

Part Number: MP4006C

# 9500 Shared Virtual Array

System Assurance

Information contained in this publication is subject to change. In the event of changes, the publication will be revised. Comments concerning its contents should be directed to the address shown below.

**StorageTek**  
**One StorageTek Drive**  
**Louisville, Colorado**  
**80028-2201**

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## System Assurance Team

This 9500 Shared Virtual Array (SVA) System Assurance Guide is for:

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(Customer Company Name)

---

(Customer Company Address)

---

(City, State, Zip Code)

---

(Country)

---

(Site Location Number)

---

(Customer Account Number)

---

(CS Account Number)

## StorageTek Team Membership

Title	Name	Telephone
Marketing Representative	_____	_____
Systems Engineer	_____	_____
Customer Service Engineer	_____	_____
Customer Service Manager	_____	_____
Systems Support Representative	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

## Customer Team Membership

Title	Name	Telephone
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

## Shared Virtual Array Component Serial Numbers

This SVA System Assurance Guide is intended for use with one specific subsystem. When unit serial numbers are assigned, enter them on the lines below.

Shared Virtual Array Subsystem \_\_\_\_\_

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## Preface

### Notices

#### United States FCC Compliance Statement

The following is the compliance statement from the Federal Communications Commission:

**Note:** This equipment has been tested and found to comply to the limits for Class A digital devices pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his or her own expense.

Some of the cables used to connect peripherals must be shielded and grounded as described in the installation manual. Operation of this equipment with the required cables that are not shielded and correctly grounded may result in interference to radio and TV reception.

Changes or modifications not expressly approved by StorageTek could void the user's authority to operate the equipment.

#### Industry Canada Compliance Statement

This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus set out in the radio interference regulations of the Canadian Department of Communications.

Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de la classe B prescrites dans le Règlement sur le brouillage radioélectrique édicté par le ministère des Communications du Canada.

#### Japanese Compliance Statement

The following is the compliance statement from Japan:

この装置は、クラス A 情報技術装置です。この装置を家庭環境で使用すると電波妨害を引き起こすことがあります。この場合には使用者が適切な対策を講ずるよう要求されることがあります。 VCCI-A

**Note:** This equipment is in the Class A category information technology equipment based on the rules of Voluntary Control Council For Interference by Information Technology Equipment (VCCI). When used in a residential area, radio interference may be caused. In this case, user may be required to take appropriate corrective actions.

Consequently, when used in residential area or in an adjacent area thereto, radio interference may be caused to radios and TV receivers, etc. Read the instructions for correct handling.

## Taiwan Warning Label Statement

The following is the warning label statement from Taiwan, R.O.C.:

警告使用者：這是甲類的資訊產品，在居住的環境中使用時，可能會造成射頻干擾，在這種情況下，使用者會被要求採取某些適當的對策

## About This Manual

This manual contains information on planning, ordering, installing, and follow-up activities required during StorageTek Shared Virtual Array (SVA) sales, delivery, and installation.

## Intended Audience

The audience for this manual includes StorageTek marketing representatives, system engineers (SEs), customer service engineers (CSEs), independent consultants, service representatives, and customers involved with installation planning.

## Do You Have the Complete Manual?

This manual consists of page 1 through page 60.

**Note:** The last two pages are the reader comment form and its mailer. These pages may not be there if someone sent the comment form to StorageTek.

## How to Use This Manual

This manual provides a series of worksheets and checklists that, when completed according to the provided schedule, ensure that no aspect of the installation process has been overlooked.

## Related Documents

The documents listed below comprise the complete SVA 9500 set. See [“Viewing and Ordering Documents”](#) (below) to obtain documents through available distribution channels.

**Shared Virtual Array (SVA) Subsystem**

Documents below are available online, on CD-ROM, and as bound books.

- *9500 Shared Virtual Array Introduction (MP4001B).*
- *9500 Shared Virtual Array Operation and Recovery (MP4002B)*
- *9500 Shared Virtual Array Planning, Implementation and Usage (MP4003B)*
- *9500 Shared Virtual Array Physical Planning (MP4004B)*
- *9500 Shared Virtual Array Reference (MP4005B)*
- *9500 Shared Virtual Array System Assurance (MP4006B)*
- *Peer to Peer Remote Copy Configuration Guide (MP4007A)*

### **Shared Virtual Array Administrator (SVAA) for OS/390**

Documents below are available online and on CD-ROM.

- *SVAA for OS/390 Configuration and Administration (PN 3112905xx)*
- *SVAA for OS/390 Reporting (PN 3112906xx)*
- *SVAA for OS/390 Messages and Codes (PN 3112907xx)*
- *SVAA for OS/390 Installation, Customization, and Maintenance (PN 3112908xx)*

### **SnapShot for OS/390**

Documents below are available online and on CD-ROM.

- *SnapShot for OS/390 User's Guide (PN 3112912xx)*
- *SnapShot for OS/390 Installation, Customization, and Maintenance (PN 3112913xx)*

### **Shared Virtual Array Administrator (SVAA) for Solaris**

Documents below are available online and on CD-ROM.

- *SVAA for Solaris User's Guide (PN 3112909xx)*
- *SVAA for Solaris Messages (PN 3112910xx)*
- *SVAA for Solaris Installation (PN 3112911xx)*
- *SVAA for Solaris Quick Start Guide (PN 3112971xx)*

### **SnapShot for Solaris**

Documents below are available online and on CD-ROM.

- *SnapShot for Solaris User's Guide (PN 3112914xx)*
- *SnapShot for Solaris Quick Start Guide (PN 3112915xx)*

### **Shared Virtual Array Console (SVAC) for Windows NT**

The document below is available online and on CD-ROM.

- *SVAC for Windows NT Quick Start Guide (PN 3112993xx)*

## **Viewing and Ordering Documents**

### **Viewing the Documents Online**

SVA 9500 documents can be viewed (and printed on your printer - these are PDF files) at the Customer Resource Center website at:

<http://www.support.storagetek.com/wvcss/SilverStream/Pages/pgCRCHome.html>

Click on 'Disk Subsystems', then 'Docs' under the 9500 section.

**Note:** A password is required. You may obtain the password from a StorageTek marketing representative.

## Ordering Documents

SVA 9500 documents are available on CD-ROM, and bound book. Consult a StorageTek marketing representative to order the various manuals relating to the 9500.

### CD-ROM

- Customer hardware documents: a CD-ROM of SVA 9500 customer documents is available by requesting the *9500 Customer Documentation*, PN MP-9500x.
- Software documents: a CD-ROM of SVA 9500 software documents is available by requesting *SVA Software Publications*, PN 311295301-xx.

### Bound Books

Individual bound books of SVA 9500 documents are available through Software Manufacturing Distribution (SMD); request by document title and/or part number.

## Other Documents

The following IBM documents may also assist you in using SVA 9500:

- *Planning For IBM Remote Copy SG24-2595-xx*
- *Remote Copy Administrator's Guide and Reference SC35-0169-xx*

## Trademarks

StorageTek and SVA are registered trademarks of Storage Technology Corporation. All other trademarks and features mentioned in this document are either trademarks of Storage Technology Corporation or of other corporations.

## History of Changes

Rev A - Initial release. November 1999.

Rev B - First revision. Demember 1999.

- Minor changes and changed the page numbering scheme to match the PDF files.
- Added notices.

Rev C - Second revision. June 2000.

- Changed ICE card matric in the appendix to include ICF cards.
- Added fibre attach work sheets.
- Other minor changes and updates.

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# Chapter 1 Pre-Installation Planning

## System Assurance Planning Meeting

Immediately after receiving an order from the customer, the marketing representative schedules a planning meeting with the customer and the appropriate members of the StorageTek system assurance team. The planning meeting is the first of two formal meetings. Its purpose is to:

- Explain Shared Virtual Array system assurance.
- Determine the team membership for both StorageTek and the customer. Record the names of the team members in the spaces provided for that purpose in “[System Assurance Team](#)” on page 5.
- Review the responsibilities of the StorageTek and customer team members (refer to “[System Assurance Team Member Responsibilities](#)” on page 13). Ensure that the customer and StorageTek personnel know who their counterparts are for each of the assigned responsibilities.
- Set a date and time for the system assurance review meeting. The meeting should be scheduled after the completion of all worksheets, and must occur **at least one week before the shipment** of the subsystem.

## System Assurance Team Member Responsibilities

The system assurance team ensures that all aspects of the installation process are carefully planned and efficiently conducted. StorageTek and customer team members provide joint control and ownership of the installation process.

## StorageTek Marketing Representative Responsibilities (U.S.)

In the U.S., the StorageTek marketing representative has the following responsibilities:

- Coordinates the system assurance process
- Owns the system assurance documents
- Supplies or obtains all necessary support documentation, such as StorageTek documentation and white papers, if applicable.

## StorageTek CSE Management Responsibilities (International)

In the international marketplace, the StorageTek CSE manager has the following responsibilities:

- Coordinates the system assurance process
- Owns the system assurance documents
- Supplies or obtains all necessary support documentation, such as StorageTek documentation and white papers, if applicable.

## StorageTek Customer Service Engineer (CSE) responsibilities

The StorageTek CSE has the following responsibilities:

- Prepares Customer Service support procedures - The CSE explains available levels of hardware support and discusses the criteria for escalation to subsequent levels.
- Prepares/completes worksheets - The CSE contacts the customer personnel who provide system and subsystem configuration data and who aid in filling out the appropriate configuration worksheets:

## StorageTek System Engineer/Software Support Rep Responsibilities

The StorageTek system engineer/software support representative (SE) has the following responsibilities:

- Prepares Customer Service software support procedures - The SE prepares to explain available levels of software support and discusses the criteria for escalation to subsequent levels.
- Prepares/completes worksheets - The SE contacts the customer personnel who provide system and subsystem configuration data and who aid in filling out the following configuration worksheets:
  - Hardware Configuration Worksheet ([Table A-1 on page 28](#)).
  - Customer/Subsystem Configuration Worksheet ([Table A-4 on page 31](#)).
  - Subsystem Configuration Worksheet ([Table A-4 on page 31](#)).
  - Channel Configuration Worksheet ([Table A-5 on page 32](#)).
- Validates the conditions defined in are met.

## Customer Team Responsibilities

The customer team is expected to provide the following data at the system assurance planning meeting.

- Hardware configuration plan - If the physical and functional configuration plans have been completed, they should be brought to the planning meeting. If they are not available, the customer should be prepared to identify a contact for development of configuration plans (refer to [Table A-1, "Hardware Configuration Worksheet," on page 28](#)).
- Software level information - The customer should be prepared to discuss the current levels of software for all systems which will use the Shared Virtual Array subsystem. The customer should be prepared to identify a contact for all matters related to required software. Software requirements may be found in the *9500 Shared Virtual Array Planning, Implementation, and Usage Guide*.
- Environmental planning - If a site survey of environmental conditions (such as electrical, cooling, humidity, etc.) is available, it should be brought to the planning meeting. If it is not available, the customer should be prepared to identify a contact to work with the CSE in the

completion of the *Shared Virtual Array Physical Planning Guide* (refer to “[Environmental Planning](#)” on page 19).

- Data migration information - (“[Data Migration Requirements](#)” on page 19).
- Schedule - The customer should be prepared to discuss the schedule and designate a point of contact for all scheduling matters (“[Schedule Planning](#)” on page 20).

## SCSI Cable Survey

This pre-installation survey must be complete by the customer, StorageTek marketing, and the site-responsible or installing CSE.

Question	Additional Information
<b>SCSI Cables</b>	
Who is responsible for determining the length of the SCSI cable(s) from the host initiator to the SVA Attach Feature?	
What quantity and what length SCSI cables are required?	
<p>Will standard StorageTek SCSI cables be used for this installation? (Refer to Table 2-1, “Cable Lengths and Part Numbers” on page 10 of the <i>Shared Virtual Array Extended SCSI Attach Feature Information Guide</i>, 95837.)</p> <p>If StorageTek cables will not be used, has the customer made arrangements to have the required SCSI cables on site for the installation?</p> <p><b>Note:</b> StorageTek strongly recommends against daisy chaining other devices on the same SCSI bus as the SVA Attach Feature.</p>	

Question	Additional Information
<b>SCSI Addresses</b>	
<p>What SCSI addresses are to be used by each SCSI open systems platform initiator card attached to the SVA Attach Feature?</p> <p>Indicate the <b>Domain addresses</b> to be used on each SVA Attach Feature.</p> <p><b>Note:</b> The SVAA software refers to “Bus ID” as “Domain.”</p> <p>Which <b>Target addresses</b> will be trapped on the SVA Attach Feature’s front panel?</p> <p>Indicate the <b>Logical Unit Addresses</b> to be used.</p> <p><b>Note:</b> Open systems attach feature only supports 3390-3 and 3390-9 devices in the SVA.</p>	
<b>SCSI Fibre Cables</b>	
<p>What length fibre cables are required?</p> <p>If these are standard length fibre cables, will they be ordered from StorageTek? (Refer to Table 2-2, “StorageTek ESCON Cable Lengths” in the <i>Shared Virtual Array Extended SCSI Attach Feature Information Guide</i>, 95837.)</p> <p>For non-StorageTek fibre cables, who will install them?</p> <p>For third party fibre cable installations, has the installer been made aware of the installation completion date?</p>	

Question	Additional Information
<b>Fibre Channel Addresses</b>	
<p>What fibre addresses are to be used by each fibre open systems platform initiator card?</p> <p>Indicate the <b>Domain addresses</b> to be used on each SVA Attach Feature.</p> <p><b>Note:</b> The SVAA software refers to “Bus ID” as “Domain.”</p> <p><b>Note:</b> <b>Target addresses</b> must be set to <b>zero</b>.</p> <p>Indicate the <b>Logical Unit Addresses</b> to be used.</p> <p><b>Note:</b> Fibre channel attach only supports 3390-3 and 3390-9 devices in the SVA.</p>	
<b>Fibre Channel Cables</b>	
<p>What length fibre cables are required?</p> <p>If these are standard length fibre cables, will they be ordered from StorageTek? (Refer to Table 8-1 in the <i>9500 Shared Virtual Array (SVA) Physical Planning</i>, for cable Lengths available and part numbers of those cables.)</p> <p>For non-StorageTek fibre cables, who will install them?</p> <p>For third party fibre cable installations, has the installer been made aware of the installation completion date?</p> <p>Will single mode or multi mode cables be used?</p>	

Question	Additional Information
<b>Physical Location</b>	
Is the proposed site close enough for the supplied power cord?	
Is the site close enough for the allowed SCSI cable length?	
Physical space for a low profile pentium based enclosure?	
<b>Power</b>	
<p>Power options on the SVA Attach Feature are 115 VAC or 230 VAC. Indicate which voltage range will be used.</p> <p>If the SVA Attach Feature will be used outside of the United States and Canada, the installing CSE may have to obtain a power cord compatible with the local power receptacle. (Refer to "Power Cord" on page 15 of the <i>Shared Virtual Array Extended SCSI Attach Feature Information Guide</i>, 95837.)</p> <p><b>Caution:</b> the SVA Attach Feature ships with the power supply set to 115 VAC. Connecting the SVA Attach Feature to 230 VAC with this switch set to 115 VAC will destroy the unit.</p>	

## Data Migration Requirements

Data migration requirements and strategy for each site must be carefully planned. Guidelines for planning data migration are presented in the *Shared Virtual Array Planning, Implementation, and Usage Guide*. When the data migration procedures outlined in that document have been agreed upon and a procedure for data migration has been established, have the appropriate system assurance team members sign in the blanks provided below.

---

StorageTek Representative (date)

---

Customer Representative (date)

## Environmental Planning

Environmental planning refers to the readiness of the physical locations and connections in those locations where the Shared Virtual Array subsystem will be installed. Complete guidelines for environmental planning are contained in the *Shared Virtual Array Physical Planning Guide*. When specifications provided in that document have been met and the physical planning checklist in that document has been completed, attach a copy of the checklist to this document and have the appropriate system assurance team members sign in the blanks provided below.

---

StorageTek Representative (date)

---

Customer Representative (date)

## Schedule Planning

When schedule planning is completed, attach a copy of the proposed schedule to this document and have the appropriate system assurance team members sign in the blanks provided below.

---

StorageTek Marketing Representative (date)

---

StorageTek SE (date)

---

StorageTek CSE (date)

---

Customer Representative (date)

## Chapter 2 Installation

### Installation Checklist

The installation checklist should be completed at the time of installation. Verify that all issues listed in Table 2-1 have been addressed and resolved. Circle Yes or No, as appropriate, for each item. For unresolved issues, assign a required action with a due date to the appropriate member(s) of the team.

*Table 2-1 Shared Virtual Array Installation Checklist*

Item Description	Yes/No		Action Required/ Due Date/ Responsible Person
Software Installation SVAA/SnapShot software installed	Yes	No	
Hardware Installation Subsystem functional configuration completed	Yes	No	
Subsystem Testing Production partition configured MPST runs successfully MPPM config run completed ServiceTek configured ServiceTek connect to subsystem OK Event log data download to CSRC OK Subsystem diagnostic from CSRC OK ServiceTek test completed	Yes	No	
Customer Testing Customer data migrated Installation verification program executed	Yes	No	
SVA Tools SVAAT installed ExPR installed	Yes	No	

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## Chapter 3 Post-Installation Worksheet

The CSE is responsible for completing the worksheet contained in [Table 3-1](#). This worksheet can be used to complete the CSDC report; however, **this worksheet does not replace the CSDC reporting requirement.**

If you know how the delivery and installation process could be improved, or if any events occurred during the installation process that you would like to call to the attention of the corporate system assurance team, complete and mail (or fax) this worksheet to:

StorageTek

Worldwide Equipment Movement and Control Department

One StorageTek Drive

Louisville, CO 80028-4350

Fax telephone number

(303) 673-6123

A 'Yes' answer to all questions indicates a successful delivery and installation. For any 'No' answers, complete the follow-up questions and route the completed worksheet to the address or fax telephone number listed above.

*Table 3-1 (Sheet 1 of 4) Post-Installation Review Worksheet*

Yes	No	Questions
		<p>During delivery, did the shipment arrive when scheduled?</p> <p>If no, when <i>did</i> it arrive? (How many days/hours early/late? If you know why the shipment did not arrive as scheduled, explain here.)</p> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>

Table 3-1 (Sheet 2 of 4) Post-Installation Review Worksheet

Yes	No	Questions
		Did the delivery go smoothly? If no, what problems occurred? _____ Wrong size truck _____ Dock height _____ Elevator _____ Power lift gate _____ Stairs _____ Other: _____  Comments: _____ _____ _____
		Were all items received in good condition? If no, what damage was found? _____ _____ _____
		Was the unit hardware shipment complete?
		Were all line items on the packing list accounted for?
		Did the packing list match the order? If no, explain. _____ _____ _____
		Was the unit software shipment complete?
		Were all line items on the packing list accounted for?
		Did the packing list match the order? If no, explain. _____ _____ _____
		Was the ISP shipment complete?
		Were all line items on the packing list accounted for?

Table 3-1 (Sheet 3 of 4) Post-Installation Review Worksheet

Yes	No	Questions
		Did the packing list match the order? If no, explain. _____ _____ _____
		Was the cable shipment complete?
		Were all line items on the packing list accounted for?
		Did the packing list match the order? If no, explain. _____ _____ _____
		Was the hardware installation error-free? If no, what problems were encountered? _____ _____ _____ _____ _____
		Was the software installation error-free? If no, what problems were encountered? _____ _____ _____
		Was the subsystem diagnostic testing error-free? If no, what problems were encountered? _____ _____ _____
		Was the subsystem configuration process error-free? If no, what problems were encountered? _____ _____ _____

Table 3-1 (Sheet 4 of 4) Post-Installation Review Worksheet

Yes	No	Questions
		<p>Was all required documentation available throughout the sales and installation process? If no, what was needed, and when?</p> <hr/> <hr/> <hr/>
		<p>Were all STK and customer personnel adequately trained to support the sales and installation process? <b>If no, what was needed, and when?</b></p> <hr/> <hr/> <hr/>
		<p>Was shipping and installation planning complete and correct? If no, what would you add to or remove from the procedures to make it complete and correct?</p> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>

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## Appendix A System Assurance Worksheets

This section contains a series of worksheets that, when completed, provide the CSE with a precise configuration guide. These worksheets work in conjunction with the subsystem configuration instructions contained in the 9500 *Shared Virtual Array Installation Manual*. Complete the worksheets prior to the installation date.

### **Worksheet Instructions**

Fill in the blanks and/or circle the appropriate selections to document the site where the subsystem is to be installed. When the hardware configuration has been documented and verified, have the appropriate system assurance team members sign in the blanks provided.

- Please print clearly.
- Slash zeros to distinguish them from the letter 'O'.
- Complete, with the customer's help, the checklists used in the installation process. This provides joint ownership of the information and helps to ensure a successful installation.

## Hardware Configuration Worksheet

The following worksheet provides a place to record Shared Virtual Array hardware configuration information.

*Table A-1 Hardware Configuration Worksheet*

### SVA Controller

Model Number	
Type of Door Lock	KEY / HEX <sup>1</sup>
Disk Buffer Size	
Number of Channel Interfaces	
ESCON? <sup>2</sup>	YES / NO
Channel Extender Attach (McData not supported)	YES / NO
Number of Channel Extenders	
Switch Settings	1. LOCAL/REMOTE 2. CSE/CUSTOMER
CSRC Attach	YES / NO
Number of XRS Boxes (for CSE-use only)	
Number of MODEMs (for CSE-use only)	

1. Key is standard; hex is optional and must be ordered.
2. When installing ESCON, reference document part number 9433, Fiber Optics Users Guide.

---

StorageTek SE (date)

---

Customer Representative (date)

## Software Configuration Worksheet

The following worksheet provides a place to record software configuration information for all operating systems connected to the Shared Virtual Array. Note if and when required maintenance applies.

*Table A-2 Software Configuration Worksheet*

**Mainframe:**

	Processor 1	Processor 2	Processor 3	Processor 4
Operating System				
DFP Release Level				
IXFP Release Level				
SAS Release				
SAS/Graph Release				
Snapshot Release Level				
PPRC Support <sup>1</sup>				
Backup/Recovery Software				
Archival/Migration Software				
Performance Monitoring Software				
Other Storage Management Software				

1. The customer will need, and need to be familiar with, the IBM books *Planning For IBM Remote Copy* (SG24-2595-XX) and the *Remote Copy Administrator's Guide and Reference* (SC35-0169-XX) if PPRC is to be installed.

---

StorageTek SE (date)

---

Customer Representative (date)

## Customer Configurable Items Worksheet

The “Customer Configurable Items Worksheet” on page 30 defines the customer-configurable items.

*Table A-3 Customer Configurable Items Worksheet*

### Customer Configurable Items

Customer Access Password	
CSRC Connection Password	
CSRC Connection Security	HIGH / LOW
ServiceTek Status	ENABLE / DISABLE
Hardware Support (RDC) Phone Number	

---

StorageTek SE (date)

---

Customer Representative (date)

## Subsystem Configuration Worksheet

The “Customer Configurable Items Worksheet” on page 30 defines the subsystem configuration.

Table A-4 Subsystem Configuration Worksheet

### SVA Subsystem Configuration

Site Name	
Subsystem Name	
SSIDs <sup>1</sup>	
Site Location Number (Local operator panel only)	
Model	Entered by Subsystem
Serial Number (S/N)	Entered by Subsystem
Array Spares	1 / 2
ECAM Device	
Domain Target LUN	
Device Type	
FDID	
SCSI Enable/Disable	<b>Yes</b>
Privledged	<b>Yes</b>
Channel Configuration Completed?	Yes/No
Processors?	Yes/No
Subsystem?	Yes/No
Hardware Configuration Definition (HCD) Completed?	Yes/No

1. SSIDs must be *unique* hexadecimal numbers (00-FF) for each subsystem. Assign four SSIDs to each SVA. Refer to the *Shared Virtual Array Quick Start Guide, PN 95901* for HCD and channel configuration information.

---

StorageTek SE

(date)

---

Customer Representative

(date)

## I/O Interface Worksheets - ESCON

### Channels A - H

*Table A-5 ESCON I/O Interface Worksheets*

<b>Channels A - H</b>											
Channel ID	ICE Card	Channel Name	Enable Y/N	Channel Speed	Base Address	Address Range	BFDID	CHPID/ Director	ESCON Port #	EMIF Y/N	Cable Length
A					0		0				
B					0		0				
C					0		0				
D					0		0				
E					0		0				
F					0		0				
G					0		0				
H					0		0				

### Channels I - P

*Table A-6 ESCON I/O Interface Worksheets*

<b>Channels I - P</b>											
Channel ID	ICE Card	Channel Name	Enable Y/N	Channel Speed	Base Address	Address Range	BFDID	CHPID/ Director	ESCON Port #	EMIF Y/N	Cable Length
I					0		0				
J					0		0				
K					0		0				
L					0		0				
M					0		0				
N					0		0				
O					0		0				
P					0		0				

## I/O Interface Worksheets - SCSI Attach

### Channels A - H

Table A-7 SCSI I/O Interface Worksheet

Channels A - H				
Chan ID	ICE Card #	Channel Name	Channel Speed	Cable Length
A				
B				
C				
D				
E				
F				
G				
H				

### Channels I - P

Table A-8 SCSI I/O Interface Worksheet

Channels I - P				
Chan ID	ICE Card #	Channel Name	Channel Speed	Cable Length
I				
J				
K				
L				
M				
N				
O				
P				

## I/O Interface Worksheets - Fibre Channel Attach

### Channels A - H

Table A-9 Fibre Channel I/O Interface Worksheet

Channels A - H				
Chan ID	ICF Card #	Channel Name	GBIC Type <sup>1</sup>	Cable Length
A				
B				
C				
D				
E				
F				
G				
H				

1. Single mode or Multi mode.

### Channels I - P

Table A-10 Fibre Channel I/O Interface Worksheet

Channels I - P				
Chan ID	ICF Card #	Channel Name	GBIC Type <sup>1</sup>	Cable Length
I				
J				
K				
L				
M				
N				
O				
P				

1. Single mode or Multi mode.

## Functional Device Configuration Worksheets

The Functional Device Configuration Worksheets on page 42 through page 45 define the subsystem's functional device configuration. Fill in the blanks for each defined functional device (up to 1024). When completed, have the appropriate system assurance team members sign in the blanks provided below.

**Note:** When consecutive devices are going to be configured identically, enter the configuration information for the *group of devices*.

Enter the FDID from the following ranges:

- 0 - FF
- 100 - 1FF
- 200 - 2FF
- 300 - 3FF

---

StorageTek SE (date)

---

Customer Representative (date)

**Devices 00 - 3F**

*Table A-11 Functional Device Configuration Worksheet*

Devices 00 - 3F										
FDID	Type <sup>1</sup>	Enable Y/N		FDID	Type <sup>1</sup>	Enable Y/N		FDID	Type <sup>1</sup>	Enable Y/N
0				16				2C		
1				17				2D		
2				18				2E		
3				19				2F		
4				1A				30		
5				1B				31		
6				1C				32		
7				1D				33		
8				1E				34		
9				1F				35		
A				20				36		
B				21				37		
C				22				38		
D				23				39		
E				24				3A		
F				25				3B		
10				26				3C		
11				27				3D		
12				28				3E		
13				29				3F		
14				2A						
15				2B						

1. 1 = 3380J, 2 = 3380K, 3 = 3380KE, 4 = 33901, 5 = 33902, 6 = 33903, 7 = 33909

**Devices 40 - 7F**

*Table A-12 Functional Device Configuration Worksheet*

Devices 40 - 7F										
FDID	Type <sup>1</sup>	Enable Y/N		FDID	Type <sup>1</sup>	Enable Y/N		FDID	Type <sup>1</sup>	Enable Y/N
40				56				6C		
41				57				6D		
42				58				6E		
43				59				6F		
44				5A				70		
45				5B				71		
46				5C				72		
47				5D				73		
48				5E				74		
49				5F				75		
4A				60				76		
4B				61				77		
4C				62				78		
4D				63				79		
4E				64				7A		
4F				65				7B		
50				66				7C		
51				67				7D		
52				68				7E		
53				69				7F		
54				6A						
55				6B						

1. 1 = 3380J, 2 = 3380K, 3 = 3380KE, 4 = 33901, 5 = 33902, 6 = 33903, 7 = 33909

## Devices 80 - BF

Table A-13 Functional Device Configuration Worksheet

Devices 80 - BF										
FDID	Type <sup>1</sup>	Enable Y/N		FDID	Type <sup>1</sup>	Enable Y/N		FDID	Type <sup>1</sup>	Enable Y/N
80				96				6A		
81				97				AD		
82				98				AE		
83				99				AF		
84				9A				B0		
85				9B				B1		
86				9C				B2		
87				9D				B3		
88				9E				B4		
89				9F				B5		
8A				A0				B6		
8B				A1				B7		
8C				A2				B8		
8D				A3				B9		
8E				A4				BA		
8F				A5				BB		
90				A6				BC		
91				A7				BD		
92				A8				BE		
93				A9				BF		
94				AA						
95				AB						

1. 1 = 3380J, 2 = 3380K, 3 = 3380KE, 4 = 33901, 5 = 33902, 6 = 33903, 7 = 33909

## Devices C0 - FF

Table A-14 Functional Device Configuration Worksheet

Devices C0 - FF										
FDID	Type <sup>1</sup>	Enable Y/N		FDID	Type <sup>1</sup>	Enable Y/N		FDID	Type <sup>1</sup>	Enable Y/N
C0				D6				EC		
C1				D7				ED		
C2				D8				EE		
C3				D9				EF		
C4				DA				F0		
C5				DB				F1		
C6				DC				F2		
C7				DD				F3		
C8				DE				F4		
C9				DF				F5		
CA				E0				F6		
CB				E1				F7		
CC				E2				F8		
CD				E3				F9		
CE				E4				FA		
CF				E5				FB		
D0				E6				FC		
D1				E7				FD		
D2				E8				FE		
D3				E9				FF		
D4				EA						
D5				EB						

1. 1 = 3380J, 2 = 3380K, 3 = 3380KE, 4 = 33901, 5 = 33902, 6 = 33903, 7 = 33909

## Devices 100 - 13F

*Table A-15 Functional Device Configuration Worksheet*

Devices 100 - 13F										
FDID	Type <sup>1</sup>	Enable Y/N		FDID	Type <sup>1</sup>	Enable Y/N		FDID	Type <sup>1</sup>	Enable Y/N
100				116				12C		
101				117				12D		
102				118				12E		
103				119				12F		
104				11A				130		
105				11B				131		
106				11C				132		
107				11D				133		
108				11E				134		
109				11F				135		
10A				120				136		
10B				121				137		
10C				122				138		
10D				123				139		
10E				124				13A		
10F				125				13B		
110				126				13C		
111				127				13D		
112				128				13E		
113				129				13F		
114				12A						
115				12B						

1. 1 = 3380J, 2 = 3380K, 3 = 3380KE, 4 = 33901, 5 = 33902, 6 = 33903, 7 = 33909

## Devices 140 - 17F

Table A-16 Functional Device Configuration Worksheet

Devices 140 - 17F										
FDID	Type <sup>1</sup>	Enable Y/N		FDID	Type <sup>1</sup>	Enable Y/N		FDID	Type <sup>1</sup>	Enable Y/N
140				156				16C		
141				157				16D		
142				158				16E		
143				159				16F		
144				15A				170		
145				15B				171		
146				15C				172		
147				15D				173		
148				15E				174		
149				15F				175		
14A				160				176		
14B				161				177		
14C				162				178		
14D				163				179		
14E				164				17A		
14F				165				17B		
150				166				17C		
151				167				17D		
152				168				17E		
153				169				17F		
154				16A						
155				16B						

1. 1 = 3380J, 2 = 3380K, 3 = 3380KE, 4 = 33901, 5 = 33902, 6 = 33903, 7 = 33909

## Devices 180 - 1BF

Table A-17 Functional Device Configuration Worksheet

Devices 180 - 1BF										
FDID	Type <sup>1</sup>	Enable Y/N		FDID	Type <sup>1</sup>	Enable Y/N		FDID	Type <sup>1</sup>	Enable Y/N
180				196				16A		
181				197				1AD		
182				198				1AE		
183				199				1AF		
184				19A				1B0		
185				19B				1B1		
186				19C				1B2		
187				19D				1B3		
188				19E				1B4		
189				19F				1B5		
18A				1A0				1B6		
18B				1A1				1B7		
18C				1A2				1B8		
18D				1A3				1B9		
18E				1A4				1BA		
18F				1A5				1BB		
190				1A6				1BC		
191				1A7				1BD		
192				1A8				1BE		
193				1A9				1BF		
194				1AA						
195				1AB						

1. 1 = 3380J, 2 = 3380K, 3 = 3380KE, 4 = 33901, 5 = 33902, 6 = 33903, 7 = 33909

## Devices 1C0 - 1FF

Table A-18 Functional Device Configuration Worksheet

Devices 1C0 - 1FF											
FDID	Type <sup>1</sup>	Enable Y/N		FDID	Type <sup>1</sup>	Enable Y/N		FDID	Type <sup>1</sup>	Enable Y/N	
1C0				1D6				1EC			
1C1				1D7				1ED			
1C2				1D8				1EE			
1C3				1D9				1EF			
1C4				1DA				1F0			
1C5				1DB				1F1			
1C6				1DC				1F2			
1C7				1DD				1F3			
1C8				1DE				1F4			
1C9				1DF				1F5			
1CA				1E0				1F6			
1CB				1E1				1F7			
1CC				1E2				1F8			
1CD				1E3				1F9			
1CE				1E4				1FA			
1CF				1E5				1FB			
1C0				1E6				1FC			
1C1				1E7				1FD			
1C2				1E8				1FE			
1C3				1E9				1FF			
1C4				1EA							
1C5				1EB							

1. 1 = 3380J, 2 = 3380K, 3 = 3380KE, 4 = 33901, 5 = 33902, 6 = 33903, 7 = 33909

## Devices 200 - 23F

Table A-19 Functional Device Configuration Worksheet

Devices 200 - 23F										
FDID	Type <sup>1</sup>	Enable Y/N		FDID	Type <sup>1</sup>	Enable Y/N		FDID	Type <sup>1</sup>	Enable Y/N
200				216				22C		
201				217				22D		
202				218				22E		
203				219				22F		
204				21A				230		
205				21B				231		
206				21C				232		
207				21D				233		
208				21E				234		
209				21F				235		
20A				220				236		
20B				221				237		
20C				222				238		
20D				223				239		
20E				224				23A		
20F				225				23B		
210				226				23C		
211				227				23D		
212				228				23E		
213				229				23F		
214				22A						
215				22B						

1. 1 = 3380J, 2 = 3380K, 3 = 3380KE, 4 = 33901, 5 = 33902, 6 = 33903, 7 = 33909

## Devices 240 - 27F

Table A-20 Functional Device Configuration Worksheet

Devices 240 - 27F										
FDID	Type <sup>1</sup>	Enable Y/N		FDID	Type <sup>1</sup>	Enable Y/N		FDID	Type <sup>1</sup>	Enable Y/N
240				256				26C		
241				257				26D		
242				258				26E		
243				259				26F		
244				25A				270		
245				25B				271		
246				25C				272		
247				25D				273		
248				25E				274		
249				25F				275		
24A				260				276		
24B				261				277		
24C				262				278		
24D				263				279		
24E				264				27A		
24F				265				27B		
250				266				27C		
251				267				27D		
252				268				27E		
253				269				27F		
254				26A						
255				26B						

1. 1 = 3380J, 2 = 3380K, 3 = 3380KE, 4 = 33901, 5 = 33902, 6 = 33903, 7 = 33909

## Devices 280 - 2BF

Table A-21 Functional Device Configuration Worksheet

Devices 280 - 2BF										
FDID	Type <sup>1</sup>	Enable Y/N		FDID	Type <sup>1</sup>	Enable Y/N		FDID	Type <sup>1</sup>	Enable Y/N
280				296				26A		
281				297				2AD		
282				298				2AE		
283				299				2AF		
284				29A				2B0		
285				29B				2B1		
286				29C				2B2		
287				29D				2B3		
288				29E				2B4		
289				29F				2B5		
28A				2A0				2B6		
28B				2A1				2B7		
28C				2A2				2B8		
28D				2A3				2B9		
28E				2A4				2BA		
28F				2A5				2BB		
290				2A6				2BC		
291				2A7				2BD		
292				2A8				2BE		
293				2A9				2BF		
294				2AA						
295				2AB						

1. 1 = 3380J, 2 = 3380K, 3 = 3380KE, 4 = 33901, 5 = 33902, 6 = 33903, 7 = 33909

## Devices 2C0 - 2FF

Table A-22 Functional Device Configuration Worksheet

Devices 2C0 - 2FF											
FDID	Type <sup>1</sup>	Enable Y/N		FDID	Type <sup>1</sup>	Enable Y/N		FDID	Type <sup>1</sup>	Enable Y/N	
2C0				2D6				2EC			
2C1				2D7				2ED			
2C2				2D8				2EE			
2C3				2D9				2EF			
2C4				2DA				2F0			
2C5				2DB				2F1			
2C6				2DC				2F2			
2C7				2DD				2F3			
2C8				2DE				2F4			
2C9				2DF				2F5			
2CA				2E0				2F6			
2CB				2E1				2F7			
2CC				2E2				2F8			
2CD				2E3				2F9			
2CE				2E4				2FA			
2CF				2E5				2FB			
2C0				2E6				2FC			
2C1				2E7				2FD			
2C2				2E8				2FE			
2C3				2E9				2FF			
2C4				2EA							
2C5				2EB							

1. 1 = 3380J, 2 = 3380K, 3 = 3380KE, 4 = 33901, 5 = 33902, 6 = 33903, 7 = 33909

## Devices 300 - 33F

*Table A-23 Functional Device Configuration Worksheet*

Devices 300 - 33F										
FDID	Type <sup>1</sup>	Enable Y/N		FDID	Type <sup>1</sup>	Enable Y/N		FDID	Type <sup>1</sup>	Enable Y/N
300				316				32C		
301				317				32D		
302				318				32E		
303				319				32F		
304				31A				330		
305				31B				331		
306				31C				332		
307				31D				333		
308				31E				334		
309				31F				335		
30A				320				336		
30B				321				337		
30C				322				338		
30D				323				339		
30E				324				33A		
30F				325				33B		
310				326				33C		
311				327				33D		
312				328				33E		
313				329				33F		
314				32A						
315				32B						

1. 1 = 3380J, 2 = 3380K, 3 = 3380KE, 4 = 33901, 5 = 33902, 6 = 33903, 7 = 33909

## Devices 340 - 37F

Table A-24 Functional Device Configuration Worksheet

Devices 340 - 37F										
FDID	Type <sup>1</sup>	Enable Y/N		FDID	Type <sup>1</sup>	Enable Y/N		FDID	Type <sup>1</sup>	Enable Y/N
340				356				36C		
341				357				36D		
342				358				36E		
343				359				36F		
344				35A				370		
345				35B				371		
346				35C				372		
347				35D				373		
348				35E				374		
349				35F				375		
34A				360				376		
34B				361				377		
34C				362				378		
34D				363				379		
34E				364				37A		
34F				365				37B		
350				366				37C		
351				367				37D		
352				368				37E		
353				369				37F		
354				36A						
355				36B						

1. 1 = 3380J, 2 = 3380K, 3 = 3380KE, 4 = 33901, 5 = 33902, 6 = 33903, 7 = 33909

## Devices 380 - 3BF

Table A-25 Functional Device Configuration Worksheet

Devices 380 - 3BF										
FDID	Type <sup>1</sup>	Enable Y/N		FDID	Type <sup>1</sup>	Enable Y/N		FDID	Type <sup>1</sup>	Enable Y/N
380				396				36A		
381				397				3AD		
382				398				3AE		
383				399				3AF		
384				39A				3B0		
385				39B				3B1		
386				39C				3B2		
387				39D				3B3		
388				39E				3B4		
389				39F				3B5		
38A				3A0				3B6		
38B				3A1				3B7		
38C				3A2				3B8		
38D				3A3				3B9		
38E				3A4				3BA		
38F				3A5				3BB		
390				3A6				3BC		
391				3A7				3BD		
392				3A8				3BE		
393				3A9				3BF		
394				3AA						
395				3AB						

1. 1 = 3380J, 2 = 3380K, 3 = 3380KE, 4 = 33901, 5 = 33902, 6 = 33903, 7 = 33909

## Devices 3C0 - 3FF

Table A-26 Functional Device Configuration Worksheet

Devices 3C0 - 3FF											
FDID	Type <sup>1</sup>	Enable Y/N		FDID	Type <sup>1</sup>	Enable Y/N		FDID	Type <sup>1</sup>	Enable Y/N	
3C0				3D6				3EC			
3C1				3D7				3ED			
3C2				3D8				3EE			
3C3				3D9				3EF			
3C4				3DA				3F0			
3C5				3DB				3F1			
3C6				3DC				3F2			
3C7				3DD				3F3			
3C8				3DE				3F4			
3C9				3DF				3F5			
3CA				3E0				3F6			
3CB				3E1				3F7			
3CC				3E2				3F8			
3CD				3E3				3F9			
3CE				3E4				3FA			
3CF				3E5				3FB			
3C0				3E6				3FC			
3C1				3E7				3FD			
3C2				3E8				3FE			
3C3				3E9				3FF			
3C4				3EA							
3C5				3EB							

1. 1 = 3380J, 2 = 3380K, 3 = 3380KE, 4 = 33901, 5 = 33902, 6 = 33903, 7 = 33909





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## Appendix B ICE2/ICF Card Configurations

Feature Numbers	# of ICE Cards	# of ICF Cards	Cluster 0				Cluster 1			
			Slot 00	Slot 01	Slot 02	Slot 03	Slot 10	Slot 11	Slot 12	Slot 13
#ES08 + #SR00 + #FM00 + #FS00	4	0	E		E		E		E	
#ES12 + #SR00 + #FM00 + #FS00	6	0	E	E	E		E	E	E	
#ES16 + #SR00 + #FM00 + #FS00	8	0	E	E	E	E	E	E	E	E
#ES00 + #SR08 + #FM00 + #FS00	4	0	S		S		S		S	
#ES00 + #SR12 + #FM00 + #FS00	6	0	S	S	S		S	S	S	
#ES00 + #SR16 + #FM00 + #FS00	8	0	S	S	S	S	S	S	S	S
#ES00 + #SR00 + #FM08 + #FS00	0	4	FM		FM		FM		FM	
#ES00 + #SR00 + #FM06 + #FS02	0	4	FM		FM		FM		FS	
#ES00 + #SR00 + #FM04 + #FS04	0	4	FM		FS		FM		FS	
#ES00 + #SR00 + #FM02 + #FS06	0	4	FM		FS		FS		FS	
#ES00 + #SR00 + #FM00 + #FS08	0	4	FS		FS		FS		FS	
#ES00 + #SR00 + #FM12 + #FS00	0	6	FM	FM	FM		FM	FM	FM	
#ES00 + #SR00 + #FM10 + #FS02	0	6	FM	FM	FM		FM	FM	FS	
#ES00 + #SR00 + #FM08 + #FS04	0	6	FM	FM	FS		FM	FM	FS	
#ES00 + #SR00 + #FM06 + #FS06	0	6	FM	FM	FS		FM	FS	FS	
#ES00 + #SR00 + #FM04 + #FS08	0	6	FM	FS	FS		FM	FS	FS	
#ES00 + #SR00 + #FM02 + #FS10	0	6	FM	FS	FS		FS	FS	FS	
#ES00 + #SR00 + #FM00 + #FS12	0	6	FS	FS	FS		FS	FS	FS	
#ES00 + #SR00 + #FM16 + #FS00	0	8	FM	FM	FM	FM	FM	FM	FM	FM
#ES00 + #SR00 + #FM14 + #FS02	0	8	FM	FM	FM	FM	FM	FM	FM	FS
#ES00 + #SR00 + #FM12 + #FS04	0	8	FM	FM	FM	FS	FM	FM	FM	FS
#ES00 + #SR00 + #FM10 + #FS06	0	8	FM	FM	FM	FS	FM	FM	FS	FS
#ES00 + #SR00 + #FM08 + #FS08	0	8	FM	FM	FS	FS	FM	FM	FS	FS
#ES00 + #SR00 + #FM06 + #FS10	0	8	FM	FM	FS	FS	FM	FS	FS	FS
#ES00 + #SR00 + #FM04 + #FS12	0	8	FM	FS	FS	FS	FM	FS	FS	FS
#ES00 + #SR00 + #FM02 + #FS14	0	8	FM	FS	FS	FS	FS	FS	FS	FS
#ES00 + #SR00 + #FM00 + #FS16	0	8	FS	FS	FS	FS	FS	FS	FS	FS
#ES08 + #SR00 + #FM04 + #FS00	4	2	E	FM	E		E	FM	E	
#ES08 + #SR00 + #FM02 + #FS02	4	2	E	FM	E		E	FS	E	
#ES08 + #SR00 + #FM00 + #FS04	4	2	E	FS	E		E	FS	E	
#ES08 + #SR00 + #FM08 + #FS00	4	4	E	FM	E	FM	E	FM	E	FM
#ES08 + #SR00 + #FM06 + #FS02	4	4	E	FM	E	FM	E	FM	E	FS

#ES08 + #SR00 + #FM04 + #FS04	4	4	E	FM	E	FS	E	FM	E	FS
#ES08 + #SR00 + #FM02 + #FS06	4	4	E	FM	E	FS	E	FS	E	FS
#ES08 + #SR00 + #FM00 + #FS08	4	4	E	FS	E	FS	E	FS	E	FS
#ES00 + #SR04 + #FM04 + #FS00	2	2	S	FM			S	FM		
#ES00 + #SR04 + #FM02 + #FS02	2	2	S	FM			S	FS		
#ES00 + #SR04 + #FM00 + #FS04	2	2	S	FS			S	FS		
#ES00 + #SR04 + #FM08 + #FS00	2	4	S	FM		FM	S	FM		FM
#ES00 + #SR04 + #FM06 + #FS02	2	4	S	FM		FM	S	FM		FS
#ES00 + #SR04 + #FM04 + #FS04	2	4	S	FM		FS	S	FM		FS
#ES00 + #SR04 + #FM02 + #FS06	2	4	S	FM		FS	S	FS		FS
#ES00 + #SR04 + #FM00 + #FS08	2	4	S	FS		FS	S	FS		FS
#ES00 + #SR08 + #FM04 + #FS00	4	2	S	FM	S		S	FM	S	
#ES00 + #SR08 + #FM02 + #FS02	4	2	S	FM	S		S	FS	S	
#ES00 + #SR08 + #FM00 + #FS04	4	2	S	FS	S		S	FS	S	
#ES00 + #SR08 + #FM08 + #FS00	4	4	S	FM	S	FM	S	FM	S	FM
#ES00 + #SR08 + #FM06 + #FS02	4	4	S	FM	S	FM	S	FM	S	FS
#ES00 + #SR08 + #FM04 + #FS04	4	4	S	FM	S	FS	S	FM	S	FS
#ES00 + #SR08 + #FM02 + #FS06	4	4	S	FM	S	FS	S	FS	S	FS
#ES00 + #SR08 + #FM00 + #FS08	4	4	S	FS	S	FS	S	FS	S	FS
#ES08 + #SR04 + #FM00 + #FS00	6	0	E	S	E		E	S	E	
#ES08 + #SR08 + #FM00 + #FS00	8	0	E	S	E	S	E	S	E	S
#ES12 + #SR04 + #FM00 + #FS00	8	0	E	E	E	S	E	E	E	S
#ES04 + #SR04 + #FM04 + #FS00	4	2	E	FM	S		E	FM	S	
#ES04 + #SR04 + #FM02 + #FS02	4	2	E	FM	S		E	FS	S	
#ES04 + #SR04 + #FM00 + #FS04	4	2	E	FS	S		E	FS	S	
#ES04 + #SR04 + #FM08 + #FS00	4	4	E	FM	S	FM	E	FM	S	FM
#ES04 + #SR04 + #FM06 + #FS02	4	4	E	FM	S	FM	E	FM	S	FS
#ES04 + #SR04 + #FM04 + #FS04	4	4	E	FM	S	FS	E	FM	S	FS
#ES04 + #SR04 + #FM02 + #FS06	4	4	E	FM	S	FS	E	FS	S	FS
#ES04 + #SR04 + #FM00 + #FS08	4	4	E	FS	S	FS	E	FS	S	FS

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**Note:**

- E = ESCON (an ICE card), S = SCSI (an ICE card with code loaded for SCSI attach), FM = a fibre card (ICF card) with a Multi-mode GBIC installed, FS = a fibre card (ICF card) with a Single-mode GBIC installed.
- Both ICE2 and ICF cards have two ports. On ICE2 cards these ports must both be configured as either ESCON or as SCSI. An ICE2 card cannot have a mixed SCSI and ESCON configuration.
- Both clusters must have the same card configuration (balanced). (There cannot be a single card in a cluster.)
- In any even/odd slot pair, the legal combinations are:
  - both empty,
  - slot 0 occupied/slot 1 empty,
  - both occupied with the same card type, or
  - slot 1 has fibre (due to ISP code operation).

If the customer upgrades from fibre to fibre/SCSI or fibre/ ESCON, they have to move the fibre card to slot 1 and install the ICE2 card in slot 0.

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**READER'S  
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FORM**

Manual Name: \_\_\_\_\_

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Please check or fill in the items; adding explanations/comments in the space provided.

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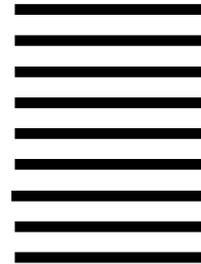
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