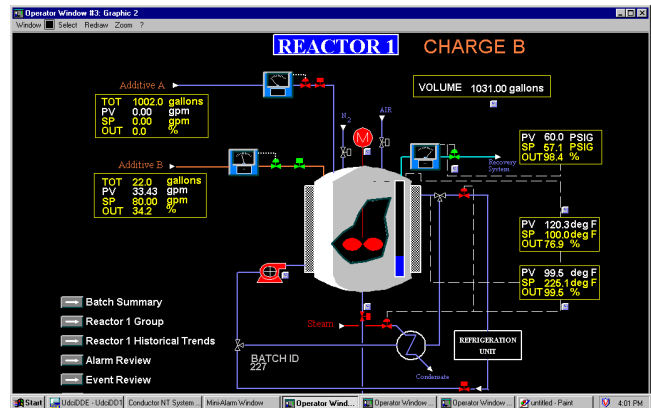


## Micro-PWC Personal Work Center PW6000

- **Engineering, Operation and Information Workstation software**
- **Dynamic graphic displays with network-wide database access**
- **Real-time, historical and archive trend displays with zoom and time compression**
- **Multiple levels of system security**
- **Tight integration with Micro-DCI controllers**
- **OPC Client functionality to integrate third party devices**
- **Multiple workstation network with Global Database Access**
- **Built-in Alarm/ Event Historian and Data Logging with Report Generation**



The Micro-PWC (Personal Work Center) PW6000 is a personal computer based distributed process control and information management system which provides the ability to divide process functions among many system components to provide operating flexibility, system reliability, reduced system costs, and ease of implementation.

Micro-PWC provides the Process Operator with a window to the process. Using interactive process graphics and hierarchical displays, the Process Operator can monitor and control all analog loops and digital devices interfaced to the network.

Micro-PWC provides the Engineer with an interface to configure and change Graphic and Hierarchical displays, database I/O, controller process control functions and sequences, Log (report) formats, and security features. Most changes are immediate, on-line, and distributed to all Micro-PWCs in the same group.

Micro-PWC provides Maintenance Personnel with the capability to globally monitor the operating status of any system component on the network, and to diagnose component failures from any Micro-PWC.

The package includes a library of preconfigured dynamic display templates specifically designed for analog and discrete I/O monitoring, regulatory control, alarm management, and trending. A standard display hierarchy is included to simplify the assignment of tags to various displays.

Each package includes an ISA library of object oriented dynamic symbols. Users can modify the standard templates and symbols for specific applications.

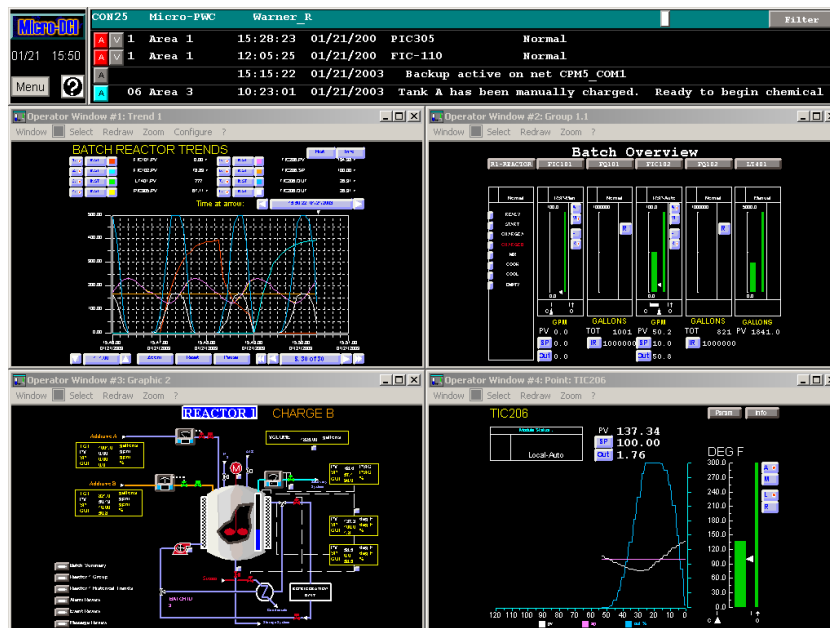
A comprehensive alarm management package enables users to easily sort, acknowledge, and take corrective action to process upset conditions.

OPC Client functionality allows integration with most third-part devices using OPC servers, and DDE capability for easy data exchange between its global database and other Windows® applications running on the same platform or across the network.

Custom reports can be created using EXCEL® spreadsheet and linked to the Micro-PWC's global database.

The MicroMod system is composed of a scalable, multi-level Application Architecture, which permits a building block approach. This allows the user to purchase only the level of hardware and software needed. Starting at the plant floor, MicroMod offers solutions at the Unit Operations Level, the Process Management Level, on up to the Plant-wide/Enterprise Management level. Up to four windows can be displayed on the monitor simultaneously, along with the mini-alarm window for at-a-glance process operation.

The PW6000 is highly integrated with the 53MC5000 Process Control Station and 53SL6000 Micro-Mite™ controllers to provide data acquisition, sequential and regulatory loop control, and alarming while significantly reducing engineering time. It can be used to configure a controller, and to upload or download the controller database and F-Tran program files.



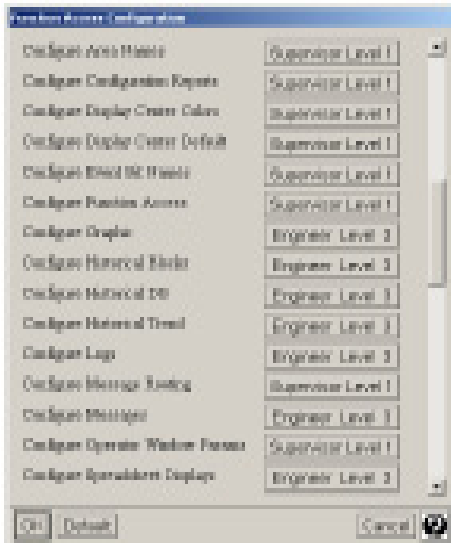
### PW6000 Personal Work Center Features:

- Ethernet TCP/IP communications network standard
- Global Database Access communications
- ISA S5.5 Graphical Object Library
- 128 Summary Displays each with 24 groups
- 3072 Group Displays each with 4, 6 or 8 points
- Over 24,000 single point displays available
- Up to four dynamic process display windows per CRT display
- Up to 1024 network wide graphic displays
- On-line documentation (operation and configuration information)
- System and user help menus with each display window
- Flexible, nine-level system security with assignable functions
- Individual User login accounts
- Up to 1024 network-wide 8-trace Historical/Archival Trend Display pages
- 64 Definable Alarm areas
- 16 Alarm priorities
- Built-in Alarm and Event Historian
- Built-in Global Data Historian
- Data Archive Facility
- Flexible Alarm Management System with alarm sorting capability
- Flexible Message Routing System
- Operator Message Broadcast capability
- Real-time database interface to Excel® Spreadsheet

**OPERATIONAL FUNCTIONS**

**Operational and System Security**

The Micro-PWC provides the user with nine unique levels of access for operating, engineering and supervisory personnel. Functions associated with each level are user configurable. The Micro-PWC security system provides network-wide accounts using passwords and user login names. There is no fixed limit to the number of user names that can be configured.



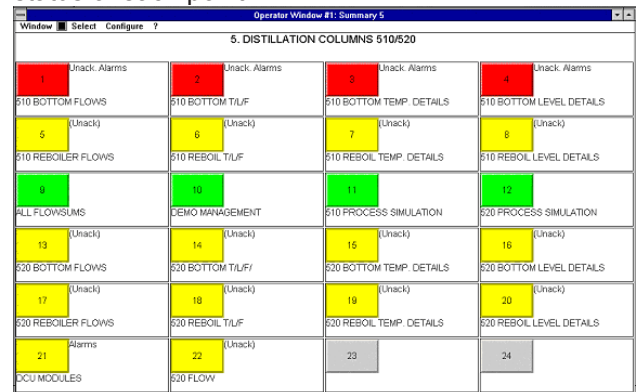
**Display Hierarchy** - Basic process displays and functions are accessed by both the fixed function keys and by clicking on the SELECT item on the Operator Window Menu Bar using the cursor-positioning device. These include:

- Graphic Displays
- Summary Displays
- Group Displays
- Point Displays
- Trend Displays
- Quick Keys
- System Status Display
- Alarm Review
- Event Review
- Message Review
- Event Historian
- Printer Review

Hierarchical displays are a set of pre-configured graphical representations emulating traditional instrument displays and batch control symbols. A three-tiered hierarchy of displays exists to provide the user with information about the process. This hierarchy consists of Summary, Group and Point displays. An additional 1024 Graphic Displays are completely configurable by the user.

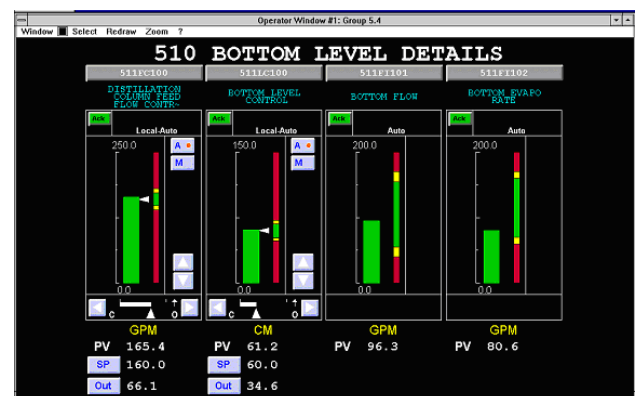
**Plant Summary Display** - provides an overview of 24 groups arranged in a 4x6 Matrix (Figure 1). Each Summary display includes a legend of up to 48 characters. Each of the 24 groups on the Matrix is identified by a configurable group name and provides an instant color-coded status condition with a text description.

There are 128 Summary Displays available. Clicking on one of the 24 boxes associated with each Summary, opens the “Group Info” Window (Figure 2) that provides the user with an overview of each point in the group, listing the tagname and status of each point.



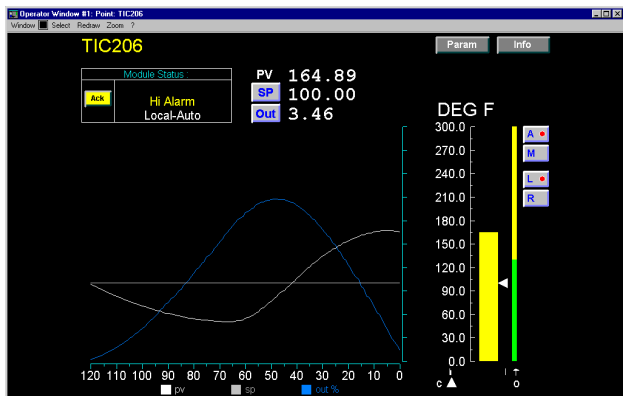
Summary Display

**Group Display** - provides an operational overview of 4, 6 or 8 points simultaneously. The group includes a 10-character tag name for each point within the group. All process control actions (AUTO, MANUAL, REMOTE, LOCAL, Setpoint Changes, etc) and alarm acknowledgement for points within a Group, can be performed from the Group display on a point-by-point basis. There are over 3000 Group Displays available for point assignment. All system wide process modules, with tagnames, are available for display within a group. The Micro-PWC application provides standard built-in display templates for each type of process module. This reduces the engineering time typically required for building the display hierarchy.



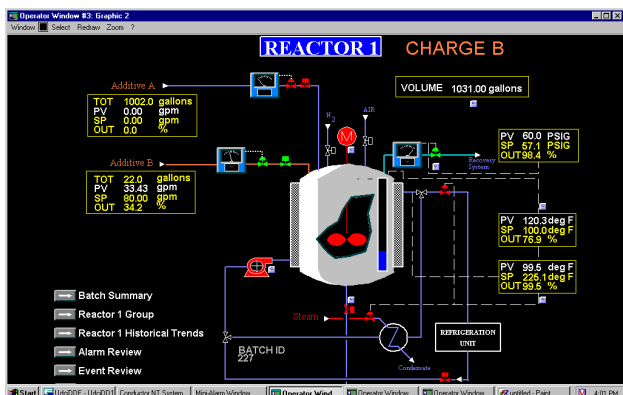
Group Display

**Point Display** - provides the most detailed information and most operational functions of any hierarchical display. Using the Point display the operator can observe a Trend display to tune a control loop, or monitor the detailed operation of a batch sequence. Also at this level the operator can perform regulatory changes to parameters (Figure 5) including controller tuning constants, ratio constants, alarm limits, etc.



Point Display

**Graphic Displays** - provide the user with the capability to create animated interactive process schematics, trends, text displays etc. (Figure No. 10). Because the Graphics are user-definable they can be based on practices and standards unique to the user's plant operations. Graphic Displays can contain any combination of graphical and text information as well as dynamic data. Graphics can be linked to other displays within the system to form an intuitive operating environment. The use of an object oriented graphic modeling system and Windows display technology provides a user-friendly pop-up window display format for interactive control-through-graphics functions.

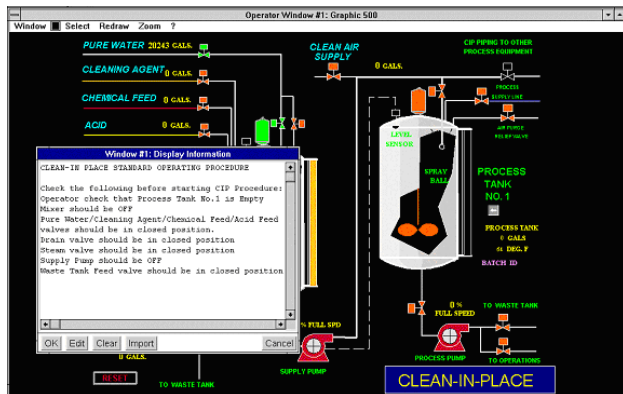


Interactive Graphic Display

Up to 1024 network-wide graphic displays can be configured using the Micro-PWC. Because they are network-wide, a graphic display can be configured on any Micro-PWC Workstation and automatically

distributed to all Micro-PWCs on the Network. The Graphic configuration editor includes a standard ISA S5.5 symbol library and a MicroMod symbol library which includes controller templates and other dynamic displays used in the display hierarchy. The user can also create a custom symbol library. Tools such as copying, cutting, pasting and moving symbols to/from libraries or between multiple graphic displays are standard features. Menus provide access to windows that allow the user to proceed intuitively through the graphic creation process.

**Help Displays** - Micro-PWC HELP utility provides information about the Workstation in a context-sensitive manner. The HELP utility includes a menu item that provides immediate access to controller Operating Manuals, and Configuration Guides electronically displayed on the Workstation for quick reference. Each display window on the Micro-PWC includes a configurable USER HELP Display to provide assistance to operating personnel. These displays can be site-specific instructions related to the specific Micro-PWC display or process, standard operating procedures, emergency shutdown procedures, Batch preparation instructions etc. For example, each Trend Display, Group Display and Graphic Display can have its own individual USER HELP display.



HELP Display Window

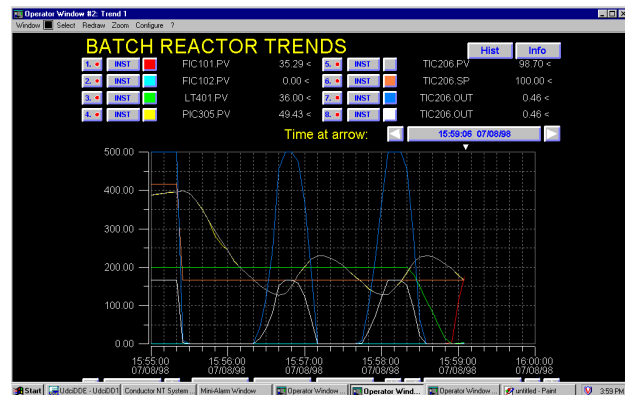
**System Status Display** - depicts each node on the global data highway network as an icon (Figure 12). A node can be a process instrumentation communication server, or another Micro-PWC Workstation. Access to the status of each individual node can be obtained clicking on the respective icon.

## TREND & HISTORICAL FUNCTIONS

**Trend Displays** - present the history of process variables in a trace format. Three types of trend recording are available on the Micro-PWC:

- Current Trending
- Historical Trending
- Archival Trending

Current Trends are automatically displayed on every analog oriented point display. This high-speed trend, when used in conjunction with the Single Point Parameter display window, provides an ideal means for functions such as loop tuning.



Historical Trend Display

The historical and archival trending functions display the values of one or more points in an analog trend format similar to that presented by a conventional strip chart recorder. Up to eight process variables can be displayed on a single Trend display (Figure No. 9). Each trace on the graph is plotted in a different color. Trend Time Base and Sample Rate are user configurable parameters.

Historical Trends plot data collected in the Historical database. Up to 1024 network-wide Historical Trend displays are available on the Micro-PWC. The configuration of these trends can be performed on any Micro-PWC and is then automatically distributed to all other Micro-PWC's and Application Servers on the network.

Archival Trending plots data in the Archival database. Historical Data can be transferred to removable media (e.g. a DAT tape), creating a permanent record that can be retrieved and displayed at a later date as the Archival Database. The Archival Data format is identical to that of the Historical Database.

Features of the Trend Display Window include the ability to view trended data as Minimum, Maximum, Average or Instantaneous values. This method of plotting trends permits greater flexibility in trend configuration. For example, points with different collection rates can be plotted on the same trend graph, and non-periodic data can also be trended.

**Historical Database** - collects information from each process instruments and stores it for use by various applications such as Logging, Trending, and Data Archiving. This collected data is stored in the Historical or Block Database of the Micro-PWC computer platform.

Retention Time	Number Retained	Storage Nodes
5 days	50,000	PWC1

Historical Tag Configuration

## ALARM & EVENT MANAGEMENT FUNCTIONS

The Micro-PWC provides for detection, organization, display and acknowledgement of both process and system alarms. Alarms can be organized by area, priority and time. Alarm Review displays provide the means to organize and sort alarms. Process alarms are displayed on the top two lines of the Micro-PWC display in the Mini-Alarm Window.

Alarm conditions are reported on process graphics, with graphic configurations permitting such action as changing color or symbol shapes as a function of alarm conditions.

Process alarms are assigned a priority that can be configured to display in a different color for rapid identification of the importance of the alarm. Each point can also be assigned to any of up to 64 plant areas. If desired, the alarm feature can be inhibited through configuration. The Micro-PWC provides a means to filter messages by message classes and message routing. This pre-sorting feature allows an operator to quickly view, access and take corrective action on the process alarms under his/her specific area of responsibility.

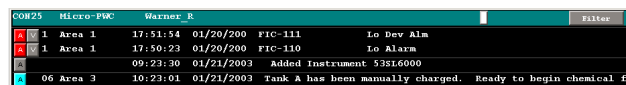
*Message classes* enable the system to distinguish between different kinds of messages and allows efficient message sorting. Messages within each class are further distinguished by separation into *Message Types*. Logging of messages is configurable by the user.

In addition to Message Classes, Message Routing allows filtering of messages based on the following parameters:

- Priority
- Area
- Server or Micro-PWC

Message Routing enables messages of any Message Class to be separately routed to any device that has been configured through the Printer Assignment. Message Routing also allows filtering out messages that are not important for a specific application or operating area.

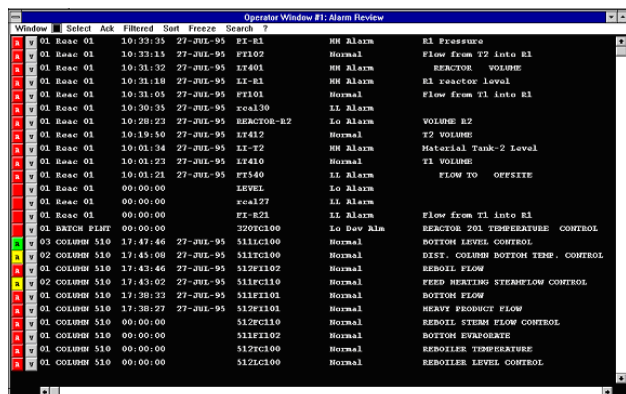
**Mini Alarm Window** - appears at the top of all Micro-PWC displays and shows messages regarding process conditions that are in alarm, event messages and operator messages. Alarms will appear on the top 2 lines and are visible at all times, regardless of other displays that may be on the display screen. The top alarm line can be configured to display either the newest or oldest alarm that has the highest priority. Furthermore, the display may be configured to behave differently, depending on whether or not unacknowledged alarms exist.



Mini Alarm Window

The system event display area appears below the alarm display area. Event messages report the occurrence of system events (as opposed to process events) such as database loading and Process Instrument status.

**Alarm Review Display** - This display presents a list of all process alarms generated on the system. The user can elect to display either the Newest or Oldest High Priority Alarm. The user also has the option to sort the Alarm Review and display alarms by time of occurrence, priority or area. Each line of the Alarm Review provides the priority, area, time of occurrence, tagname, alarm limit, and value.

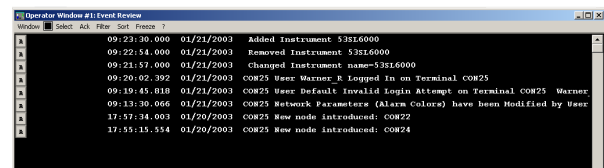


Alarm Review Display

**Alarm Acknowledgement** - If the Alarm Review display is on screen, the operator has the option of acknowledging each individual alarm of acknowledging all alarms on the Alarm Review simultaneously.

**Alarm Printouts** - System alarms, process alarms and other recorded events can be printed on an Alarm/Event printer. The device assignment feature allows specific types of alarms and messages to be printed automatically at selected printers.

**Event Review Display** - provides a list of non-process related alarms within the system, such as process instrument failure, User Log-in, process instrument power up, Operator acknowledgement, etc. The Event Review is an Operator Window Menu Bar selectable display. Event Review can be accessed by selecting it from the Operator Window SELECT menu. Each line of the Event Review displays the time, date and Event description. Event displays can also be color-coded.

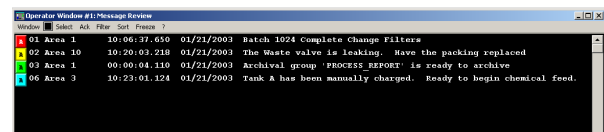


Event Review Display

Event Review information can be filtered by System Event Message Types for presentation of data to be displayed to the user. Event Messages can also be sorted by Oldest, Newest. As the Operator Acknowledges events, they are removed from the Event Review Display. System Event Messages are classified into the following message types:

- Process Instrument Events
- Micro-PWC Events
- Network Events
- Return to Normal
- Event Acknowledged

**Message Review:** The Message Review display provides a list of Operator messages or Process Instrument generated messages sent to the Micro-PWC. Message displays include Priority, Area, Time, Date and Message text.



Event Review Display

The Message Review provides sorting and filtering of messages by Oldest, Newest, Type, Priority, Area,. Messages displayed on the Message Review include a color-coded



**MODEL NUMBER BREAKDOWN**

	Model Code	PW60	<u>0</u>	-	<u>A</u>	-
		01 - 04	05	06	07	08
<b>MicroPWC</b> for Windows 2000 Professional, Windows XP Professional and Windows 7		PW60				
<b>Fixed Digit</b>			0			
<b>MicroDCI Communications Services</b> Client Station (Note 1)				0		
75 Tags				3		
150 Tags				4		
300 Tags				5		
600 Tags				6		
900 Tags				7		
Unlimited Tags				U		
<b>Design Level</b>					A	
<b>Security Key Type</b> None (for adding to systems with existing Security Device/copy protection key)						X
USB Port						1

**IMPORTANT INFORMATION:**

The Micro-PWC product functionality is controlled by a software license manager using a hardware security device (which plugs into the universal serial bus (USB) port of the PC) and one or more 20 digit software license keys to match the hardware key. The host computer must have a working USB port.

Only one Hardware Security Device is required when Micro-PWC, Micro-DCI Communications Services, LoopMaster and Micro-Tools products are installed on the same host computer.

**Minimum System Requirements**

Desktop or Tower Mount Case including:

- Intel or AMD processor based, Microsoft Windows compatible personal computer (PC) with a Pentium™ Microprocessor and minimum speed of 500 MHz: (1.0 GHz or higher recommended)
- 512 MB (or more) for optimum performance
- 500 MB of available Hard Disk space minimum.
- A universal serial bus (USB) port for printing and hardware security key installation.
- Microsoft Windows™ 32-bit or 64-bit 7 Professional, 8 Professional or 10 Professional
- CD-ROM drive. (The Micro-PWC system software is distributed on CD-ROM)
- Removable Media (for archiving data and configuration files)
- IBM AT-compatible 101 key keyboard
- Cursor positioning device
- Video board and monitor, which support 256 colors (8-bit mode) at 1024 x 768 pixel resolution

**The Company's policy is one of continuous product improvement and the right is reserved to modify the information contained herein without notice.**

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