616 DEVELOPMENT OF THE NUCLEAR MEDICINE DATA SYSTEM. THE MCS-1060.

A data system is indispensable for recent nuclear medicine imaging. The MCS-560, the nuclear medicine data system we are currently supplying, has capabilities of acquisition and processing for nuclear cardiology, general nuclear medicine and SPECT. Now, the MCS-1060 has been developed to provide more computer power than the MCS-560. The MCS-1060's features are as follows:

1. Enables to attach up to four radio-isotope cameras and to acquire the data from two cameras simultaneously.
2. Built-in two dual channel ADCs which enable high count rate acquisition up to 250 kcps.
3. Provides versatile data acquisition mode: static, dynamic, whole body, dual isotope, list mode, ECG multi gated, SPECT and video input.
4. Built-in the Array Processor and the floating point Arithmetic Processing Unit, they enable high-speed image reconstruction, image processing and data analysis.
5. Built-in the 30M byte Winchester hard disk (optional second and third Winchester available) and 40M byte streaming magnetic tape, they enable large-capacity data storage and high-speed data transfer.
6. Has compatibility of the image data and utility programs with the MCS-560.

We believe that the MCS-1060 will be very helpful for the diagnostics of present nuclear medicine.

618 DEVELOPMENT OF MULTI-MODALITY IMAGING (MMI) PROGRAM.

Recently, the necessity has been greater for a multi-modality imaging diagnosis intended for supporting the medical diagnosis by organically integrating image data produced from various modalities.

Our report concerns a multi-modality imaging (MMI) program we developed as a support tool for overall image diagnosis for use with our HARP-series radionuclide image processor.

Since the MMI program includes a series of processes from the entry of various modality data to the display of them, we studied the following items:

1. Input of various image data (online input, and offline input by magnetic tape or floppy disk)
2. Image size and positional adjustments
3. Extraction of necessary portions from image
4. Multi-modality display
   - Parallel display
   - Integrated display (in 4 kinds)

Each of the above-mentioned functions will be explained using various image data.

619 DEVELOPMENT OF DATA COMMUNICATION IN THE DIGITAL GAMMACAMERA SERIES.
A. Habara, S. Matsui, Y. Tani (Toshiba Corp. Nasu)

Medical image data communication has been developed using the special interface, type P1M, with the medical image processor, model GMS-550, and the digital gammacamera series. This technique is intended for bidirectional communication between two data-bases, in conformity with the protocol on telex formulated by the Consultative Committee on International Telegraph and Telephone (CCITT). The following modes are available for the data communication:

1. Active reception
   For retrieving the data-base of the party concerned and receiving the images.
2. Active transmission
   For retrieving one's own data-base and transmitting the images.
3. Passive reception
   For receiving the images transmitted from the party concerned.
4. Passive transmission
   For transmitting the images at the request of the party concerned.

The data-base communication has a transmitting speed of one image in approximately six seconds for a matrix size of 512 x 512. On the other hand, communication with VAX-11/750 is performed based on the specifications for the interface DR-11W, conforming to the same protocol. This technological advance may present a prospect for wider application of the gammacamera series.