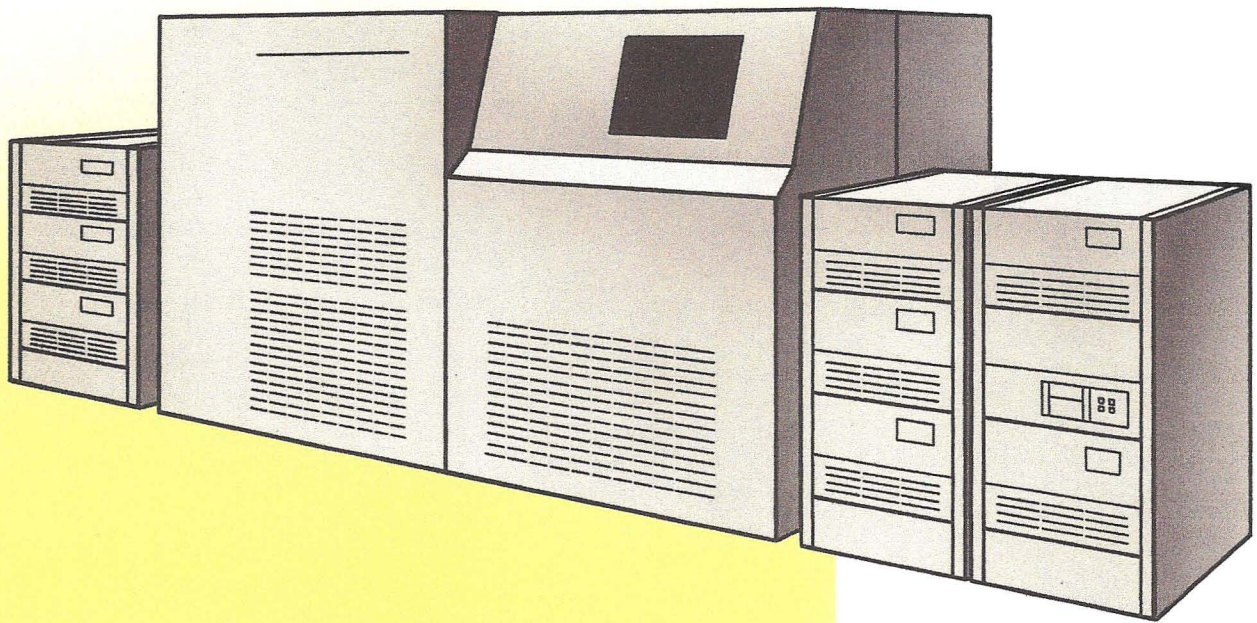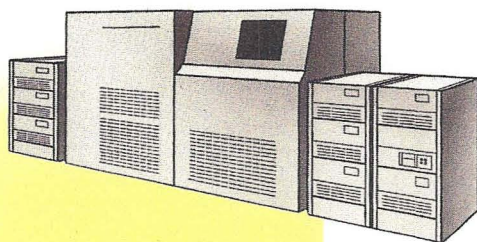# SIEMENS

Siemens PACS
Information Storage System

DATA

Description of Function

The Information Storage System (ISS) stores and retrieves images, reports, and related patient information. All information in the ISS is accessible without operator intervention and is stored without data compression. The information stored in the ISS is controlled by the Information Management System (IMS).

When images, reports, and related information are entered into the PACS, the information is assigned a storage location by the IMS. The storage location and some descriptive data are stored in the IMS while the patient information is stored in the ISS in the location assigned by the IMS. Once these activities have occurred, the images, reports, and related information are available at any PACS component connected to the PACS network.

The ISS may be supplemented with long-term, off-line storage. The off-line storage requires operator intervention to mount the physical media before the system is able to store or retrieve the off-line information.

System Features

- Short-term storage (STORE), with fast access and retrieval times, for information which has been created or retrieved within a period of time (e.g., 10-14 days). The period of time is defined by the institutional requirements.
- Long-term on-line storage (ARCHIVE) which stores information after the defined period of time has been exceeded. ARCHIVE provides storage capacity sufficient to store images and related information for several years.
- Automatic transfer of information from STORE to ARCHIVE.
- Permanent storage of information in ARCHIVE.
- Storage of images in any format supported by the ACR-NEMA Digital Imaging and Communications Standard. Images are stored in the matrix size in which they are received by the ISS.

- Maintenance of a complete directory of the ISS contents by the Information Management System (IMS).
- Multiple Information Storage Systems for distributed storage of information (optional).

ISS Functions

- Information Storage—Allows storage of images and related patient information (e.g., reports and demographic data)
- Information Retrieval—Allows retrieval of images and related information by any PACS component
- Database Maintenance—Provides a directory of the information on each component of the ISS. The IMS monitors ISS transactions to determine what information is to be moved from STORE to ARCHIVE
- Data Integrity—Provides specific software and hardware functions to assure data integrity
  - Image and other patient information sent to STORE is automatically duplicated on ARCHIVE
  - The ARCHIVE directory can be reconstructed from stored information

Recommended ISS Configuration

To assure continuous ISS operation, the following ISS configuration is recommended.

- Two STORE subsystems, each consisting of:
  - MicroVAX II with 9 megabytes of memory
  - 5 gigabytes of magnetic disk storage
  - Standard hardware for connection to the PACS network
- Two ARCHIVE subsystems, each consisting of:
  - MicroVAX II with 9 megabytes of memory
  - 8 gigabytes of magnetic disk storage
  - 200 gigabytes of image storage in an optical disk jukebox subsystem. The MicroVAX II's have two laser disk drives each, and share control of the jukebox.
  - Standard hardware for connection to the PACS network

Additional STORE and ARCHIVE subsystems can be added as needed. The PACS can support as many STORE and ARCHIVE subsystems as desired.