## **Power Systems Division**

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This document summarizes the main product developments for the Power Systems Division in 2007.

"SANUPS P73F" was developed as a power conditioner for photovoltaic power generation systems to handle 3-phase, 4 wire international specifications. The small capacity UPS "SANUPS A11H" Series was developed as a small capacity UPS operating with continuous inverter power supply method with a wide range for input voltage and input frequency.

SSH (Secure Shell) support was added for UPS management systems

to strengthen security of LAN interface cards and "Network Power Manager".

The following information provides an overview and features for each product.

## Development of the Power Conditioner for Photovoltaic Power Generation System "SANUPS P73F"

Photovoltaic power systems have gained international attention as a type of clean energy that does not emit green-house emission gases, one of the sources of global warming. An increasing number of countries are working to spread these types of power systems.

Our company has developed a variety of power conditioners for use within Japan, but with the recent increased international demand for photovoltaic power systems, the power conditioner for photovoltaic power generation "SANUPS P73F" was developed to meet international specifications.

"SANUPS P73F" supports the 3-phase 4 wire (AC 380 V) electrical method that is used in many countries abroad, although not in Japan.

Also, the environmental strain has been reduced by using parts that are compliant with the RoHS directive.



## Development of the Small Capacity UPS "SANUPS A11H" Series

"SANUPS A11H" was developed as a wide range input continuous inverter power supply system method UPS with a drastically expanded range of input voltage and frequency that can be used for commercial operations.

"SANUPS A11H" handles a range of 55 to 150 V for input voltage and 40 to 120 Hz for input frequency, so even when the input voltage is very unstable with large fluctuations, a stable power supply can be delivered. This makes is more unlikely that the device will switch to battery operations, thus reducing the risk to the battery life.

The devices come in the following capacities: 1kVA, 1.5kVA, 2kVA, and 3kVA for the rack type, or 1kVA, 2kVA, and 3kVA for the tower type.



## Development of SSH Compliant UPS Management Products

In our modern networked society, there are an increasing number of crimes where hackers use networks such as the internet to enter a computer from an external location in order to steal, view, alter, destroy, or otherwise tamper with data.

With this in mind, many feel that it is essential to prevent illegal access from these

attackers and protect information.

With these trends in mind, our company has introduced SSH protocol in consideration of security and developed SANUPS T and a LAN interface card that performs operations such as computer shutdown using SSH protocol.

With SSH protocol, the information on the

network is all encoded so that it cannot be intercepted by third parties. This enables the computer to be shut down safely.

This development uses SSH protocol version 2, which is safer than the SSH protocol version 1.



**Tetsuo Sezai** Joined Sanyo Denki in 1984. Power Systems Division, 2nd Design Dept. Worked on the development and design of power systems.