port and one parallel port for control by external host(s), US AC power cord
USwitch/SSE	Two serial ports for control by external host(s), European AC power cord
Uswitch/SPE	One serial port and one parallel port for control by external host(s), European AC power cord

WARRANTY

One year return to factory

Prices and specifications subject to change without notice.

www.ancot.com
(650) 322-5322
Fax: (650) 322-0455

ANCOT CORPORATION

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Menlo Park, California
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