

Medical plasma display systems were installed in five operating rooms using seven 42" plasma displays, and SDI high-definition images are being used in endoscopic and other operations.

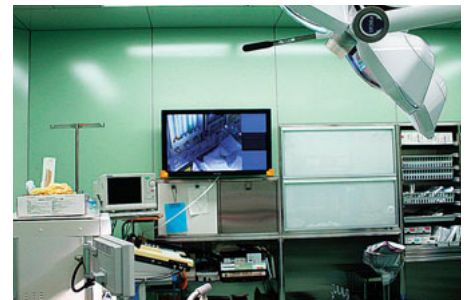
#### Installation Details

**Panasonic business-use plasma display high-definition image and SDI\* input support is highly regarded and widely used.**

Dr. Tsuyoshi Naito, medical director of digestive surgery, who played a central role in implementing the medical imaging system in the new operating rooms, discusses the reasons for using the Panasonic plasma display system, and the features of the system.

"My specialization is endoscopy. The focus up to now regarding image quality in endoscopic surgery has largely been on the performance aspects of the endoscope, and nobody really considered the performance of the monitors. When I was studying abroad in America before the recent modernization of our hospital, I had the opportunity to inspect some medical facilities where I saw medical images transmitted

using SDI. Besides being amazed at the wonderful image quality, I decided that we should use SDI transmission for our new system. As for monitors, while medical equipment is rapidly switching to digital, we cannot hope for higher resolution and bigger screens than at present with CRT monitors. Also, large LCD monitors suffer from color irregularity depending on the viewing angle, and besides their inferior color reproduction, they have poor responsiveness with high-speed images so that afterimages and image blurring occur, making them unsuitable as main monitors for endoscopic surgery. On the other hand, the plasma display has excellent characteristics like responsiveness with high-speed images, very good color reproduction, unrestricted viewing angle, no flicker and so on.



In the two general operating rooms, 42" high-definition plasma displays are attached to the wall.

We looked at several companies' products, but we liked Panasonic's high-definition and SDI support, and decided to go with Panasonic. We were able to get system specifications that fully met our needs for things like touch-panel system control and networking inside the hospital, and the installation went smoothly. We started using them in May 2005.



In the two endoscopic operating rooms, 42" high-definition plasma display units are suspended from the ceiling on arms. [Note]The walls of the operating room are painted light green to eliminate complementary color afterimages due to the red color of blood. At the Sendai Open Hospital, green lighting is also used.



The new hospital building was completed and entered operation in May 2005.

#### \*SDI (Serial Digital Interface)

A standard for the interface used by broadcasting stations and the like for exchanging digital images and sound signals. It can transmit uncompressed digital signals with a single coaxial cable. The HD-SDI standard covers high-definition, while the SD-SDI standard covers NTSC and similar formats.

# Plasma Display System Report

Vol.5

Sendai City Medical Center  
Sendai Open Hospital

Sendai, Japan

Date delivered: April 2005

## System Outline

**A total of seven ceiling, wall-mounted and mobile plasma displays are installed in the operating room.**

“There are five operating rooms, and all of them have 42” TH-42PHD7 units. In the two endoscopic surgery rooms, two ceiling-mounted plasma displays are placed face-to-face on arms so that both the surgeon and assistant surgeon can monitor the images with comfortable posture.

Selecting the image source to display on the plasma display (endoscopic image, PACS\* image, pathologic image, electrocardiogram and so on), selecting the plasma display multi-screen display mode, adjusting the ceiling arm rotation



In the cardiac surgery room, 42” high-definition mobile plasma display units on mobile stands with castors are used for easy viewing during operations.



In the endoscopic operating room, a 42” high-definition plasma display unit is also suspended from the ceiling on an arm on the opposite side.

and angle, recording on the HDD recorder, adjusting the room lighting and surgical lights and other adjustments can all be controlled from a single touch panel.

In the two general operating rooms, plasma displays are attached to the wall. In the cardiac surgery room, we have mobile plasma display units that can be moved for easy viewing during operations. In the hospital we’ve installed dedicated lines for operation images, PACS images, pathologic images and operation site images, so you can select an image to monitor with

the selector and view it in the anesthetists’ room, the doctors’ anteroom, and the staff room, as well as in the operating room.”

## After Installation

**SDI transmission plasma display systems are becoming the standard for medical imaging systems**

“At the moment endoscopes and surgical light cameras don’t support HD-SDI, so the system we implemented is the SD-SDI specification. In future, if equipment with HD-SDI support comes out, it’s only a matter of changing to HD-SDI boards, so there shouldn’t be any problem.

I think SDI plasma display systems will eventually become the standard for endoscopic surgery. At this hospital, trainee doctors are coming from within Japan and also from countries like China, and they’re getting experience in doing operations using this system. So I believe medical SDI plasma display systems will begin gaining ground internationally.”

## Outline of the System Installed at Sendai Open Hospital

