Backing up, archiving, transporting, presenting, scanning and printing data.

Products for the medical sector

FUJITSU

THE POSSIBILITIES ARE INFINITE

Inspired by Solutions

Backing up, archiving and transporting data

Innovative imaging methods are constantly improving the diagnostic possibilities in today's medical industry. Recent legal archiving requirements has seen a rapid growth in data volumes in the medical industry which necessitates the need to scan and back up data more effectively and securely. With its magneto-optical drives, Fujitsu offers secure, DICOM* certified memory solutions for the medical sector. Magneto-optical (MO) removable memory technology is among the most cost-efficient and reliable method currently available for backing up, transporting and archiving data records.

Modern medical imaging methods are normally digital processes, while sensitive image files and patient data are managed, exchanged and stored electronically. Fujitsu's range of MO drives provides a compact and easy-to-operate archiving solution for this kind of sensitive data, protecting it from accidental loss or damage. MO drives are easy to handle in almost any operating system environment, without the need for special add-on software. All 3.5" MO media (540 MB, 640 MB, 1.3 GB and 2.3 GB) are certified to DICOM* standards and can be used in the medical technology industry.

Since its introduction more than 10 years ago, MO technology has been widely used as a data carrier in medical technology, both 3.5" and 5.25" formats are still in use. Major manufacturers of X-ray, ultrasound and tomography equipment, ECGs, etc., including General Electric*, Philips*, Siemens* and Olympus* have been fitting MO drives in their medical equipment for a number of years. Unlike most other storage media, MO media is almost completely resilient to vibration, magnetic fields, heat, cold, moisture and sunlight, this is due to the plastic cartridge that surrounds the actual storage medium providing optimum protection against environmental influences. By contrast, CD-ROMs or DVDs can easily become unreadable due to scratches, fingerprints, dust or UV radiation.

MO disks can be rewritten any number of times during their service life of around 50 years, whereas CD-RWs or DVD+RWs will only survive a maximum of around 1,000 write operations. All Fujitsu MO drives on the market are fully reverse compatible with all 3.5" MO media that have ever been released. Even in less than optimum external conditions, the estimated life of data on MO is more than 50 years, for standard CDs and DVDs under comparable environmental conditions, it is less than 10 years. Combined with the compatibility mentioned above, MO is perfect for long-term archiving of important text and image documents. In terms of data storage solutions, MO is way ahead of CD and DVD. The price is another advantage. The cost of MO media works out at less than one Euro cent per MB. This makes MO technology one of the most cost-effective yet most secure removable memory solutions on the market.

Prof. Dr. med. Helmuth-Günther Dörr, Director of Endocrinology, Friedrich-Alexander-Universitäts-Klinikum, Erlangen

"For my scientific work, I rely on the DynaMO 1300 U2 Pocket. It gives me the flexibility I need for my work. Whether I am at my desk, at scientific presentations or in the lecture theatre in front of my students, the DynaMO Pocket provides reliable storage of my medical data, presentations and slide shows. The little MO drive provides exactly the kind of security and mobility that I need. I can't think of another solution that would be better for me."

Dr. med. Gerhard Donhauser Consultant in Allergology and Dermatology, Munich

"As a dermatologist, I not only have an obligation to document patient data, I also have an obligation to document images of certain skin diseases, for example port-wine stains. This means that I need to document the state of the skin disease before and after treatment and provide evidence of this. Only then can I get payment for the treatment from the insurance companies. This kind of patient data results in huge quantities of data. It makes sense for me to store this data externally and archive it securely. To do this, I rely on the Dynamo 2300 U2."

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The DynaMO 1300 U2 model is an external magneto-optical removable memory system and is designed for mobile use. The drive has a memory capacity of 1.3 GB per removable memory and is extremely light and compact. It is powered by the integrated high-speed USB 2.0 interface, giving genuine Plug & Play functionality. Its performance is impressive: even complex image files are transferred and saved in next to no time. For doctors and scientists who frequently work on their laptops while travelling, it is the perfect solution for saving X-ray, CT and ultrasound images on MO and for viewing and presenting them at conferences or seminars using Trillium* Showcase Viewer.

DynaMO 1300 U2 Pocket

Max. memory capacity	1.3 GB
Average access time	45 ms
Size of medium	90 mm (3.5 inch) cartridge
Sector capacity (formatted)	2,048 bytes
Internal data transfer rate (max)	3.2 to 5.5 MB/sec.
R/W buffer	2 MB
Data interface	High Speed USB 2.0 (480 MBits/s)
Rotation speed	3,000 rpm
Energy consumption	2.5 W (max)
Dimensions	23 x 108 x 143 mm (H x W x L)
Weight	approx. 400 g
MTBF value	100,000 hours

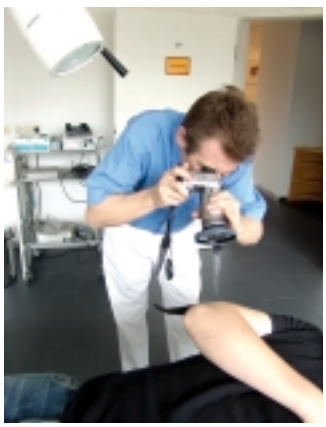
The innovative MO technology is widely used in the medical technology sector. In medical and dental practices or clinics, which are interested in archiving master patient data to comply with legal requirements, the DynaMO 2300 U2 is indispensable. Other applications in the medical field include archiving of X-ray or ultrasound images. When it comes to archiving data securely against manipulation, the DynaMO 2300 U2, with its 2.3 GB memory capacity, is definitely the number one choice.

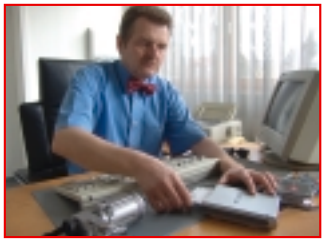
The DynaMO 2300 U2 model is equipped with a state of the art USB 2.0 interface for external connections and has a memory capacity of 2.3 GB.

DynaMO 2300 U2

Max. memory capacity	2.3 GB
Average access time	19 ms
Max. data transfer rate (to/from medium)	8.38 MB/s
Data interface	High Speed USB 2.0 (480 MBits/s)
R/W buffer	8 MB
Rotation speed	5,455 rpm max.
Dimensions	34 x 122 x 162 mm (H x W x L)
Weight	630 g
Compatibility	Windows 95*, 98*, ME*, XP, NT 3.51*, NT 4.0*, 2000*, Mac OS*

"Personally, I use MO technology not only for internal transportation of data but also for backup and for long term archiving of my own scientific work. The memory available on the clinic's server system is often very limited and I have had some bad experiences with my own desktop PC. Nowadays, all my important research and clinic data is saved and archived on MO disks."





Prof. Dr. med. Helmuth-Günther Dörr,
Senior physician, Director of Endocrinology
Friedrich-Alexander-Universitäts-Klinikum, Erlangen

"I have been a practising consultant in allergology in Munich for 13 years. In that time, I have treated around 40,000 patients. That is enough people to fill a small town. The resulting quantity of data is huge. Data storage and archiving are extremely important issues for me. I rely on solutions from FUJITSU. Their MO technology has never let me down."

Dr. med. Gerhard Donhauser,
Consultant in Allergology and Dermatology, Munich

DynaMO 2300 SCSI

Max. memory capacity	2.3 GB
Average access time	19 ms
Size of medium	90mm (3.5 inch) cartridge
Sector capacity (formatted)	2,048 bytes
R/W buffer	8 MB
Internal data transfer rate (max)	8.38 MB/s
Data interface	Ultra SCSI-2
Weight	approx. 890 g

With its exceptional performance and data packing density, the DynaMO 2300 SCSI is ideal both for reliable storage and management of substantial files, such as medical ultrasound and X-ray images, digital audio and video or digital photographs, and for long-term archiving of image, sound and text documents. The drive can read and write MO media with a capacity of 128 MB, 230 MB, 540 MB, 640 MB, 1.3 GB and 2.3 GB an almost limitless number of times. This makes the DynaMO 2300 SCSI an extremely secure investment that is very cost effective. A comparison: The 2.3 GB memory capacity of each piece of media is large enough to store 50 (DIN A4) files each containing 500 pages (approx. 92 KB each), or almost 3,800 digital images with a resolution of 5 megapixels. This corresponds to around 1,600 floppy disks or 23 100 MB ZIP disks.

DynaMO MCR 3230 SS
DynaMO MCR 3230 AP

Max. memory capacity	2.3 GB
Average access time	23 ms
Max. data transfer rate - 2.3 GB (from/to medium)	6.26 MB/s max.
Max. data transfer rate - 1.3 GB (from/to medium)	5.23 MB/s max.
Interface - MCR 3230 SS	Ultra SCSI 20 MB/s max.
Interface - MCR 3230 AP	ATAPI, UDMA, 33 MB/s
R/W buffer	8 MB
Compatibility	Windows 95*, 98*, ME*, XP*, NT 3.51*,NT 4.0*, 2000*, Mac OS*

The MCR 3230 SS and AP are 3.5" MO drives designed for system integration (e.g. for PCs, servers, workstations or industrial systems). They support all 3.5" MO disks with a capacity of 2.3 GB, 1.3 GB, 640 MB, 540 MB, 230 MB and 128 MB.

The MCR 3230 SS/AP can for example be used in a range of ultrasound equipment made by General Electric*, Siemens*, Hitachi* and Olympus*. Once integrated into the PC system, its exceptional reliability means that is replacing many traditional storage methods, such as tapes.

Typical applications of these two solutions include backing up master patient data, management data and much more.

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ScanSnap

- 15 pages per minute, simplex and duplex, colour 150 dpi, B/W 300 dpi
- 50 pages ADF (automatic document feed)
- Document formats: Business cards – A4
- USB 2.0 interface

The ScanSnap office solution comprises:

- ScanSnap fi-5110EOX inc. power pack
- USB cable, manual, add-on components, driver CD with full version of Adobe* Acrobat* 6.0
- Text recognition software "ABBYY FineReader* for Fujitsu ScanSnap!"
- Full version of CardMinder 2.0* (multilingual: German, English, French, Spanish, Italian)
- PDF Thumbnail View utility

At the push of a button, the ScanSnap automatically creates:
- Browsable PDF files
- Word documents / Excel tables
- Business card contacts for Outlook*, Act* and Goldmine*

Fitted with ScanSnap! Manager, this document scanner is a unique solution that allows perfect quality PDF or JPG files to be created quickly and easily. To keep its operation as easy and convenient as possible, the solution intentionally avoids TWAIN and the ISIS™ protocol. (TWAIN and ISIS™ are not supported).

fi-4120C / fi-4220C

- 25 pages per minute colour, 150 dpi
- 25 pages per minute B/W, 200 dpi
- Simplex/duplex scanner
- 50 pages ADF (automatic document feed)
- Document format: A8 – A4
- Dual interface – SCSI/USB 1.1 (selectable)
- Adobe* Acrobat* 6.0 included in package

The fi-4120C and fi-4220C scanners are ideal for use in clinics and medical practices. Wherever documents need to be electronically archived, reports or patient data need to be scanned in or a cost-effective document management system requiring scanners at user or work group level is to be introduced, the technical capabilities and user-friendly operation of these two scanner models make them the perfect solution.

The models offer high-speed scanning: 25 pages per minute in black and white (200 dpi) and colour (150 dpi), i.e. up to 1000 documents can be reliably scanned per day. The scanner's duplex capability allows the front and back page of a document to be captured simultaneously.

The fi-4120C and fi-4220C have double feed control, which detects the thickness and/or length of the documents to be scanned. This means that the user can be sure that all documents will be properly scanned.

The practice printer for every application

DL 3750+
24-wire dot matrix printer

- Extremely low-noise operation.
  Compact design and low space requirement
- Excellent connection options
  thanks to various model versions
- Printing speed up to 480 characters per second
  for high-speed printing (12 cpi)
- Print width: 80 characters (10 cpi), 96 characters (12 cpi)

The DL3750+ has an exceptionally low space requirement and is supplied in a stylish, compact housing that also supports extremely low-noise operation. The DL3750+ features optimum paper guiding and can produce up to five copies of continuous forms, including the original. Different versions of the model, Centronics + USB 1.1 and Centronics (expandable with RS232C) provide optimum connection options for every PC system.

The DL3750+ is the perfect printer for medical practices or for applications in the healthcare sector! It is ideal for printing out prescriptions, patient file cards, receipts and other documents or for creating adhesive labels.

MO technology /
DICOM* standards

Medical imaging methods are a central element of medical diagnosis and therapy. The rapid development of medical technology means that we are now able to fall back on a wide range of imaging methods such as magnetic resonance imaging, MRT (magnetic resonance tomography), ultrasound diagnosis and sonography. For reasons of cost-efficiency and to create a more effective work organisation, an increasing number of doctors are now investing in digital image processing systems. There is a huge demand from doctors, technicians in clinics and scientists for external and mobile solutions that allow them to view, present and if necessary edit medical imaging methods offline on their PC or laptop. For a number of years, suppliers of medical technology such as Siemens*, Toshiba* and Hitachi* have relied on external MO drives for transporting images and viewing them offline – outside the actual medical technology equipment.

FUJITSU is therefore offering a special bundle containing its new external magneto-optical DynaMO 1300 U2 Pocket drive and the “ShowCase Viewer*" software solution from Trillium*, both of which meet DICOM* standards, which apply specifically to medical practitioners. DICOM* is short for "Digital Imaging and Communications in Medicine" and is a global standard for data exchange in medical information systems. The new package can be used to exchange and view images and data from a variety of imaging and image processing equipment.

For doctors and scientists who frequently work on their laptops while travelling, the DynaMO 1300 U2 Pocket is the perfect solution for saving X-ray, CT and ultrasound images on MO disks and for viewing and presenting them at conferences or seminars using Trillium* Showcase Viewer.

User-friendly directory lists allow users to select image files by patient, study or case. The visual material appears for viewing as image series, which can be moved, rearranged or compared with one another. For presentation of the images, details such as the patient's name, the patient ID or the study name can be hidden, making the images anonymous. The user can add comments to both fixed images or film clips, change their contrast, compress them and import them into presentations, websites or other publications in AVI, BMP, TIFF or JPEG format.

The reproduction quality is excellent and the time savings when creating presentations with visual materials are significant.

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