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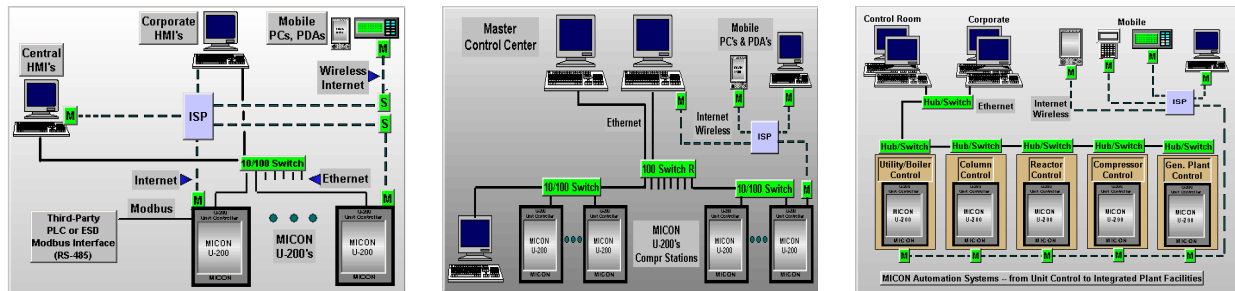
## Micon's Wireless PDA Lets Operators Access Equipment Condition Information with a Handheld HMI/SCADA Unit

*...InduSoft's WebStudio Software puts power in people's palms...*

**MICON** Systems, based in Houston, Texas, has been building process control systems for nearly 30 years based on the Unit Control concept. In 1972, it introduced the first micro-processor-based controller to the process control industry. The company has thrived in the face of competition from giant distributed control system vendors because it has concentrated on developing niches where it excels, such as compressor controls, energy management, and boiler control. It has also evolved from just a hardware supplier into a complete automation systems company.

Over the years, Micon has continued to keep its control systems up to date with the latest computer and networking technologies. The newest version, the A/S OPEN-W system (**Figure 1**), is a suite of integrated hardware and software that handles everything from single units to plant wide control systems.

In addition to its proven unit controller concept based on U-200 universal controllers, **Micon** has a unique operator interface based on a Casio PDA and WebStudio HMI/SCADA software from InduSoft, Austin, Texas. The HMI gives operators the power of a full-featured operator interface at the distributed unit control level and the ability to monitor and control process activities while walking around the plant or from home.



**Figure 1. Micon's A/S control system allows remote U-200 unit controllers to operate autonomously in the field, yet still communicate as part of a plant-wide system**

### Unit Control Solutions

The A/S system allows end users to configure control systems of different sizes, logically segregate them in different parts of a plant, and connect all the various systems over a data highway (normally a redundant Ethernet media) or via a wide area network (WAN).

U-200 Unit Controllers make it easy to distribute control logically throughout a plant. Each controller includes a single or redundant controller module plus a local HMI. The units are self-contained and rugged, so they can be installed in the near the process being controlled. The U-200 has more than 100 control and data acquisition algorithm blocks,

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are field, than

ranging from simple PID to advanced optimization strategies. The function blocks are integrated into pre-configured unit control strategies.

Each U-200 maintains its own local data base in hardened RAM and Flash memory, and can communicate with a central controller or HMIs via networks. This gives each distributed unit controller complete autonomy and exceptional reliability, while letting it communicate with central PC-based control systems.

Users can install any commercial HMI/SCADA system to serve as the central HMI. This includes software from Wonderware, Iconics, Intellution, Citect, National Instruments, InduSoft, or any other OPC-compatible HMI/SCADA software. The commercial software can access data stored in the U-200 data bases via OPC, change setpoints, and perform standard HMI system functions such as monitoring, alarming and process historian. However, the responsibility for controlling, maintaining and keeping the data base safe stays with the U-200 units, not on the disk drives of PCs.

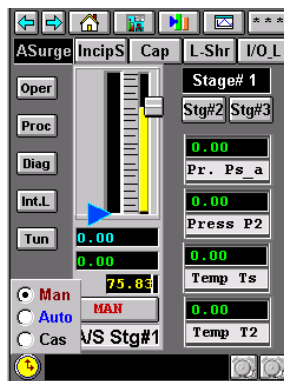
### Wireless HMI

Micon saw a need for a wireless HMI. President Roman Rammler explains: "In compressor controls, for example, a wireless HMI is very desirable. Engineers want to be able to respond to equipment conditions and operating information quickly. Carrying an HMI allows them to respond to alarms and diagnostic information at all times."

Micon designed a wireless HMI around a Casio Windows CE 3.0 PDA and tried to find a CE-based HMI software package that would work. "We tried four different CE software packages," says Rammler. "They all worked great in the NT version, but we could not get them to work on the PDA." Then Micon tried InduSoft's WebStudio HMI/SCADA software. It worked.

The wireless HMI uses a series of screens that Micon designed on the WebStudio development system on a PC, and then downloaded to the handheld unit. Displays are logically categorized into Overviews, Graphics, Group displays, Trends/History and Alarms.

**Figure 2.** Micon's handheld wireless HMI uses a simple menu bar and soft "go-to" buttons for navigation and operator interaction

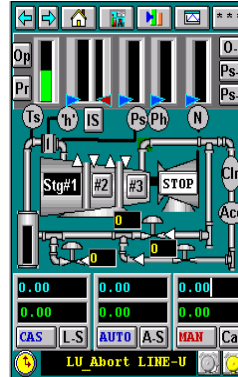


Each display category has its own menus for navigating around the system using the PDA's Next, Prev, and Go To buttons. A menu bar appears at the top of each screen (Fig. 2). The display architecture is flexible, yet clean in appearance and interacts with every application the same way. All windows are consistent and operations have been simplified so that an untrained person can easily navigate among the various displays.

Although the PDA screen is small, it can produce remarkably clear and easy to read graphics (Fig. 3). And while the small screen cannot hold as much information as a large PC, the powerful WebStudio software allows the PDA to perform virtually every function that an operator at a PC can do. Also, WebStudio can send data in XML format over the network, making it much easier to interface to other software and higher-level enterprise packages.

"We did not have any trouble making the Web Studio software work," recalls Rammler, "and we had excellent support from InduSoft's technical staff."

Rammler says that in the first few months after they got the distributed HMI with remote condition monitoring capability working, they received several system orders. "We showed the new concept of Unit Control and the wireless HMI to potential customers, and they loved it," he says.



**Figure 3.**  
The screen on Micon's HMI may be small, but it produces clear, easy to read graphics. Operators can do virtually anything here that they can do on a full-size PC.