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FORCE COMPUTERS
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SPARC/CPSB-560/HD-AccKit

Installation Guide

P / N 217274 Revision AB
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Using this Guide

This Installation Guide is intended for users qualified in electronics or electrical engineering. Users must have a working understanding of Peripheral Component Interconnect (PCI), Compact Peripheral Component Interconnect (CPCI), and telecommunications.

Conventions

Notation	Description
57	All numbers are decimal numbers except when used with the notations described below
x	Generic use of a letter
n	Generic use of numbers
n.nn	Decimal point indicator is signaled
Bold	Character format used to emphasize a word
`Courier`	Character format used for on-screen output
`Courier+Bold`	Character format used to characterize user input
Italics	Character format for references, table, and figure descriptions
...	Repeated item

Notation	Description
Note:	No danger encountered. Pay attention to important information marked using this layout
Caution 	Possibly dangerous situation: slight injuries to people or damage to objects possible
Danger 	Dangerous situation: injuries to people or severe damage to objects possible

Revision History

Order No.	Revision	Date	Description
217274	AA	August 2002	First version
217274	AB	November 2002	Editorial changes

Other Sources of Information

For further information refer to the following documents:

Company	www.	Document
Force Computers	www.fci.com	SPARC / CPSB-560 Reference Guide (P / N: 216440)



Safety Notes

The text in this chapter is a translation of the “Sicherheitshinweise” chapter.

This section provides safety precautions to follow when installing, operating, and maintaining the SPARC / CPSB-560 / HD-AccKit.

We intend to provide all necessary information to install and handle the SPARC / CPSB-560 / HD-AccKit in this Installation Guide. However, as the product is complex and its usage manifold, we do not guarantee that the given information is complete. If you need additional information, ask your Force Computers representative.

The SPARC/CPSB-560/HD-AccKit has been designed to meet the standard industrial safety requirements. It must not be used except in its specific area of office telecommunication industry and industrial control.

Only personnel trained by Force Computers or persons qualified in electronics or electrical engineering are authorized to install, maintain, and operate the SPARC/CPSB-560/HD-AccKit. The information given in this manual is meant to complete the knowledge of a specialist and must not be taken as replacement for qualified personnel.

Installation

Electrostatic discharge and incorrect SPARC/CPSB-560/HD-AccKit installation and removal can damage circuits or shorten their life. Therefore:

- **Before installing or removing the SPARC/CPSB-560/HD-AccKit, read the “Action Plan” page 1-4.**
- **Before touching boards or electronic components, make sure that you are working in an ESD-safe environment.**
- **Before installing or removing an additional device or module, read the respective documentation**



EMC

The SPARC/CPSB-560/HD-AccKit has been tested on a board in a standard Force Computers system according to PCI specification and found to comply with the limits for a Class A digital device in this system, pursuant to part 15 of the FCC Rules respectively EN 55022 Class A. These limits are designed to provide reasonable protection against harmful interference when the system is operated in a commercial, business or industrial environment.

The SPARC/CPSB-560/HD-AccKit generates and uses radio frequency energy and, if not installed properly and used in accordance with this Installation Guide, may cause harmful interference to radio communications. Operating the system in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his own expense.

If boards are integrated into open systems, always cover empty slots.

Operation

While operating the board with installed SPARC/CPSB-560/HD-AccKit ensure that the environmental and power requirements are met.

Do not operate the SPARC/CPSB-560/HD-AccKit outside the specified environmental limits. High humidity and condensation may cause short circuits. Make sure the product is completely dry and there is no moisture on any surface before applying power. Do not operate the SPARC/CPSB-560/HD-AccKit below +5°C.

When operating the SPARC/CPSB-560/HD-AccKit in areas of electromagnetic radiation ensure that the CPU board is bolted on the CompactPCI system and the system is shielded by enclosure.

Make sure that contacts and cables of the CPU board cannot be touched while the board is operating.



Expansion

Check the total power consumption of all components installed (see the technical specification of the respective components).

Ensure that any individual output current of any source stays within its acceptable limits (see the technical specification of the respective source).

Only replace components or system parts with those recommended by Force Computers. Otherwise, you are fully responsible for the impact on EMC and the possibly changed functionality of the product.

Environment

Always dispose of old boards according to your country's legislation.





Sicherheitshinweise

Dieser Abschnitt enthält Sicherheitshinweise, welche bei der Installation, dem Betrieb und der Wartung des SPARC / CPSB-560 / HD-AccKit zu beachten sind. Beachten Sie zu Ihrem Schutz alle folgenden Warnhinweise und Anleitungen. Dieses Installationshandbuch enthält alle notwendigen Informationen zur Installation und zum Betrieb des SPARC / CPSB-560 / HD-AccKit. Da es sich um ein komplexes Produkt mit einer aufwendigen Bedienung handelt, kann keine Garantie dafür übernommen werden, dass die enthaltenen Informationen vollständig sind. Für weitere Informationen wenden Sie sich bitte an Ihren Vertreter der Firma Force Computers.

Das SPARC/CPSB-560/HD-AccKit erfüllt die gültigen industriellen Sicherheitsanforderungen. Dieses Produkt darf ausschließlich für Anwendungen innerhalb der Telekommunikationsindustrie und der industriellen Steuerung verwendet werden.

Lediglich von Force Computers eingewiesene oder im Bereich Elektrotechnik oder Elektronik qualifizierte Personen sind zur Installation, zum Betrieb und zur Wartung dieses Produktes befugt. Die in dieser Dokumentation enthaltenen Informationen sollen lediglich als Hilfestellung für entsprechend qualifiziertes Fachpersonal dienen. Keinesfalls kann es dieses ersetzen.

Installation

Elektrostatische Entladung und unsachgemäßer Ein- und Ausbau des SPARC/CPSB-560/HD-AccKit kann Schaltkreise beschädigen oder ihre Lebensdauer verkürzen. Beachten Sie deshalb die folgenden Punkte:

- **Lesen Sie vor Ein- oder Ausbau des SPARC/CPSB-560/HD-AccKit den Abschnitt “Action Plan” auf Seite Seite 1-4.**
- **Bevor Sie Boards oder elektronische Komponenten berühren, vergewissern Sie sich, dass Sie in einem ESD-geschützten Bereich arbeiten.**
- **Lesen Sie vor dem Ein- und Ausbau von zusätzlichen Geräten oder Modulen das zugehörige Benutzerhandbuch**



EMV

Das SPARC/CPSB-560/HD-AccKit wurde entsprechend der PCI Spezifikation auf einem Board in einem Force Computers Standardsystem getestet. Es erfüllt die für digitale Geräte der Klasse A gültigen Grenzwerte in einem solchen System gemäß den FCC-Richtlinien Abschnitt 15 bzw. EN 55022 Klasse A. Diese Grenzwerte sollen einen angemessenen Schutz vor Störstrahlung beim Betrieb des Boards in Gewerbe- sowie Industriegebieten gewährleisten.

Das SPARC/CPSB-560/HD-AccKit arbeitet im Hochfrequenzbereich und erzeugt Störstrahlung. Bei unsachgemäßem Einbau und anderem als in diesem Handbuch beschriebenen Betrieb können Störungen im Hochfrequenzbereich auftreten.

Warnung!
Dies ist eine Einrichtung der Klasse A. Diese Einrichtung kann im Wohnbereich Funkstörungen verursachen. In diesem Fall kann vom Betreiber verlangt werden, angemessene Maßnahmen durchzuführen.

Wenn Sie Boards in Systeme einbauen, schirmen Sie freie Steckplätze mit einer Blende ab.

Betrieb

Achten Sie darauf, dass die Umgebungs- und die Leistungsanforderungen während des Betriebs eingehalten werden.

Betreiben Sie das SPARC/CPSB-560/HD-AccKit nur innerhalb der angegebenen Grenzwerte für die relative Luftfeuchtigkeit und Temperatur, da durch hohe Luftfeuchtigkeit Kurzschlüsse entstehen können. Stellen Sie vor dem Einschalten des Stroms sicher, dass sich auf dem SPARC/CPSB-560/HD-AccKit kein Kondensat befindet und betreiben Sie das Produkt nicht unter 5°C.

Wenn Sie das Board in Gebieten mit elektromagnetischer Strahlung betreiben, stellen Sie sicher, dass das Board mit dem System verschraubt ist und das System durch ein Gehäuse abgeschirmt wird.

Stellen Sie sicher, dass Anschlüsse und Kabel des CPU-Boards während des Betriebs nicht berührt werden können.



Erweiterung

Beachten Sie den Gesamtstromverbrauch aller installierter Komponenten (siehe technische Daten der entsprechenden Komponente).

Vergewissern Sie sich, daß jeder individuelle Ausgangsstrom jedes Stromverbrauchers innerhalb der zulässigen Grenzwerte liegt (siehe technische Daten des entsprechenden Verbrauchers).

Benutzen Sie bei der Erweiterung ausschließlich von Force Computers empfohlene Komponenten und Systemteile. Ansonsten sind Sie für die Auswirkungen auf EMV und die möglicherweise geänderte Funktionalität des Produktes verantwortlich.

Umweltschutz

Alte Boards müssen stets gemäß der in Ihrem Land gültigen Gesetzgebung entsorgt werden.



1

Installation

Introduction

The IDE hard-disk accessory kit SPARC/CPSB-560/HD-AccKit provides a local mass storage device. It is installed on top of the SPARC/CPSB-560 board.

The accessory kit contains:

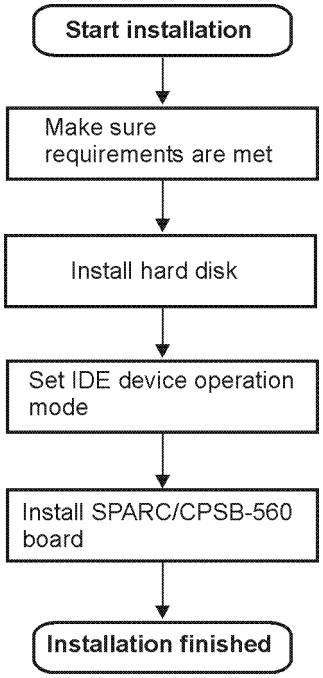
- 2.5'' hard disk (1x)
- Standoffs (4x)
- Screws, 2.5 mm (4x)
- Washers (4x)
- Ribbon cable (1x)

Check that all the items listed were shipped together with the accessory kit. If a component is missing, contact your local Force Computers representative.

Action Plan

To install the hard disk on the board and to prepare the board for further installation, the following steps are necessary and described in detail in the sections of this chapter.





Environmental Requirements

The environmental values are given for the SPARC/CPSB-560 board with installed hard disk and must be tested and proven in the used system configuration. The conditions listed below refer to the surroundings of the board within the user environment.

Note: Operating temperatures refer to the temperature of the air circulating around the board and not to the component temperature.

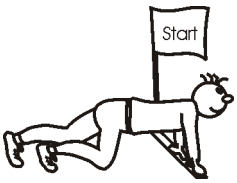
Table 1: *Environmental Requirements*

Requirement	Operating	Non-Operating
Temperature	+5°C to +45°C (may be further limited by type of hard disk)	–40°C to +65°C
Forced Air Flow	300 LFM	–
Temp. Change	+/– 0.3°C/min	+/– 3°C/min
Rel. Humidity	8% to 90% non-condensing at +40°C	5% to 95% non-condensing at +40°C
Altitude	–300 m to +3,000 m	–300 m to +12,000 m
Vibration 10 to 15 Hz 15 to 150 Hz	 2 mm amplitude 2 g	 5 mm amplitude 5 g
Shock	5 g/11 ms halfsine	15 g/11 ms halfsine

Hard-Disk Drive Installation

For successful installation of the SPARC / CPSB-560 / HD-AccKit, follow the instructions below.

Installation Procedure



Caution



Damage of board and hard disk
Before touching integrated circuits, make sure that you are working in an ESD-safe environment.

1. Remove CPU board from system rack according to CPU board's Installation Guide
2. If necessary, remove memory module from CPU board according to memory module Installation Guide
3. Screw four standoffs into mounting holes of hard-disk drive

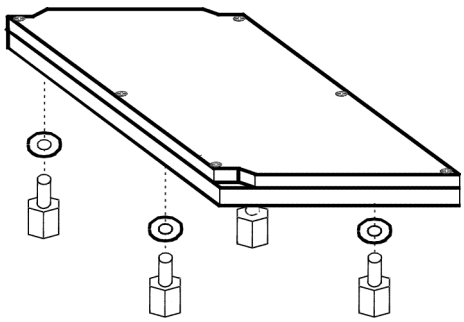


Figure 1: *Connecting Standoffs to Hard Disk*

4. Connect ribbon cable to hard disk connector

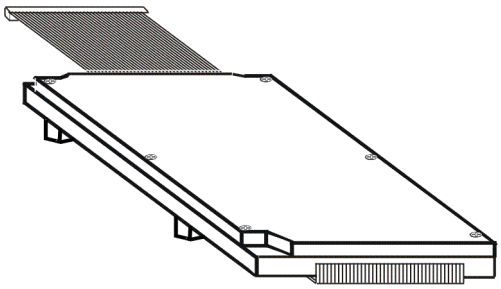


Figure 2: *Ribbon Cable, Connected to Hard Disk*

Note: Make sure not to bend any pins.

5. Connect ribbon cable to board's IDE connector and position it below the hard disk as shown in the figure above.

6. Connect ribbon cable to SPARC / CPSB-560 board.

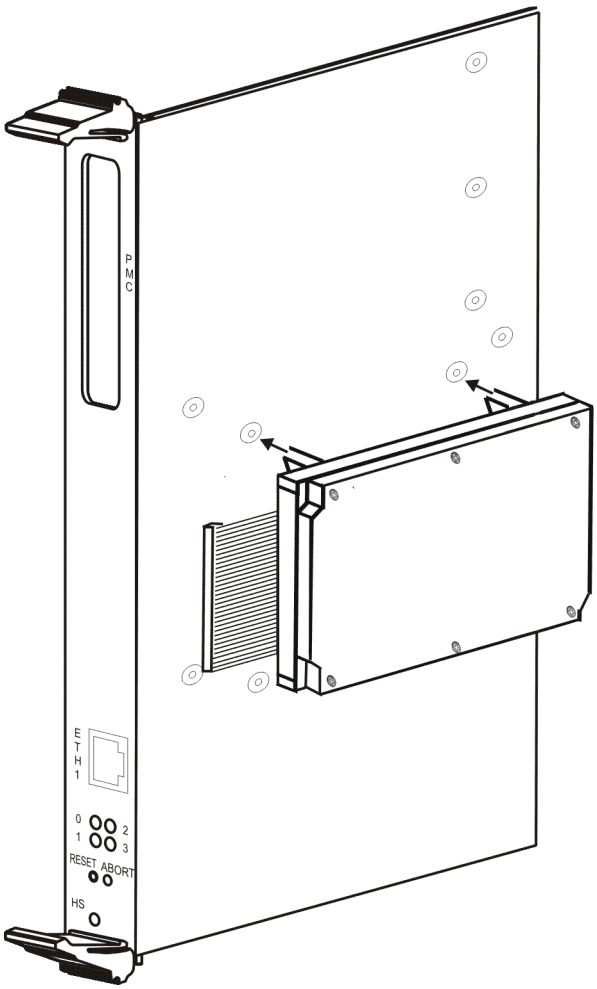
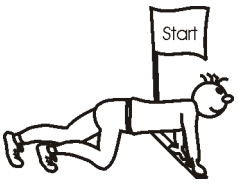


Figure 3: *Connecting Hard Disk Ribbon Cable to IDE Connector*

7. Place hard disk on board so that standoffs match mounting holes
8. Stick four screws through mounting holes of board
9. Fasten screws to standoffs



Removal Procedure



Caution



Damage of board and hard disk
Before touching integrated circuits, make sure that you are working in an ESD-safe environment.

1. Remove CPU board from system rack according to CPU board's Installation Guide

Note: When unfastening the screws be careful not to drop the hard disk.

2. Remove four screws fixing hard disk to board

Note: Make sure not to bend any pins

3. Pull ribbon cable connector carefully off the on-board IDE connector
4. Store hard disk and all removed components in a safe place as they may be needed again



Setting IDE Device Operation Mode

The SPARC / CPSB-560 / HD-AccKit is connected to the primary IDE bus of the SPARC / CPSB-560 board's IDE controller. One IDE bus is capable to support two IDE devices. IDE device 0 is referred to as master and IDE device 1 is referred to as slave.

When installing the SPARC / CPSB-560 / HD-AccKit the factory setting of the hard disk is master mode. If another IDE device is attached to the IDE bus, it has to be set to slave mode. This is usually done by jumpers or switches. For information on how to set the jumpers or switches, refer to the documentation delivered together with the device and to section "Switch Settings" in the *SPARC/CPSB-560 Installation Guide.*

Installing a SPARC/CPSB-560 Board with Accessory Kit

The settings of the SPARC / CPSB-560 / HD-AccKit and the SPARC / CPSB-560 board are now ready. Follow the guidelines described in the *SPARC/CPSB-560 Installation Guide* to install the board into your system.

Product Error Report

Product:	Serial No.:
Date Of Purchase:	Originator:
Company:	Point Of Contact:
Tel.:	Ext.:
Address:	
Present Date:	
Affected Product: ❑ Hardware ❑ Software ❑ Systems	Affected Documentation: ❑ Hardware ❑ Software ❑ Systems
Error Description:	

This Area to Be Completed by Force Computers:

Date:

PR#:

Responsible Dept.: ❑ Marketing ❑ Production

Engineering ➠ ❑ Board ❑ Systems

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