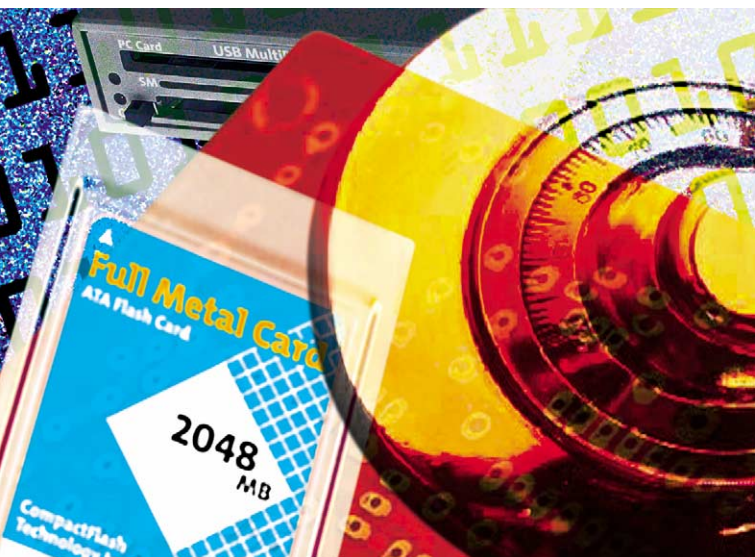




Specialist for Storage Technology



Pocket Guide english 2004

CopyStations

Services

Solid State Disks

Flash Card Drives

Flash Data

Storage Products

altec – your specialist for storage technology.

We develop high-tech products and custom solutions – just give us a call:

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Office hours

Monday to Friday from 8 am to 6 pm CET
and round-the-clock at
www.altec-computersysteme.com

Special offers

See www.altec-computersysteme.com/news/special.htm for information on current special offers

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Founded in 1986, altec has been making a name for itself with innovative technical solutions ever since. Following the boom in computers, altec's activities soon focused on the field of digital electronics. The former altec electronic GmbH was renamed to altec ComputerSysteme GmbH in 1992 and the company now concentrates on the **development** and **marketing** of **flash memory technologies** and **Solid State Disks**.



This sector has expanded continuously, and nowadays development work represents a large part of our business activities. altec now sells an **extensive range** of Flash Card products, Flash Card drives, Solid State Disks, CopyStations and provides CopyServices. From the development of customer-specified solutions for a wide range of applications through to technical support of turnkey industrial grade hardware and software systems, our engineers are ready to help you in all phases of system integration. In other words, we provide an **comprehensive technical support and design service** directly from the manufacturer.

Product range

◆ CopyStations & Services

altec offers two products for copying the content of your memory cards: the high-performance **High-Speed CopyStation** with exchangeable CardBoxes for 20 memory cards and the flexible **FlashCard CopyStation** with 10 PC Card slots. Mobile versions of these CopyStations allow you to make image copies with a notebook.



We offer **services relating to almost all aspects of mobile memory cards**. E.g. duplication of card images, individualisation of cards, labels and blisters to customer requirements.

◆ Solid State Disks

Our product range relating to Solid State Disks extends from **CompactFlash to IDE** adapters through **FlashDrives** from altec, SanDisk

and Memtech to the altec **SCSI DoubleDrive** and the **High-Speed FlashBox** for maximum performance in the flash segment. We are sole distributors in Germany, Austria and Switzerland for solid state drives from **Memtech** of California.

◆ Flash Card Drives

Our Flash Card Drives allow Flash memory media to be used for mobile data storage with nearly any type of computer – whether desktop PC or industrial computer – and **guarantee rapid and easy data exchange**.



We have realised a large number of customised versions, which are successfully in use.

◆ Flash memory products

altec started selling the **SanDisk memory products** as early as 1991, and is now one of the leading SanDisk distributors in Europe. The range of memory products extends from 2.5" FlashDrive through PC Card, CF Card, MultiMediaCard to SD Card and miniSD.

Where demands on storage media are toughest, our continuously improved **Full Metal Cards** have been proving themselves for years. Now also as cost-effective Full Metal Card CF Technology inside.



Applications

Our products have a **very wide range of applications**, including road transport and medical technology, production engineering, telecommunications, measurement systems, environmental engineering, aerospace (MIL technology) and all kinds of mobile applications such as mobile phones, digital cameras and data acquisition devices.

Global presence

Strategic alliances and sales offices and production sites throughout Europe and in the USA have ensured an international market presence which is effective both for us and for our customers. Numerous well-known international companies trust us to market their entire product range.

Guaranteed: service and quality

◆ From 24 months to 8 years warranty

We trust the quality and performance of our products, and so we give a minimum of 24 months warranty on all components and complete systems from altec ComputerSysteme GmbH.

◆ Test certificates for our products

Products from altec ComputerSysteme GmbH meet the European Union (EU) regulations for electromagnetic compatibility (EMC). The EMC testing and CE certification of our products is carried out by an independent, approved EMC testing laboratory.

◆ Membership in standards organizations

altec is a member of the relevant international standards organizations such as the SD Card Association. The aim of our membership in this committee is to actively participate in the development and standardization of new technologies, and in particular to apply our know-how and experience to the development of new SD Card applications.

◆ Quality control

Our customers benefit from a mature quality control system which is based on more than 15 years of experience in the development and manufacturing of our products. Since 2001, altec has applied the guidelines in DIN EN ISO 9001:2000 to its business activities and expects to be fully certified by 3rd quarter 2004.

◆ Service hotline

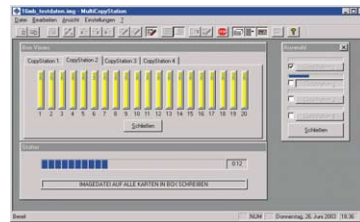
When you buy an altec product, you are automatically assured the best possible service. We can give you individual advice on compatibility and configuration and our support specialists can give you qualified assistance on our entire product range.

◆ Service packages and service tools

Our optional service packages give you additional product security. You can choose from a range of modular service packages and service tools which are specifically tailored to your requirements. Our sales department can prepare a quotation to meet your needs.

Duplication, verification and modification of data

altec has a suitable product for copying data images to flash memory media for nearly all applications, and is a **worldwide technological leader** in this sector.



Our systems are used by manufacturers of flash memory media for **quality control** and to **verify and modify** the data which is stored. Our flexible and high-performance hardware

design with VHDL technology consisting of 21 FPGA and the copying software which we developed in-house allows us to make custom modifications for **special applications**. Don't hesitate to ask our specialists if you have any special needs.

Our high-speed solution

The **High-Speed CopyStation** uses a very flexible hardware design which allows high-speed **image copying** to the following flash memory media such as **SD Card & MultiMediaCard, miniSD, RS-MMC** and **CompactFlash Card** simply by exchanging the CardBox. Please get in touch with us if you are looking for a special solution.



The High-Speed CopyStation is a **complete system** consisting of a pre-configured PC **containing up to four 5.25" drives** with one removable CardBox per drive. Also available is a mobile CopyStation for connecting to a notebook.

Flexibility and mobility with the same system

Specifically developed for low-cost duplication of data onto a range of storage media is the **FlashCard CopyStation**. The system is availa-

CopyStations & CopyService



ble with up to **10 PC Card slots** and is compatible with all flash memory media for which a PC card adapter is available. This very flexible solution is also available as a **mobile version as an external drive with 2 PC card slots**. This allows you to create image copies of flash memory media on site using a notebook computer.

Our memory card services

In addition to **duplication of card content**, we also offer a service for the programming of individual serial numbers or special codes by **patching the cards**. We also provide memory cards **with individual designed labels** and can optionally package your storage media in standard or customised blisters. Please ask us for a price quotation for your individual requirements.

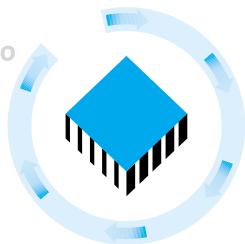
Special systems for the **automatic insertion (feeding) of memory cards** can be used to duplicate large numbers of cards (batches of >20,000 cards). Please get in contact if you want more information.



Duplication of card images

Inserting into blister packs

Blister inlay production



Inserting into jewel cases

Customizing of Flash Cards

Label design & application



High-Speed CopyStation for SD/MMC, miniSD, RS-MMC, CF



Complete system consisting of a pre-configured PC containing up to four 5.25" drives with one removable CardBox per drive; high-speed image copies to 20 memory cards per drive; mobile version with an external drive connected to a Notebook PC available. CardBoxes available for these memory cards: SD Card & MultiMediaCard, miniSD, RS-MMC and CompactFlash Card. Software option allows you to test and modify memory media; provided with standard software and drivers for Windows 2000 or XP.

	Item no.
1-Unit High-Speed CopyStation for SD Card & MMC	31AL144E1
2-Unit High-Speed CopyStation for SD Card & MMC	31AL144AE1
4-Unit High-Speed CopyStation for SD Card & MMC	31AL144BE1
High-Speed CopyStation Mobile	31AL144M
CardBox for SD Card & MultiMediaCard	31AL1371
CardBox for miniSD	31AL1581
CardBox for RS(Reduced Size)-MMC	31AL1561
CardBox for CompactFlash Card	31AL1571



FlashCard CopyStation



Duplication of memory cards using PC Card drives; complete system consisting of a pre-configured PC, ten PC Card slots and altec copy software under Windows 2000 or XP; mobile version with two PC Card slots in an external drive for image copies using a Notebook PC.

FlashCard CopyStation with 10 PC Card slots	31AL136
FlashCard CopyStation Mobile with 2 PC Card slots	31AL136M
PC Card Adapter for different memory cards	*

* Please ask!

Custom developments

Not only standard solutions – Custom developments

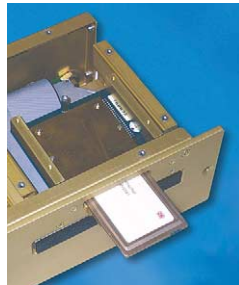
In addition to our standard product range we can develop custom **hardware and software solutions** for a wide range of industrial applications. Our experience when developing special solutions is based on many years of cooperation with customers from the branches of telecommunication, transport, military and environ-



mental technology, the printing industry, automation and hardware and software manufacturers.

Our engineers can develop **solid state memory solutions** to your specifications using state-of-the-art technology.

We can develop **custom drives** for a range of operating systems and hardware interfaces and devices for special operating environments. In addition, we can develop turnkey **applications, controllers, drivers** and other **software components** to match your existing hardware.



As a result of our many years of experience with a wide range of customer needs and system constellations, we can provide skilled advice, project planning and implementation at an **attractive price/performance ratio**. Please get in contact for more information!

altec ComputerSysteme GmbH is member of the



Solid State Disks

Mechanically insensitive storage solutions

As one of the pioneers of technically mature storage solutions, altec was **already** manufacturing bootable Silicon Disks **during the 80s**. In contrast to conventional storage technologies, the data is stored on semi-conductor chips.



altec now manufactures a **wide range of Solid State Disks** with different formats and footprints, technologies, interfaces and storage capacities.

What are Solid State Disks?

The common feature of all Solid State Disks is that the **data is stored on semi-conductor chips**. Solid State Disks are **insensitive** to shock, vibration, temperature effects and extreme air pressure changes and are highly resistant to EMI and ESD.

Solid State Disks do not have sensitive rotating components. They are totally silent in operation and have a low current consumption. You can write, read and delete the data just **like a conventional hard disk**. Mechanical hard disks in mobile systems and industrial computers can be replaced by pin-compatible Solid State Disks.

In addition to complete drives, we manufacture adapters which can be fitted with CompactFlash Cards to provide rugged storage solutions. The Solid State Disks are provided **with IDE or SCSI interfaces** and are available in the following formats: 1.3", 1.8", 2.5" and 3.5".





High-Speed FlashBox

Solid state disk in external 2.5" metal case with FireWire (IEEE 1394) interface. Continuous write speeds of ≥ 25 MB/sec.; storage capacities of up to 8 GByte at present; for all operating systems with FireWire support; from Q3/2004 also with USB 2.0.

High-Speed FlashBox 8 GByte

Other storage capacities or interfaces



Item no.

25AL122-8

*



2.5" SCSI DoubleDrive

Solid State Disk in 2.5" format with two CF Cards Type I; high transfer rates through alternate addressing (RAID 0) of CF Cards; 50-pin SCSI-2 interface, 2 mm pin spacing, commercial temperature range 0°C to $+70^{\circ}\text{C}$ (operating), on request industrial temperature range -40°C to $+85^{\circ}\text{C}$ (operating); 5 V.

64 MByte 2.5" SCSI DoubleDrive

128 MByte 2.5" SCSI DoubleDrive

256 MByte 2.5" SCSI DoubleDrive

512 MByte 2.5" SCSI DoubleDrive

1024 MByte 2.5" SCSI DoubleDrive

2048 MByte 2.5" SCSI DoubleDrive

4096 MByte 2.5" SCSI DoubleDrive



30AL212

30AL213

30AL214

30AL225

30AL229

30AL219

30AL230



3.5" SCSI DoubleDrive

As 2.5" SCSI DoubleDrive, but in 3.5" format by insertion in an adapter; 50-pin SCSI-2 interface, 2.54 mm pin spacing.

3.5" Adapter for 2.5" SCSI DoubleDrive



30AL221

* Please ask!



3.5" IDE DoubleDrive

Solid State Disk in 3.5" format for two CompactFlash Cards, Type I or II. Each CF Card behaves like a separate IDE FlashDisk. With locking catch to hold the card in place; optional extended temperature range; 40-pin IDE connector with 2.54 mm pin spacing; for all operating systems with IDE support.

3.5" IDE DoubleDrive



Item no.

35AL020



CF-IDE (40-pin) Adapter for CompactFlash Type I

IDE Adapter to integrate CompactFlash Cards Type I; DMA-capable when using appropriate CompactFlash cards.

CF Type I to IDE with 40-pin male connector for standard IDE cable, DMA-capable

CF Type I to IDE with 40-pin female connector for piggy back connection to CPU/controller card, DMA



30AL2051

30AL2041



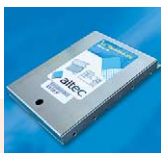
1.3" / 1.8" CompactFlash Adapter for IDE (44-pin)

Adapter in 1.8" or 1.3" format with predefined rupture point on the board. IDE interface with 44-pin male connector, 2 mm grid; for CF Type I.

1.3"/1.8" CompactFlash Type I Adapter



30AL-206



2.5" FlashDisk IDE

FlashDrive as rugged replacement for IDE hard disk in standard 2.5" format. Overall height 9.3 mm, 44-pin IDE connector with 2 mm grid. Temperature range from 0°C to +70°C (operating), 3,3V and 5V, DMA-capable.

32 MByte 2.5" FlashDisk IDE	25SSD31
64 MByte 2.5" FlashDisk IDE	25SSD61
128 MByte 2.5" FlashDisk IDE	25SSD121
256 MByte 2.5" FlashDisk IDE	25SSD251
512 MByte 2.5" FlashDisk IDE	25SSD5121
1024 MByte 2.5" FlashDisk IDE	25SSD1021
2048 MByte 2.5" FlashDisk IDE	25SSD2041

Version available for an extended industrial temperature range: -40°C to +85°C (operating)

Item no.



2.5" FlashDrive Industrial Grade

FlashDrive in standard 2.5" format, overall height 9,6mm, 44-pin IDE connector with 2 mm grid, I-Grade product (see page 25). Temperature range from 0°C to +70°C (operating), 3,3V and 5V, DMA-capable.

32 MByte 2.5" FlashDrive Industrial Grade	25SD32A
64 MByte 2.5" FlashDrive Industrial Grade	25SD64A
128 MByte 2.5" FlashDrive Industrial Grade	25SD128A
256 MByte 2.5" FlashDrive Industrial Grade	25SD256A
512 MByte 2.5" FlashDrive Industrial Grade	25SD512A
1024 MByte 2.5" FlashDrive Industrial Grade	25SD102A
2048 MByte 2.5" FlashDrive Industrial Grade	25SD204A
4096 MByte 2.5" FlashDrive Industrial Grade	25SD409A

Version available for an extended industrial temperature range: -40°C to +85°C (operating)

*

* Please ask!

Memtech Solid State Drives

Item no.

The Solid State Drives from Memtech (USA) are rugged and ultra reliable for harsh environments and guaranteed for life.

High maximum capacities are available with an excellent price/performance ratio.

All drives are optionally available for an industrial temperature range: -40°C to +85°C (operating).

The AT2550 Wolverine is also available for the military temperature range -55°C to +125°C (operating).

Other memory capacities as shown below are also available. Please ask for further details.

*



AT1820 Pocket Rocket: 1.8" IDE Solid State Drive

Ultra reliable Solid State Drive in 1.8" format. 44-pin IDE connector, 2 mm grid, 0°C to +70°C (operating); 5V.

512 MByte Pocket Rocket - 1.8" IDE	31MT512
1024 MByte Pocket Rocket - 1.8" IDE	31MT10



AT2525 Booster Rocket: 2.5" IDE Solid State Drive

Solid State Drive in 2.5" format. 44-pin IDE connector with 2 mm grid, 0°C to +70°C (operating); 5V.

2048 MByte Booster Rocket - 2.5" IDE	33MT20
3072 MByte Booster Rocket - 2.5" IDE	33MT30

* Please ask!



AT2550 Wolverine:

2.5" IDE UDMA-66 Solid State Drive



Very fast, high-capacity solid state drive in 2.5" format. Top-of-the-range product with UDMA-66 interface, guaranteed 8 million write/erase cycles and cached write/read speeds of 20 or 26 MB/sec.; 44-pin IDE connector, 2 mm grid; normal temperature range 0°C to +70°C (operating), optional for industrial -40°C to +85°C or military temperature range -55°C to +125°C (operating), 5V.

	Item no.
1024 MByte Wolverine – 2.5" IDE UDMA-66	35MT10
2048 MByte Wolverine – 2.5" IDE UDMA-66	35MT20
4096 MByte Wolverine – 2.5" IDE UDMA-66	35MT40
8704 MByte Wolverine – 2.5" IDE UDMA-66	35MT87
16384 MByte Wolverine – 2.5" IDE UDMA-66	35MT163
27904 MByte Wolverine – 2.5" IDE UDMA-66	35MT279



AT3520 Mega Rocket:

3.5" IDE Solid State Drive



Solid State Drive in 3.5" format with 4 GByte maximum capacity. 40-pin IDE connector, 2.54 mm grid, commercial temperature range from 0°C to +70°C (operating); 5V.

256 MByte Mega Rocket – 3.5" IDE	39MT256
512 MByte Mega Rocket – 3.5" IDE	39MT512
1024 MByte Mega Rocket – 3.5" IDE	39MT10
2048 MByte Mega Rocket – 3.5" IDE	39MT20
3072 MByte Mega Rocket – 3.5" IDE	39MT30
4096 MByte Mega Rocket – 3.5" IDE	39MT40

New 3.5" IDE solid state drives AT3525 (43MTxx) and AT3550 (45MTxx) available from Q2/2004 with technical specifications as AT2525 and AT2550

* Please ask!



SC2500 Stinger:

2.5" SCSI Solid State Drive



Solid State Drive in 2.5" format with over 9 GByte maximum capacity. 50-pin SCSI-2 male connector strip, 2 mm grid, 0°C to +70°C (operating); 5V.

1024 MByte Stinger – 2.5" SCSI-2	52MT10
2048 MByte Stinger – 2.5" SCSI-2	52MT20
4096 MByte Stinger – 2.5" SCSI-2	52MT40
8192 MByte Stinger – 2.5" SCSI-2	52MT81
9216 MByte Stinger – 2.5" SCSI-2	52MT92



SC35 Mastodon:

3.5" SCSI Solid State Drive



Solid State Drive in 3.5" format with Fast SCSI interface. 50-pin SCSI-2 male connector strip, 2 mm grid, 0°C to +70°C (operating); 5V.

256 MByte Mastodon – 3.5" SCSI-2	56MT256
512 MByte Mastodon – 3.5" SCSI-2	56MT512
1024 MByte Mastodon – 3.5" SCSI-2	56MT10
2048 MByte Mastodon – 3.5" SCSI-2	56MT20
4096 MByte Mastodon – 3.5" SCSI-2	56MT40
8192 MByte Mastodon – 3.5" SCSI-2	56MT81
13824 MByte Mastodon – 3.5" SCSI-2	56MT138

Flash Card Drives

Industrial drives for mobile storage media

Our Flash Card Drives are easily to retrofit and allow your system to support a wide range of **Flash Card storage media** and in some cases **I/O PC Cards** too such as WLAN, LAN, fax or modem cards.

The right altec Flash Card Drive for any application gives you flexibility with integration and interfacing

Our industry-standard flash card drives are available in different types and versions to enable **integration into your system**:

- ◆ internal drive with a 3.5" chassis
- ◆ internal drive as a plug-in card
- ◆ external drive in a desktop case
- ◆ external drive to IP54 or IP65 specifications
- ◆ internal and external drive as rugged version with, for example, metal guide rails or for an extended temperature range.

A **wide range of standard interfaces** are available such as IDE, USB, SCSI, Centronics, RS232/V24 together with bus systems like PCI, PC/104 and ISA.

Support for most popular operating systems

Depending on the model, our PC Card Drives are compatible with DOS, Windows 3.x, Windows 95/98 and ME, Windows NT, 2000 and XP right through to OS/2, Linux, Unix and Mac OS.

Custom designs

As a specialized manufacturer of drives for flash memory media, we can develop custom products to meet your requirements. For example, we can develop special **drivers, software** and **firmware modifications**, drives as **rugged versions** or drives up to **IP68 specifications**. We can also manufacture our drives with **custom interfaces** or in **individual cases and/or front panel colors**.



EasyLite CF & SD Drives: Flash Card Drives for IDE



Active Flash Card Drives (IDE) for CompactFlash Card (Type I + II) or SD Card & MMC in standard 3.5" case. 40-pin IDE connector; without driver: Windows 95/98, ME, 2000, XP; driver for Windows NT; bootable if it is supported by the BIOS of the host computer.

EasyLite CF Drive for IDE interface

22AL120G

EasyLite SD Drive for IDE interface

22AL122G

Optional temperature range from -40°C to $+85^{\circ}\text{C}$; EasyLite CF Drive as rugged version

*

EasyDrive: PC Card Drive for IDE



PC Card drive with 3.5" standard internal drive dimensions. IDE interface; double slot for SRAM and ATA PC Cards (Type I, II or III) and Type III HDDs; 2 x Type II or 1 x Type III memory media; provided with optimized drivers for Win 95/98, ME, NT, 2000 and XP; also compatible with DOS, Windows 3.x, OS/2.

EasyDrive for IDE interface

22AL-101



Rugged IDE Card Drive: PC Card Drive for IDE



Rugged PC Card Drive with high mechanical stability due to metal guide rails and compact design for rough conditions. 44-pin IDE interface; single slot for Type I, II or III SRAM and ATA Flash PC Card memory media; compatible with DOS, Windows 3.x, 95/98, ME, NT, 2000, XP and OS/2.

Rugged IDE Card Drive for IDE interface

22AL-104

Custom versions

*

* Please ask!

altec ID Drive:

**PC Card Drive
for SCSI-2 (external)**



PC Card Drive in industrial-strength metal dektop case with SCSI-2 interface (50-pin, 8 bit). Single slot for SRAM and ATA Flash PC Cards (Type I, II or III); compatible with DOS, OS/2, Windows 95/98, ME, NT, 2000, XP, Linux, Unix, Mac OS; direct memory access (DMA), high speed data transfer – up to 10 MB/s (synchronous) or 5 MB/s (asynchronous).

ID Drive for SCSI-2 (external)

Item no.

25AL120

altec i-Drive:

**PC Card Drive
for SCSI-2 (internal)**



3.5" internal drive with SCSI-2 interface (50-pin, 8 bit). Double slot for SRAM and ATA Flash PC Cards, 2 x Type I or II or 1 x Type III; see ID Drive for other specs.

i-Drive for SCSI-2 (internal)

25AL101

altec

**Rugged SCSI Drive IP65:
PC Card Drive for SCSI-2**



PC Card Drive in industrial-strength metal dektop case with SCSI-2 interface (8 bit); Single slot for SRAM and ATA Flash PC Cards (Type I, II or III); compatible with all operating systems with SCSI support; direct memory access (DMA).

Rugged SCSI Drive IP65 for SCSI-2 (external)

25AL118A

altec

**USB MultiDrive 5 for
USB 2.0 (internal/external)**



Internal or external drive for all popular Flash memory cards.

USB 2.0 High speed interface; five different slots for ATA PC Cards, CF Type I + II, Smart Media, Multi-MediaCard or SD Card, Memory Stick; xD-Cards compatible by using appropriate adapter; compatible with all operating systems with USB support.

USB MultiDrive 5 for USB 2.0 internal

25AL140

USB MultiDrive 5 for USB 2.0 external grey

25AL142G

USB MultiDrive 5 for USB 2.0 external black

25AL142S

Custom versions

*

altec USB ATA Drive:

PC Card Drive for USB 1.1



PC Card Drive in industrial-strength rugged metal dektop case with USB 1.1 interface. Single Slot for ATA Flash PC Cards (Type I, II or III); optimized drivers for Windows 98, ME, 2000 and XP; optional versions with IP54 specifications or in individual colours or internal version available on request.

USB ATA Drive for USB 1.1 (external)

22AL115G

Custom versions

*

altec USB CF Drive:

CF Card Drive for USB 1.1



CompactFlash Card drive in industrial-strength rugged metal dektop case with USB 1.1 interface. Single slot for CF Type I + II; for other specs see USB ATA Drive.

USB CF Drive for USB 1.1 (external)

22AL118GS

Custom versions

*

* Please ask!

altec PCI Drive II:
PC Card Drive for PCI bus

3.5" internal PC Card Drive incl. PCI controller card. Double slot for 2 x Type II or 1 x Type III PC Card memory media and I/O PC Cards (WLAN, LAN, fax, modem). Windows 2000 SP3 and XP compatible using drivers contained in operating system; also for Windows NT with optional software.



Item no.

PCI Drive II for PCI bus	22AL123
APSoft CardWare 7.0 for Windows NT 4.0	21AL13351

altec PCI CardDrive:
PC Card Drive as
plug-in card for PCI bus

Double slot for 2 x Type II or 1 x Type III SRAM, PC Card memory media or I/O cards like WLAN, LAN, fax or modem cards. PCI CompactFlashDrive with single slot for 1x CF Type I or II. Windows 2000 SP3 and XP compatible; also for Windows NT with optional software.



PCI CardDrive as plug-in card for PCI bus	35AL001
PCI CompactFlashDrive as plug-in card for PCI bus	35AL002
APSoft CardWare 7.0 for Windows NT 4.0	21AL13351

altec PC/104 Drive:
PC Card Drive for PC/104

PC Card Drive as an industrial-strength extension module for the 16-bit PC/104 system bus. Double slot for SRAM and PC Cards, 2 x Type I or II or 1 x Type III; drivers for Windows 95/98, ME, NT, 2000, XP and OS/2.



PC/104 Drive for PC/104 bus	19AL-111
PC/104 Drive as stacked version	19AL-114

Software

Software for Flash Card Drives

CardAccess: Provides support for EasyDrive, Rugged IDE Card Drive and PC/104 Drive under DOS to access binary data on PC Cards which do not have a DOS file structure.

◆ Evaluation software (license for max. 3 drives)	24AL-101
◆ Single license (only with additional Evaluation software)	24AL-102
◆ Company license (for unlimited drives)	24AL-103

ATAMAINT: DOS utility program for testing, initialization, diagnosis and maintenance of PC Cards (e.g. SanDisk SDP3B-xx) and IDE FlashDrives (e.g. SanDisk SD25B-xx).

APSoft CardWare: PC Card software (Socket Services for all leading PC Card controllers, extensive Card Service support); compatible with all PC Cards which meet the PC Card standard.

APSoft CardWare for DOS Rel. 2.5G	21AL-112
APSoft CardWare 7.0 for Windows NT 4.0	21AL13351

Developers Toolkits

Developers toolkit for integration of DOS FAT 16 formatted memory cards into customer-specific systems; delivered as Ansi C source code.

altec DOS Filesystem Toolkit	70065
altec ATA Developers Toolkit	70067
altec MMC Developers Toolkit	70123
altec SD Developers Toolkit	70177

Adaptations to customer-specific hardware environments on request

* Please ask!

Flash memory media from SanDisk

PC Card, CompactFlash Card, SD Card and MultiMediaCard

altec has been selling flash memory media from the American market leader **SanDisk since 1991**. We are now one of the leading suppliers of SanDisk products in the European market place. We can also supply the Standard and/or Industrial Grade versions with an **extended temperature range** of -40°C to 85°C (operating). In addition, our **Full Metal Cards** are available in four different versions **for the highest environmental demands**.



SanDisk flash products presently use 32-bit controllers and 1-gigabit NAND flash memory module, manufactured with 13 μm process technology.

What are the advantages of flash?

Instead of conventional mechanical rotating drives, **flash memory media use flash semi-conductors** to store the data. This leads to important benefits:

- ◆ insensitive to shock, vibration, temperature changes and moisture
- ◆ silent operation
- ◆ low current consumption
- ◆ no moving parts which can wear out
- ◆ the data is buffered without using a battery

Advantages of SanDisk flash memory cards

- ◆ SanDisk products are supported by all popular operating systems
- ◆ SanDisk PC Cards, CF Cards and 2.5" FlashDrives support both 3.3 Volt and 5 Volt operation and can be simply swapped between 3.3V and 5V systems

- ◆ All SanDisk products have a highly sophisticated error correction system
- ◆ Worldwide compatibility through standardization
- ◆ All SanDisk PC Cards and CompactFlash Cards support True IDE mode and can be operated just like a hard disk

«Industrial Grade» – the ATA Flash product line for industrial use

SanDisk has been manufacturing compact flash media for many years and has now released an industrial grade line with significantly **improved specifications** to meet special requirements in industrial applications.

This special I-Grade line is available as PC Cards, CF Cards, SD Cards and 2.5" FlashDrives and is characterized by e.g. an **extended life time** with more than 2 million guaranteed write/delete cycles per block compared to 300,000 for SanDisk Standard Grade storage products.

With some models, the **shock resistance** has been doubled too and the **write and read speed** has substantially increased. The data integrity has also been improved by extending the **ECC** from 1 bit to **4 bits**.

The reliability has been increased from 1 million hours MTBF for the standard industrial products to **>3 million hours MTBF** for I-Grade. Each individual I-Grade memory card or 2.5" FlashDrive undergoes a test. SanDisk gives a 7 year warranty for I-Grade products.

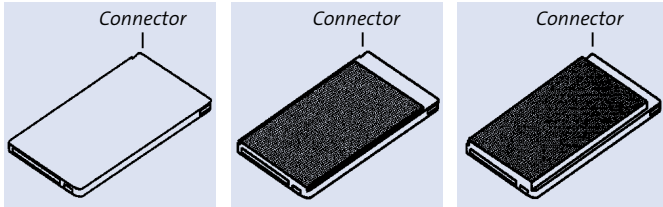
In addition, the I-Grade products are provided with serial number, bar code and test date and full traceability is ensured by a **Web Tracking Tool**.



PC Cards

What are PCMCIA PC Cards?

The PCMCIA standard describes e.g. the physical dimensions, electrical specifications and the software architecture of PC Cards. Three case formats are defined. The footprint of all three types is 54 x 85,6 mm and all of them use the same 68-pin connector.



PCMCIA PC Card Type I
height 3,3 mm

PCMCIA PC Card Type II
height 5,0 mm

PCMCIA PC Card Type III
height 10,5 mm

SanDisk SDP3B-xx-201-80: PC Card Industrial Grade

ATA Flash memory PC Card Type II and True IDE, standard temperature range 0°C to +70°C (operating); optional with extended industrial temperature range -40°C to 85°C (operating) available; 3,3 V and 5 V.



	Item no.
16 MByte PC Card Industrial Grade	12SD16A
32 MByte PC Card Industrial Grade	12SD32A
64 MByte PC Card Industrial Grade	12SD64A
128 MByte PC Card Industrial Grade	12SD128A
256 MByte PC Card Industrial Grade	12SD25A
512 MByte PC Card Industrial Grade	12SD512A
1024 MByte PC Card Industrial Grade	12SD102A
2048 MByte PC Card Industrial Grade	12SD204A
4096 MByte PC Card Industrial Grade	12SD409A

altec 15DLxx:

Full Metal Card Compact-Flash Technology inside



CF Technology inside: ATA Flash memory PC Card Type II in rugged full metal case (V2A stainless steel), protection against EMI and ESD, corrosion proof, resistant to bending and compression stress; temperature range 0°C to +70°C (operating); 3,3V and 5 V; 8 years warranty.

32 MByte Full Metal Card CF Technology inside	15DL32
64 MByte Full Metal Card CF Technology inside	15DL64
128 MByte Full Metal Card CF Technology inside	15DL128
256 MByte Full Metal Card CF Technology inside	15DL256
512 MByte Full Metal Card CF Technology inside	15DL512
1024 MByte Full Metal Card CF Technology inside	15DL1024
2048 MByte Full Metal Card CF Technology inside	15DL2048

altec 13DLxxGP:

Full Metal Card Industrial Grade IP54



Industrial version IP54: V2A stainless steel case; dust proof due to special connector; proof against water splashes, with extended temperature range from -40°C to +85°C (operating); 3,3V and 5 V; 8 years warranty.

32 MByte Full Metal Card I-Grade IP54	13DL32GP
64 MByte Full Metal Card I-Grade IP54	13DL64GP
128 MByte Full Metal Card I-Grade IP54	13DL128GP
256 MByte Full Metal Card I-Grade IP54	13DL25GP
512 MByte Full Metal Card I-Grade IP54	13DL512GP
1024 MByte Full Metal Card I-Grade IP54	13DL102GP
2048 MByte Full Metal Card I-Grade IP54	13DL204GP
4096 MByte Full Metal Card I-Grade IP54	13DL409GP

**Full Metal Card
Industrial Grade IP68**

Industrial version IP68: like IP54, but dust proof and water proof to 1 meter immersion depth (non-operating); 3.3V and 5V; 8 years warranty.



Item no.

32 MByte Full Metal Card I-Grade IP68	13DL32G68
64 MByte Full Metal Card I-Grade IP68	13DL64G68
128 MByte Full Metal Card I-Grade IP68	13DL128G68
256 MByte Full Metal Card I-Grade IP68	13DL25G68
512 MByte Full Metal Card I-Grade IP68	13DL512G68
1024 MByte Full Metal Card I-Grade IP68	13DL102G68
2048 MByte Full Metal Card I-Grade IP68	13DL204G68
4096 MByte Full Metal Card I-Grade IP68	13DL409G68

**Full Metal Card
Industrial Grade Military**

Hermetic Military: Bronze alloy case (CuNi9SN₂); suitable for aerospace; meets MIL specs for vacuum, vibration and shock (MIL-STD 202 F, Table 213-1/Test F, 310C); corrosion proof; fungus resistant; can be submerged to 30 m (non-operating), absolutely dust proof, with extended temperature range from -40 °C to +85 °C (operating); 3.3V and 5V; 2 years warranty.



Item no.

32 MByte Full Metal Card I-Grade Military	13DL32GM
64 MByte Full Metal Card I-Grade Military	13DL64GM
128 MByte Full Metal Card I-Grade Military	13DL128GM
256 MByte Full Metal Card I-Grade Military	13DL25GM
512 MByte Full Metal Card I-Grade Military	13DL512GM
1024 MByte Full Metal Card I-Grade Military	13DL102GM
2048 MByte Full Metal Card I-Grade Military	13DL204GM
4096 MByte Full Metal Card I-Grade Military	13DL409GM

For all Full Metal Cards:
customer specific PC Card labels (minimum order quantity 100 Full Metal Cards)

*

* Please ask!

CompactFlash Cards

What are CompactFlash Cards?

The CompactFlash standard was developed in **1994** by **SanDisk**. It uses the same flash technology as the ATA Flash PC Cards. With CF



Cards, **data is transferred using the ATA protocol over 50 pins** instead of 68 pins as in the PC Cards.

The dimensions of CompactFlash Cards Type I offered by us are 36.4 x 42.8 x 3.3 mm. Microdrive mini hard disks and some high-capacity flash cards have a

CF Card Type II form factor with a greater thickness (overall height of 5.0 instead of 3.3 mm).

CompactFlash Cards are now used in a very **wide range of devices**.

In industry they are used e.g. in mobile measuring equipment, industrial PCs, single board computers, as on board memory expansion or in PLCs. In the commercial sector they are used in Pocket PCs, PDAs, MP3 players, digital dictating machines and in a large number of digital cameras.



A **PC Card adapter** allows **CompactFlash Cards** to be used in any PC Card Type II slot, such as that found in nearly all **notebook PCs** and all **altec Flash Card Card drives**.

SanDisk and **altec**

Adapter CompactFlash to PC Card Type II slot

Adapter for CompactFlash Cards or Microdrives for use in a PC Card Type II slot.



	Item no.
SanDisk CF Type I Adapter for PC Card Type II slot	15SD09
altec CF Type I Adapter for PC Card Type II slot	20STI31
altec CF Type I and II Adapter for PC Card Type II slot	25AL125

SanDisk SDCFB-xx-201-00:

CompactFlash Card Standard Grade Type I



Dimensions: 36.4 x 42.8 x 3.3 mm, with 50-pin connector, ATA interface, True IDE Mode, 0°C to +70°C (operating); 3.3V and 5V.

	Item no.
32 MByte CompactFlash Standard Grade	15SD22S
64 MByte CompactFlash Standard Grade	15SD17S
128 MByte CompactFlash Standard Grade	15SD24S
256 MByte CompactFlash Standard Grade	15SD256S
512 MByte CompactFlash Standard Grade	15SD512S
1.0 GByte CompactFlash Standard Grade	15SD1024S
2.0 GByte CompactFlash Standard Grade	15SD2048S
4.0 GByte CompactFlash Standard Grade	15SD4096S
Version available for an extended industrial temperature range: -40°C to +85°C (operating)	*

SanDisk SDCFB-xx-201-80:

CompactFlash Card Industrial Grade Type I



As CF Standard Grade, but with higher specifications, e.g. in respect of MTBF, guaranteed write/read cycles, shock and vibration proofing (see page 25); 7 years warranty.

	Item no.
32 MByte CompactFlash Industrial Grade	15SD22A
64 MByte CompactFlash Industrial Grade	15SD17A
128 MByte CompactFlash Industrial Grade	15SD24A
256 MByte CompactFlash Industrial Grade	15SD256A
512 MByte CompactFlash Industrial Grade	15SD512A
1.0 GByte CompactFlash Industrial Grade	15SD1024A
2.0 GByte CompactFlash Industrial Grade	15SD2048A
Version available for an extended industrial temperature range: -40°C to +85°C (operating)	*

* Please ask!

SD Cards & MultiMediaCards

What are SD Cards and MultiMediaCards?

The **MultiMediaCard Standard** was **developed in 1997** jointly by SanDisk and Siemens (now Infineon) to allow miniaturization of digital equipment and to provide exchangeable storage media for small mobile devices.



The MultiMediaCard was further developed to the **SD Card** in order to provide functions such as encryption and copy protection. The SD Card has the same footprint as the MultiMediaCard

but is 0.7 mm thicker and has 9 pins instead of 7 and a theoretical data rate which is four times faster. It uses the same flash technology as CompactFlash and PC Cards, but the **data is transferred serially** rather than the parallel data transfer used by the ATA protocol.

The memory media is the size of a postage stamp and the cards are used both in new industrial applications and in consumer devices. A **PC Card adapter which was developed by altec** allows both card types to be used in any PC Card Type II slot, such as that found in nearly all notebook PCs.

altec Adapter for SD Card & MultiMediaCard to PC Card Type II

Adapter for SD Cards or MultiMediaCards for use in a PC Card Type II slot; pass through of security commands; tested under Windows CE, 95/98, ME, NT, 2000, XP and MacOS.

altec SD Card & MultiMediaCard Adapter for PC Card Type II slot

OEM label on request

* Please ask!



Item no.

30AL210

*

SanDisk SDMB-/SDMJ-xx: MultiMediaCard



Small size: 32 x 24 x 1.4 mm, 7-pin connector, low current consumption, compatible with altec adapter PC Card Type II, -25°C to +85°C (operating); 2.7V to 3.6V, weight: max. 1.5g.

32 MByte MultiMediaCard

17SD32J

64 MByte MultiMediaCard

17SD64J

128 MByte MultiMediaCard

17SD128J

SanDisk SDSDB-/SDSDJ-xx: SD Card



9-pin connector, high performance due to additional data lines, thickness 2.1 mm, with security functions and write-protect slide switch, other specs see MultiMediaCard.

32 MByte SD Card

20SD32J

64 MByte SD Card

20SD64J

128 MByte SD Card

20SD128J

256 MByte SD Card

20SD256J

512 MByte SD Card

20SD512J

1.0 GByte SD Card

20SD1024J

SanDisk SDSDB-xx-201-80: SD Card Industrial Grade



I-Grade product with >600,000 write/erase cycles, 2 million hours MTBF, increased write speed, 7-year guarantee; otherwise as SD Card.

32 MByte SD Card Industrial Grade

23SD32

64 MByte SD Card Industrial Grade

23SD64

128 MByte SD Card Industrial Grade

23SD128

256 MByte SD Card Industrial Grade

23SD256

512 MByte SD Card Industrial Grade

23SD512

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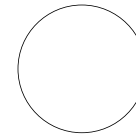
Instructions

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Open the file «Start.pdf» by double-clicking its icon to get an overview of all types of documents on this CD.

System information

CD-ROM format:
ISO 9660/HFS (hybrid)
Documents format: PDF



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No software will be automatically installed on your PC by using this CD.



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