ProHelp® EPM

Production & Process Monitoring System

System Administration Manual
For ProHelp® EPM, Release 6.1.0

MANUAL #810-0014

Revision – B

March 23, 2004

ATTENTION

You can obtain service support by visiting Mattec's web site at **http://www.mattec.com**, by emailing the help desk at **helpdesk@mattec.com**, or by telephone at **(513) 683–1802**.

This manual is intended for advanced users only who have been properly trained how to configure the ProHelp® EPM system.

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1. Introduction To ProHelp® EPM

The following sections provide a brief introduction to the ProHelp® EPM Production and Process Monitoring System.

1.1 Overview

Mattec Corporation's ProHelp® EPM Production and Process Monitoring System is specifically designed for real-time monitoring of all types of production equipment. It is used extensively in the plastics injection molding, extrusion, blow molding, blown film, metal stamping, die casting, printing, painting, and assembly industries. The basis behind the benefits from the ProHelp® EPM system is the rationale that plant managers and operational people will take corrective actions to solve problems on production equipment when they are aware of such problems. ProHelp® EPM is the device to alert employees to problems immediately when the problems occur. Therefore, tremendous savings can occur in increased productivity and decreased scrap parts.

The ProHelp® EPM system combines computer hardware, computer software, and Machine Interface Units (MIUs) into an efficient system to provide real-time production monitoring, production reports, process alarms, plant scheduling aids, and SPC/SQC process and part capability analysis. Floor personnel can make use of the machine-mounted terminals to signal different departments for help, to view production results at the machine site, and to enter downtime reasons or scrap reasons. Production, downtime, and scrap reports can be generated on a shift and daily basis, or the user can generate these reports for extended time periods by specifying a start and end date for the desired report. Job history data is continuously summarized and available for management's review.

ProHelp® EPM utilizes the Microsoft Windows 2000 Server operating system and the Microsoft SQL Server 2000 database. Users can connect to the system from most Microsoft Windows operating systems.

This manual describes the System Administration functions in ProHelp® EPM. These functions are used to configure ProHelp® EPM in an appropriate manner for your facility.

1.2 The System Manager

The System Manager is a person appointed to be the expert on the ProHelp® EPM system. This person is usually an employee of the Production Control Department, but may be an engineer or project leader.

The responsibilities of the System Manager include:

1. Communicate any problems to Mattec's Customer Service Department.
2. Install new software updates when sent by Mattec's Customer Service Department.
3. Determine and initialize the installation variables for downtime names, scrap names, shift start and end times, machine numbers, etc.
4. Backup the system's data to protect against accidents. **Daily backup is recommended; weekly backup is mandatory.**
5. Utilize the purge function of the system to keep things functioning properly.
6. Configure User IDs and Passwords to permit access to authorized personnel only.
7. Coordinate training for users of the system.
8. Contact the Mattec Customer Service Department to stay abreast of new software and hardware releases.

It is a good idea for the System Manager to visit Mattec once per year to receive additional training on the ProHelp® EPM system.

1.3 System Components

The following sections provide a brief overview of those components that comprise the ProHelp® EPM system.

1.3.1 Server Computer

The main ProHelp® EPM computer is referred to as the "server", "host", or "monitoring node" computer. This is the only computer that is required to run the ProHelp® EPM system. This computer contains all of the configuration files, data files, and ProHelp® EPM software. The server computer runs Microsoft's Windows 2000 Server operating system and Microsoft's SQL Server 2000 database.

All MIUs connect to the server computer. All data from MIUs is automatically recorded at the server and can be viewed from other computers in real-time.

1.3.2 Machine Interface Unit (MIU)

The Machine Interface Unit (MIU) is an industrial-strength data collection device that has been designed and manufactured by Mattec. It is used to collect production and process information from the manufacturing machine and transmits that data in real-time to the server computer.

There are a wide variety of MIUs. Most have a graphical interface that allows the machine operator to view data about the current job and input relevant information (e.g., scrap parts). Many MIUs have both analog and digital inputs. Many MIUs have an optional PLC interface that can be used to extract data directly from supported machine controllers.

1.3.3 RocketPort Serial Communication Board And Buffer Box

MIUs are connected to the server computer via RS-485 cabling. Up to 16 MIUs can be daisy-chained together on a single channel. Multiple channels can be used in order to reach the maximum 4,096 MIUs per system.

The Buffer Box is a small device that has been designed and manufactured by Mattec. It is usually located within a few feet of the server computer. The Buffer Box converts the RS-485 signal to an RS-232 signal and "conditions" the signal.

A channel of MIUs (RS-485) is wired into the Buffer Box on one side. On the other side, the Buffer Box outputs an RS-232 signal that is connected to a serial communication port on the server computer.

In most applications, Mattec will have installed a RocketPort Serial Communication Board in the server computer. The RS-232 signal from the Buffer Box is connected to one of the channels on the RocketPort board. The RocketPort board contains multiple communication ports and is a "smart" device that improves the communication process.

1.3.4 Client Computers

Although the server computer is a fully functioning "client" system, most users will want to connect to the system from their own computer. To do so, they will need to have an approved Microsoft operating system loaded on their computer. The System Manager will load the ProHelp® EPM Client software on that computer and configure it to connect to the server computer. The user will be given permissions to access or modify data, as appropriate. These users with then be able to view data for the entire facility in real-time.

1.4 Shut Down Procedure

ProHelp® EPM is intended to run 24 hours per day, every day. When it does become necessary to reboot the system, use this procedure. It will bring the system to an orderly shut down.

- Announce to all users that you will be taking the system down. Have all users exit the ProHelp® EPM software.
- Assure that no ProHelp® EPM job changes are under way.
- Assure that a shift change is not in progress.
- Login to the server computer as an authorized user.
- Using the mouse, click on the Microsoft Windows **`Start Menu`** and select **`Shut Down`**. The **`Shut Down Windows`** dialog box will be displayed.
- Select **`Shut Down the computer?`** and press **`Yes`**.

2. Basic System Administration

In most cases, the Mattec Customer Service Department will work closely with your System Manager to configure your system properly. The following sections are intended as a reference for the System Manager when it becomes necessary to reconfigure your system.

Caution:

It is a good idea to contact the Mattec Customer Service Department for assistance when you need to modify an area of system configuration with which you are unfamiliar. Settings in the System Configuration application control the behavior of your ProHelp® EPM system, and deleting some settings can cause a permanent loss of data!

2.1 Shift Configuration

A shift is used to define the normal, day-to-day working shift schedule for one or more machines.

Advanced Tip #1

Exceptions to the shift configuration (e.g., holidays) are configured in the Shift Exception configuration screen. Reference Section 2.2 for additional information.

A department (Section 2.3) contains a default shift configuration that, by default, applies to all machines that are assigned to the department. However, individual machines (Section 2.12) can override the department default shift configuration and specify a machine-specific shift configuration.

Each shift configuration has at least one (1) "shift change", and no more than ten (10) shift changes, per day. The shift configuration is required to "repeat" at least every eight (8) weeks. The most common configuration is a shift configuration that repeats every single week (and is comprised of a single week in the configuration screen.)

A maximum of 127 shift configurations can be configured in the system.

The end of one shift and the beginning of the next shift may cross into the next day. For example, Monday's third shift may end on Tuesday morning at 6:00 a.m.

Example #1:

Imagine a facility where the machines are scheduled to work three (3) shifts per day, seven (7) days per week. The System Manager would define a shift configuration with 3 "shift changes" per day and a "repeat" pattern of 1 week. Thus, only a single week would be defined in the shift boundary configuration.

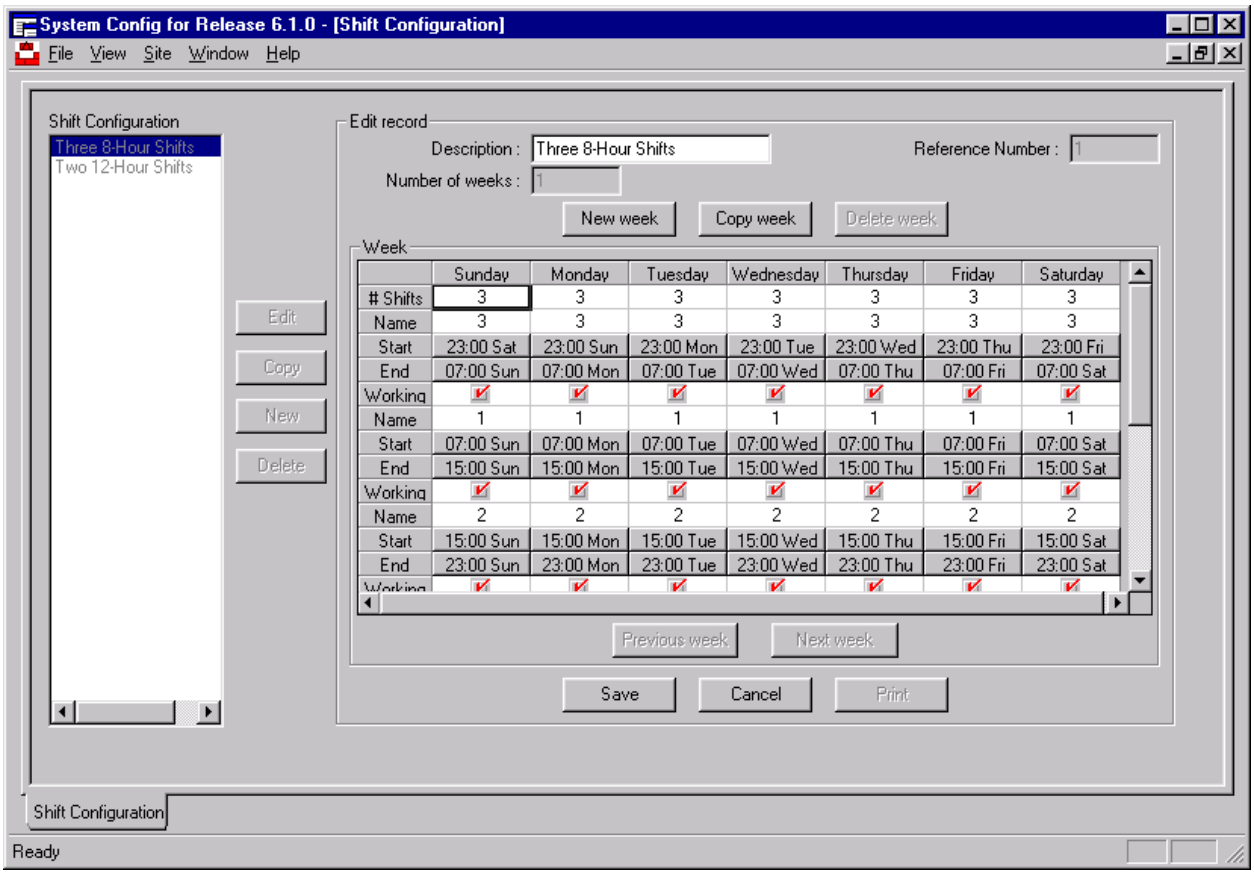
The precise working hours for each shift would be entered into the shift configuration. The shift configuration could then be assigned to a specific department and/or specific machines.

In this example, it doesn't matter whether the machines are scheduled to work on Saturday and/or Sunday. The System Manager defines whether or not a shift is "active" using the shift configuration screen.

To create a shift configuration, follow these steps:

- Start the **`System Configuration`** program. To do this, start the **`Main Menu`** and press the **`Launch System Configuration`** icon.

- Click the **`Site`** menu and select **`Shift Configuration`**. The **`Shift Configuration`** screen will be displayed.



Shift Configuration

Example #2:

Imagine a facility where employees are scheduled in “crews” numbered “A”, “B”, “C”, and “D”. Each crew works twelve hours per day for 3 days, then is off work for 4 days, then works for 4 days, then is off work for 3 days.

For example, crew “A” works the morning shift and crew “C” works the evening shift. Both crews work Sunday, Monday, and Tuesday, then are off Wednesday, Thursday, Friday, and Saturday, then work Sunday, Monday, Tuesday, and Wednesday, then are off Thursday, Friday, and Saturday. Crews “B” and “D” work the opposite of crews “A” and “C”.

In this example, a two-week repeat pattern will be required. The shifts will be named “A”, “B”, “C”, and “D”, as appropriate.

The precise working hours for each shift would be entered into the shift configuration. The shift configuration could then be assigned to a specific department and/or specific machines.

Care should be taken when creating multi-week shift configurations. These types of configurations are generally much more complicated than the simple configuration in example #1. It may be a good idea to contact the Mattec Customer Service Department for assistance when you plan to create a multi-week shift configuration.

When you create a multi-week shift configuration, the current day will be highlighted.

Advanced Tip #2

The Shift Time Utility serves two purposes:

- It can translate an internal "time_t" value into a human-readable date/time string.
- It can assist the user who is creating a multi-week shift boundary configuration by determining where the present week would fall within the multi-week configuration. This was needed in ProHelp® EPM, Release 6.0.0 and earlier.

To run the Shift Time Utility, follow these steps:

- Click on the Microsoft Windows **`Start Menu`**.
- Click on the **`Programs`** menu, click on the **`Mattec`** menu, click on the **`Utilities`** menu, and select **`Shift Time Utility`**.
- The **`Shift Time Utility`** will be displayed.

To use the Shift Time Utility to determine where the present week would fall within a multi-week shift configuration, follow these steps:

- Run the **`Shift Time Utility`**, as described above.
- Press the **`Now`** button.
- The present date/time will be converted to an internal "time_t" value and this information will be shown on the display.
- Locate the field labeled **`Shift Cycle Indexes`**. There will be eight (8) numbers next to this field, corresponding to the maximum 8-week "repeat" pattern that a shift boundary may have.

Each of the "Shift Cycle Indexes" numbers define where the present week would fall within a multi-week shift configuration. The first number is always "1" and means that the present week would be the first week if you defined a shift configuration with a 1-week repeat pattern. The second number represents which week (1 or 2) the present week would be if you defined a shift configuration with a 2-week repeat pattern. The third number (1, 2, or 3) represents which week the present week would be if you defined a shift configuration with a 3-week repeat pattern. And so on…

For example, imagine that you are creating a shift configuration with a 5-week repeat pattern. In order to make sense of the configuration screen, you need to determine where "today" would fall in the configuration. You would locate the 5th number to the right of the "Shift Cycle Indexes" field in the Shift Time Utility. Imagine that this number is "2". Therefore, "this week" would be the 2nd week that is displayed in the shift configuration screen.

In ProHelp® EPM, Release 6.1.0 and later, the current day is highlighted in the Shift Configuration screen.

2.2 Shift Exceptions

Shift exceptions are used to define exceptions to the normal, day-to-day working schedule (shift configuration) that was described in Section 2.1.

There are several reasons why you would need to define an exception to the shift configuration, including:

- Holidays.
- Exceptions to the "working" flag for a shift configuration. For example, if you normally work on Saturdays, but will not work this Saturday, the System Manager would create a shift exception.
- Exceptions to the "not working" flag for a shift configuration. For example, if you normally do not work on Sundays, but will work this Sunday, the System Manager would create a shift exception.

The System Manager can create shift exceptions for specific departments and/or specific machines.

Example #1:

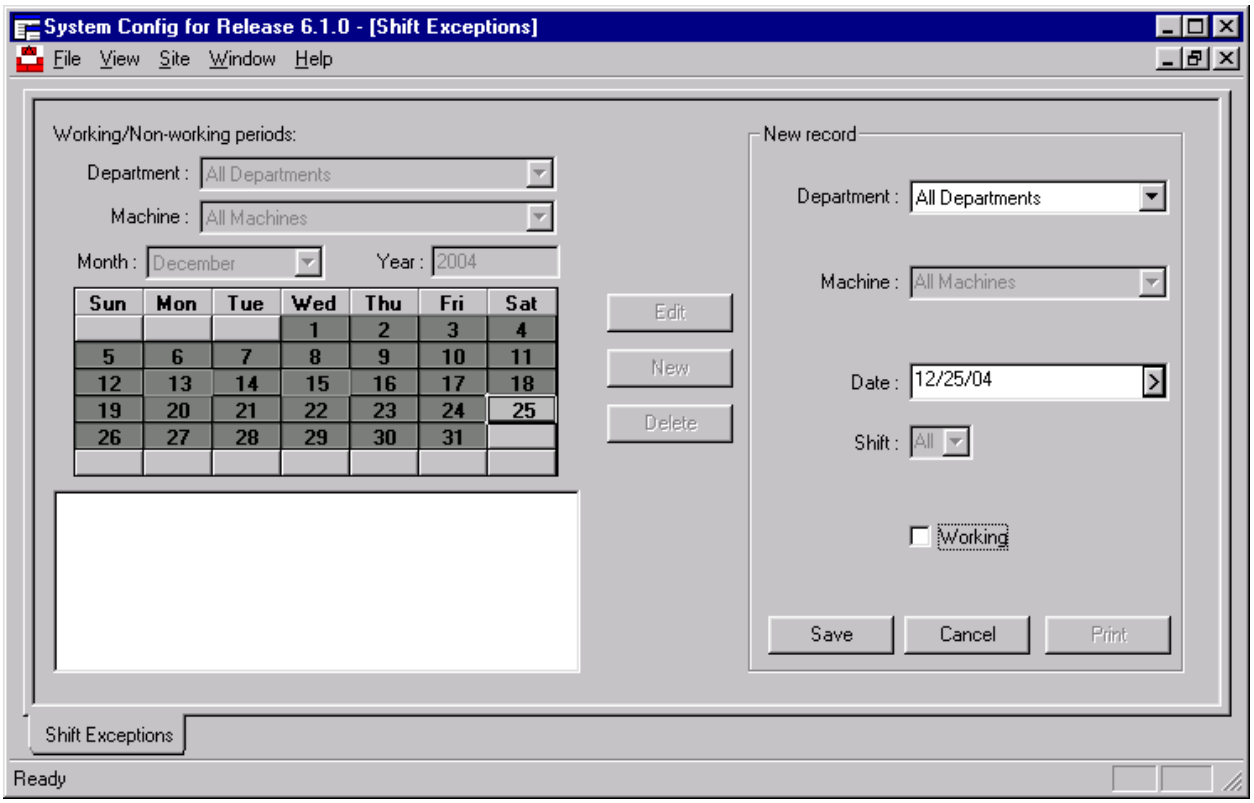
Imagine that all machines in the department named "Injection Molding" normally work three shifts per day, Monday through Friday, and are off on Saturday and Sunday.

December 25th falls on a Thursday and the department will be shut down on that day. You could create a shift exception for December 25th that applies to all machines in the department that specifies that they are "not working".

To configure a shift exception, follow these steps:

- Start the **`System Configuration`** program. To do this, start the **`Main Menu`** and press the **`Launch System Configuration`** icon.

- Click the **`Site`** menu and select **`Shift Exception`**. The **`Shift Exception`** configuration screen will be displayed.



Shift Exception Configuration

A shift exception may be applied to the following:

- One department or all departments.

- One machine in the department or all machines in the department.

- A specific shift for the specified day or all shifts for the specified day.

Additionally, a shift exception may specify that the machine(s) will be “working” or will not be “working”.

Advanced Tip #1

You are not required to create a shift exception when a machine runs during a shift when the machine would normally be turned off. If the machine is running and creating parts, the MIU will automatically monitor and collect this information.

However, if you run a machine during a shift when the machine is not scheduled to run, the MIU will not record downtime. This is one reason why you might want to create a shift exception.

Also, if you plan to run a machine during a shift when the machine is not scheduled to run, or you plan to turn off a machine during a shift when it should run, the Job Schedule will be slightly inaccurate. This is another reason to create a shift exception.

Advanced Tip #2

Shift exceptions are "cumulative". This allows you to easily create exceptions within exceptions, as needed.

For example, imagine that the department named "Injection Department" is normally scheduled to run on Saturday. However, this Saturday, most of the department will shut down. You could create a shift exception that applies to all machines in the department that says the machines will not be working.

However, Machine #1, which is part of the "Injection Department", is running an important job and will run on Saturday. You could create a second shift exception that applies only to Machine #1 that says Machine #1 will be working. This exception will override the department exception.

2.3 Department

A department is used to group a set of machines together. Every machine must be assigned to one and only one department. Departments are a convenient way of organizing machines on the Real-Time Display, in reports, and elsewhere.

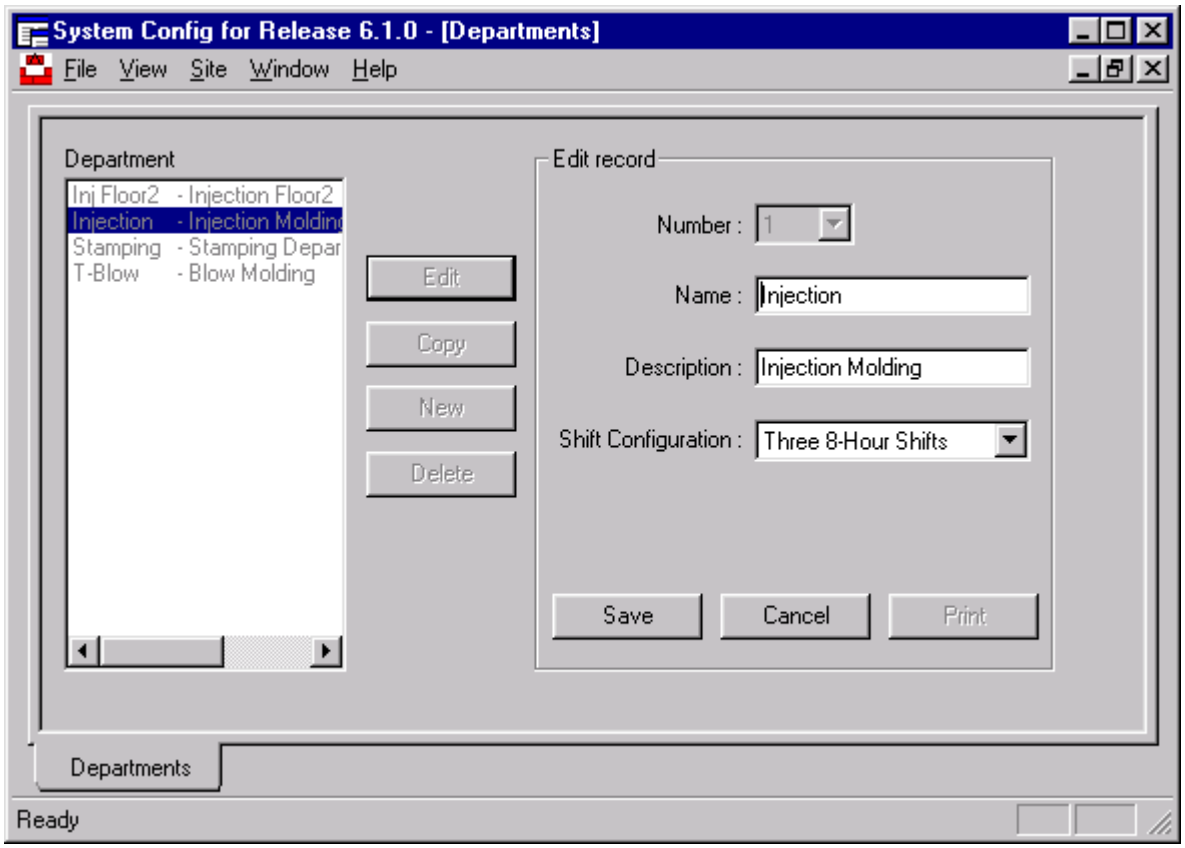
A maximum of 99 departments can be defined in the system.

A department must be defined before you can create machines. A machine is assigned to a department via the Machine Configuration program. Reference Section 2.12 for additional information.

To configure a department, follow these steps:

- Start the **`System Configuration`** program. To do this, start the **`Main Menu`** and press the **`Launch System Configuration`** icon.

- Click the **`Site`** menu and select **`Department`**. The **`Department`** configuration screen will be displayed.



Department Configuration

The following fields are available in the Department configuration screen:

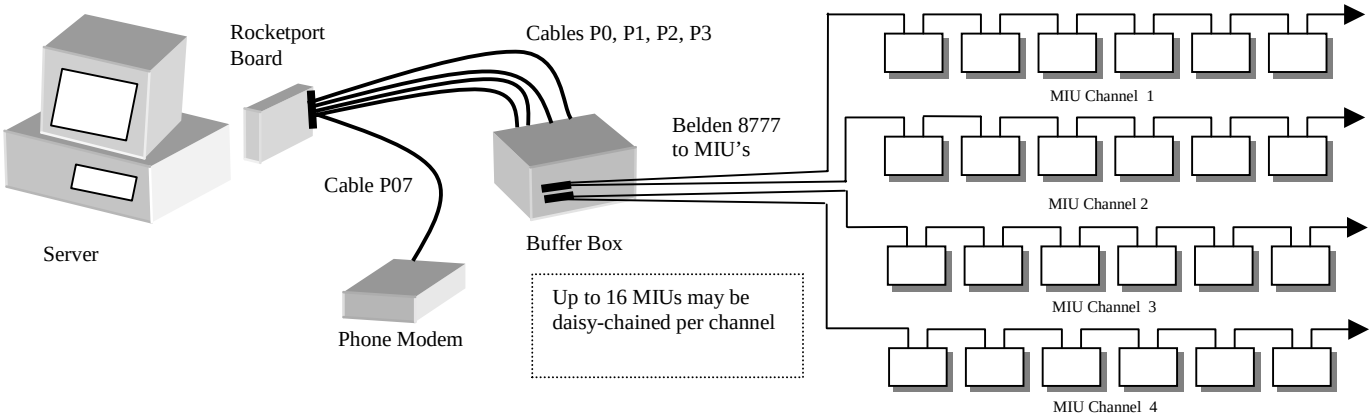
Field	Description
Number	A unique number, 1-99, for the department. This is the internal reference number that is used by the system to represent this department.
Name	A unique name for the department. This name will be displayed on the Real-Time Display, in reports, and elsewhere.
Description	A description for the department. The description will be displayed on the Real-Time Display, in reports, and elsewhere.
Shift Configuration	The default "Shift Configuration" for the machines that will be assigned to this department. This setting can be overridden on a machine-by-machine basis in the Machine Configuration program. Reference Sections 2.1 and 2.12 for additional information

You can view existing departments, edit existing departments, create new departments, and delete existing departments if you have been assigned appropriate security permissions by the System Manager. You can only delete a department if no machines are assigned to that department.

2.4 Channel

MIUs are connected to the server computer via RS-485 cabling. Up to 16 MIUs can be daisy-chained together on a single channel. Multiple channels can be used in order to reach the maximum 4,096 MIUs per system.

The Buffer Box is a small electronic device that has been designed and manufactured by Mattec. It is usually located with a few feet of the server computer. The Buffer Box converts the RS-485 signal to an RS-232 signal and "conditions" the signal.



ProHelp® EPM Communication Wiring

A channel of MIUs (RS-485) is wired into the Buffer Box on one side. On the other side, the Buffer Box outputs an RS-232 signal that is connected to a serial communication port on the server computer.

In most applications, Mattec will have installed a RocketPort Serial Communication Board in the server computer for this purpose. The RS-232 signal from the Buffer Box is connected to one of the channels on the RocketPort board. The RocketPort board contains multiple communication ports and is a "smart" device that improves the communication process.

For smaller applications, it may be possible to use a communication port that is built-in to the server computer, instead of using a RocketPort board, provided that the computer (and communication port) is fairly modern. However, this generally is not recommended, and a RocketPort board is required for most applications.

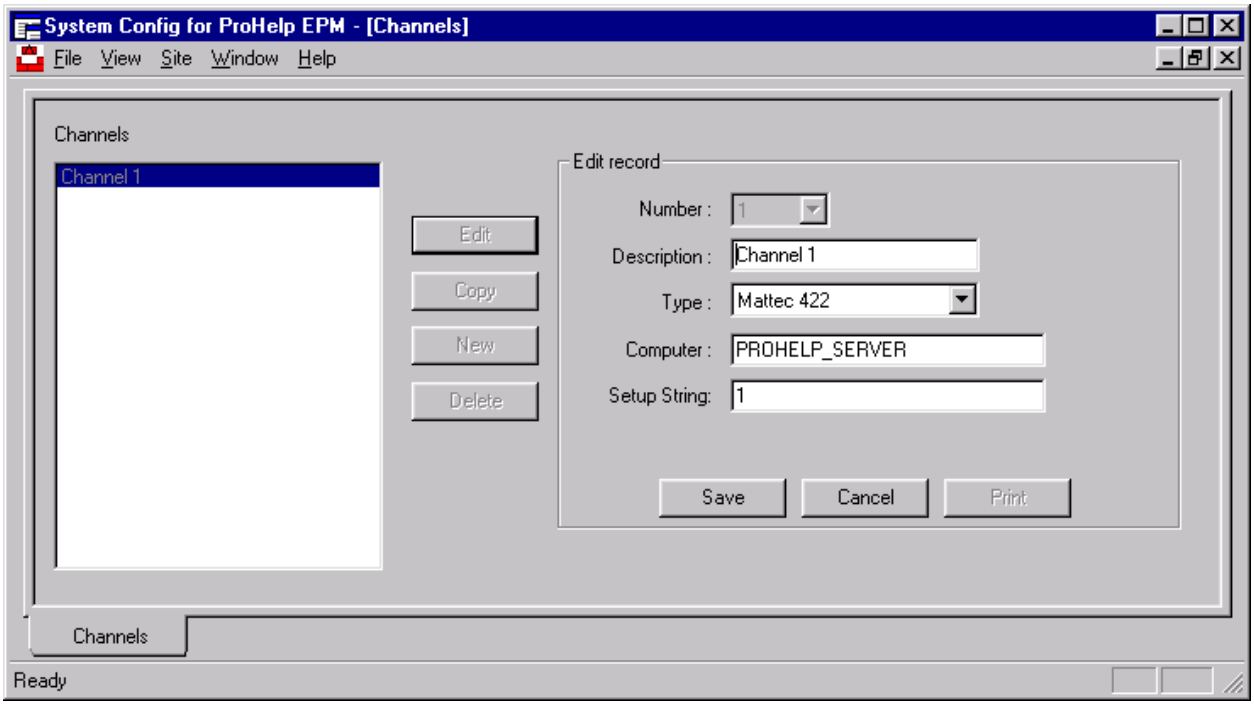
A channel must be defined before you can create machines. A machine is assigned to a channel via the Machine Configuration program. Reference Section 2.12 for additional information.

A maximum of 255 channels can be defined in the system. Each channel will require an available serial communication port in the server computer.

To configure a channel, follow these steps:

- Start the **`System Configuration`** program. To do this, start the **`Main Menu`** and press the **`Launch System Configuration`** icon.

- Click the **`Site`** menu and select **`Channel`**. The **`Channel`** configuration screen will be displayed.



Channel Configuration

Most of the fields on the Channel Configuration Screen are self-explanatory. "Number" is the internal reference number, 1-255, for this channel. "Description" is the name of the channel that will be seen in the Machine Configuration program.

"Type" is always "Mattec 422". "Computer" is the name of the server that that channel is physically wired into. This will always be the name of the ProHelp® EPM server computer.

The "Setup String" contains initialization information, including the serial communication port that the channel is connected to. In the example above, "Channel 1" is wired to "COMM1" on a

computer named “PROHELP_SERVER”. Only the number of the serial communication port, not the word “COMM”, is included in the “Setup String”.

Advanced Tip #1

You must reboot the server after making changes to the channel configuration.

Advanced Tip #2

In older versions of ProHelp® EPM, all the MIUs that were wired in to the channel had to be in the same department. This is no longer true.

Advanced Tip #3

Unlike older ProHelp® systems, ProHelp® EPM supports only one (1) monitoring node. All MIUs in the system are wired into the same server computer.

Advanced Tip #4

The baud rate that is selected for a channel must correspond to the baud rate that has been selected at the MIUs that are wired in to the channel. If you change the baud rate for a channel without making a corresponding change at the MIUs, the MIUs will be unable to communicate with the server computer.

Advanced Tip #5

The “Setup String” is used to specify the COMM port and baud rate for this channel. If a baud rate is not specified, a default baud rate of 4800 is used. The fields are entered in the “Setup String” field the form ***comm[:baud]***, where ***comm*** is the COMM port number and **baud** is the optional baud rate.

For example, to create a channel for COMM 3 at 4800 baud, you can enter **3** in the “Setup String” field. To create a channel for the same COMM port at 9600 baud, you would enter ***3:9600*** in the “Setup String” field.

The following baud rates are supported by ProHelp® EPM, provided that they are also supported by all of the MIUs on the channel:

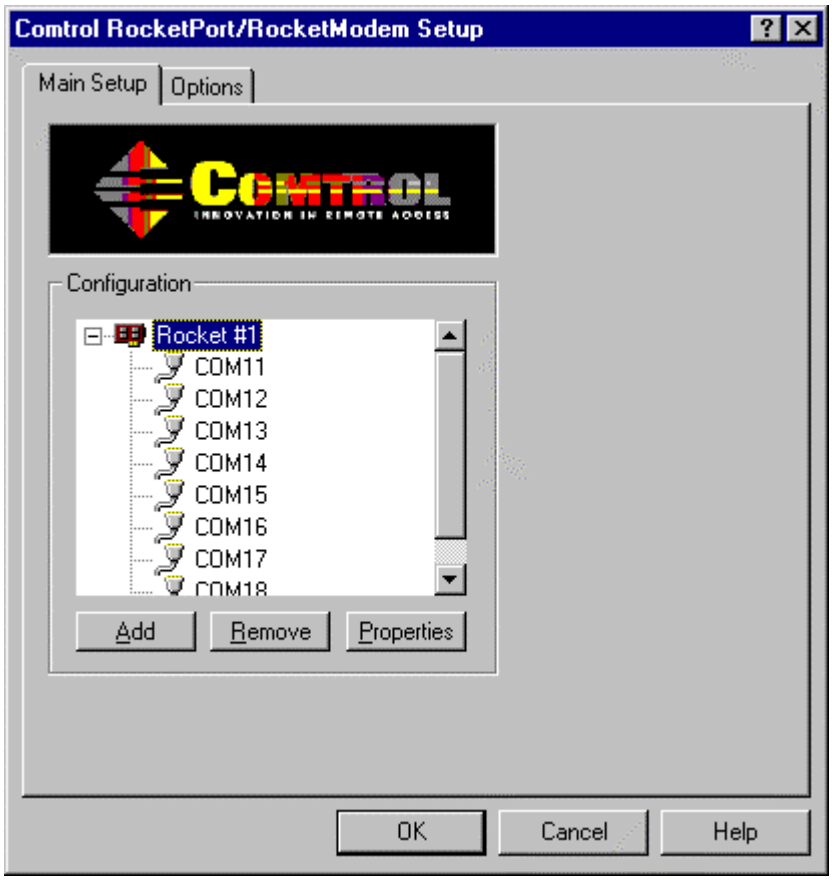
1200	**2400**	**4800**	**9600**	**14400**	**19200**
38400	**56000**	**57600**	**115200**	**128000**	**256000**

2.4.1 RocketPort Serial Communication Board

In most applications, Mattec will have installed a RocketPort Serial Communication Board in the server computer. This board increases the number of serial communication ports that are available for use.

To determine the port number for a serial communication port on the RocketPort board (for use in the "Setup String" in the channel configuration screen), follow these steps:

- Click on the Microsoft Windows **`Start Menu`**.
- Click on the **`Programs`** menu, click on the **`Comtrol RocketPort RocketModem`** menu, and select **`RocketPort Setup`**.
- The **`Comtrol RocketPort/RocketModem Setup`** program will be displayed.



Comtrol RocketPort/RocketModem Setup Program

The possible serial communication port numbers will be displayed. For example, the ports 11-18 exist, as shown in the above picture. These numbers, without the word "COM", are used in the "Setup String" in the channel configuration screen.

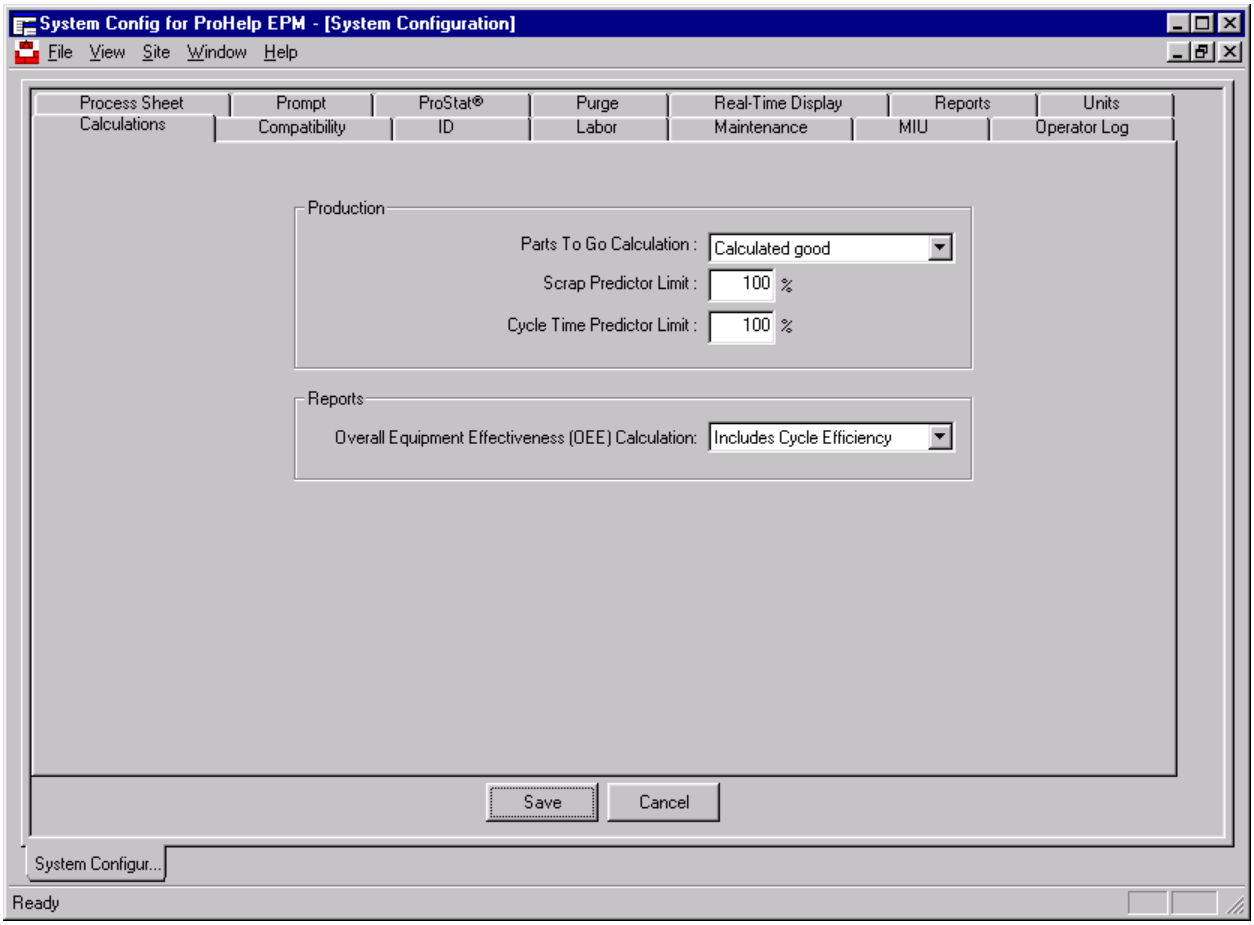
2.5 System Configuration

The System Configuration screen in the System Configuration program is used to control a variety of settings for your ProHelp® EPM system.

To configure the system, follow these steps:

- Start the **`System Configuration`** program. To do this, start the **`Main Menu`** and press the **`Launch System Configuration`** icon.

- Click the **`Site`** menu and select **`System Configuration`**. The **`System Configuration`** screen will be displayed.



System Configuration

The tabs on the display contain fields that control the behavior of different areas of the ProHelp® EPM system. The following fields are available in the System Configuration screen:

Tab	Field	Description
Calculations	Parts To Go Calculation	This field modifies the value that is displayed in "Part To Go" fields in reports, on the Real-Time Display, in the Job Schedule, and at MIUs. "Calculated Good" is the default setting. This will cause the system to calculate "Parts To Go" based on the job's lot size minus good parts made and takes actual percent scrap into account. "Packed Production" will cause the system to calculate "Part To Go" as the job's lot size minus packed parts. Percent scrap is not taken into account. Because packed parts are usually entered by machine operators and are often not entered in real-time, this setting will cause "Parts To Go" calculations to only be as accurate as the last packed parts entry.
Calculations	Scrap Predictor Limit	This field minimizes the impact of the actual scrap percent when calculating a job's forecasted end date. For example, if a job has a standard scrap percent of 6%, and the Scrap Predictor Limit is set to 100, then 12% (6% + (6% * 100%)) is the maximum actual scrap percent that will be used when calculating the job's forecasted end date.
Calculations	Cycle Time Predictor Limit	This field minimizes the impact of fast or slow average cycle times when calculating a job's forecasted end date. For example, imagine a job has a standard cycle time of 30 seconds and the Cycle Time Predictor Limit is set to 50. The minimum cycle time that would be used when predicting the job's forecasted end date is 15 seconds (30 - (30 * 50%)) and the maximum cycle time for this calculation is 45 (30 + (30 * 50%)).
Calculations	Overall Equipment Effectiveness (OEE) Calculation	This field allows the System Manager to modify the OEE calculation that is displayed in different areas of the system. Valid choices are "Includes Cycle Efficiency" and "Includes Yield Efficiency". Overall Equipment Effectiveness is an optional feature.

Tab	Field	Description
Compatibility		The fields on this display are used to configure the text (descriptions, units, and options) associated with Tool / Machine Compatibility. This data can be seen in the Tool IDs screen of Edit Facilities and the Machine Configuration program in System Configuration.
ID		The fields on this display are used to modify the maximum field length for various fields. The ability to configure the field length for a field to be less than the maximum length is provided for historical reasons only.
Labor	Automatic Labor Hours Set	This field is obsolete.
Labor	Labor Calculation Style	This field is obsolete.
Labor	Process Sheet Labor Factor	This field controls the default value for "Labor Hour Factor" when you create a new Process Sheet in Edit Facilities.
Labor	Automatically Log Out Operators At Shift Change	When set, this field causes all operators who have logged in at an MIU for "Operator Efficiency" or "Operator Tracking" to be automatically logged out at shift change.
Maintenance	Preventive Maintenance Estimation	This field modifies the default selection for "Estimation Mode" in the Machine PM Due Report and the Tool PM Due Report. The user can modify this selection in the report interface, as needed. This field does not affect the collection of data.
MIU	MIU Password	This field is the universal MIU password that is used in older MIUs to control access to certain areas of the MIU, including Machine Calibration. Newer MIUs allows user-specific passwords to be specified in the Operator Permissions configuration program. Reference Section 2.14 for additional information.
MIU	Active Cavity Edit Enabled	This field controls whether the machine operator can modify the number of active cavities for a job. When disabled, users must modify the number of active cavities using the Tool IDs screen in Edit Facilities. This field is almost always turned on.
MIU	Packed Parts Entry Enabled	This field controls whether the machine operator can enter packed parts from the MIU.

Tab	Field	Description
MIU	Case Entry Enabled	This field controls whether the machine operator can enter scrap production from the MIU in the form of parts and cases. When disabled, only scrap parts can be entered. When enabled, the machine operator can enter data as parts or cases. If "Packed Parts Entry Enabled" is enabled, this field also controls whether the machine operator can enter packed production from the MIU in the form of parts and cases. The number of parts per case (for scrap or packed production) is entered in the Part IDs screen in Edit Facilities.
MIU	Keypad Enabled	This field controls whether the keypad will work on some types of MIUs. This field is almost always turned on.
MIU	Job Change Enabled	This field controls whether a machine operator can perform "job control" at an MIU. This field is almost always turned on.
MIU	Job Selection Enabled	This field controls whether a machine operator can select which job should be started when performing a job change at an MIU. This functionality requires a supported MIU. "Job Change Enabled" must be turned on for this field to be relevant. This field is almost always turned on.
MIU	Security Timeout	This field controls the amount of time after which supported MIUs will disable all operator functionality. This requires the MIU Security option.
MIU	Not Down Label	This field controls the text that is displayed at an MIU when the machine is running. The default value is "In Prod".

Tab	Field	Description
MIU	Downtime Unknown	This fields controls which downtime reason is selected when a machine transitions from running to down. When downtime unknown is enabled, the machine will always default into the "Unknown" category of downtime. When downtime unknown is disabled, the machine will return to the last known downtime reason when it goes down. With this setting, the machine will only default into the "Unknown" category if the MIU has been rebooted since the last time a downtime reason was selected.
MIU	Reset Elapsed On Reason Change	This field controls whether the "Time In Status" field on the Real-Time Display is reset to 0 when a machine is currently down and the machine operator selects a new downtime reason.
MIU	Base Job	This field controls where a "base job" (that is, an entire "family job" or a "bachelor job") is placed in the machine schedule when a job change occurs and the base job is suspended.
MIU	Component Job	This field controls where a "component job" (i.e., a "son job") is placed in the machine schedule when a "job change" occurs and the component job is suspended.
MIU	Reset Cavities	This field controls whether "Active Cavities" in the Tool ID are reset to the value of "Total Cavities" when a job using the Tool ID is ended.
Operator Log	Operator Log Scrap Descriptions	This fields controls whether a user can modify the "Description" for a scrap entry when using the Scrap and Packed Parts log in Edit Facilities. This field is almost always turned off.
Process Sheet	Standard Percent Scrap	This field controls the default value for "Standard Percent Scrap" when you create a new Process Sheet in Edit Facilities.
Process Sheet	Standard Percent Down	This field controls the default value for "Standard Percent Down" when you create a new Process Sheet in Edit Facilities.
Process Sheet	Standard Cycle Time	This field controls the default value for "Standard Cycle Time" when you create a new Process Sheet in Edit Facilities.
Process Sheet	Non-Production Limit	This field controls the default value for "Non-Production Limit" when you create a new Process Sheet in Edit Facilities.

Tab	Field	Description
Prompt		The fields on this display are used to configure the text associated with various areas of the system.
ProStat	SQC Reports Selection	This field is obsolete.
ProStat	SQC Entry Order	This field controls the entry order for Variable SQC data entry at and MIU. This field controls the default setting for the "Entry Order" flag in the ProStat® Sample Data Edit program. The user can override this value in that program as needed.
ProStat	Warning If Out-Of-Specification	This value controls the default setting for the "Warning if Out-Of-Specification" flag in the ProStat® Sample Data Edit program. The user can override this setting in that program as needed.
ProStat	Suppress Double Read on GagePort Devices	This setting controls the behavior of the MIU when entering Variable SQC data using a GagePort device. When disabled, this field requires the GagePort device to have two (2) consecutive and identical readings before the reading will be accepted. When enabled, this field accepts any input from the GagePort device.
ProStat	Variable SQC Decimal Places	This field controls the number of decimal places that are used at the MIU for Variable SQC data entry.
ProStat	Automatic SPC Interval	This field controls the frequency for taking Automatic SPC samples at the MIU and can be overridden in the Machine Configuration program.
ProStat	Automatic SPC Subgroup Size	This field controls the subgroup size for Automatic SPC samples that are taken at the MIU and can be overridden in the Machine Configuration program.
ProStat	Samples per Run	This field controls the number of SPC samples that comprise a "Run" ("Shift" or "Trend").
ProStat	Percent Error Calculation	This field controls the calculation of the "Current Error" field that is displayed for each SPC/SQC sample in the ProStat® Sample Data Edit program.
Purge		The fields on this display are used to configure the maximum number of days of historical data to retain for the specified data types when the "Purge" stored procedure is executed. You must manually execute the "Purge" stored procedure or configure the stored procedure to execute automatically before data will be purged from the system. Reference Section 4.3 for additional information.

Tab	Field	Description
Real-Time Display	End Of Job Warning	This field controls when the “Parts To Go” and “Hours To Go” fields on the Real-Time Display will turn YELLOW. This will alert personnel to a pending job change.
Real-Time Display	End Of Job Alert	This field controls when the “Parts To Go” and “Hours To Go” fields on the Real-Time Display will turn RED. This will alert personnel to a pending job change.
Real-Time Display	Downtime Threshold	This field is obsolete.
Real-Time Display	Scrap Threshold	This field is obsolete.
Real-Time Display	Cycle Efficiency Threshold	This field is obsolete.
Real-Time Display	Out-of-Spec Threshold	This field is obsolete.
Reports	First Line	This field controls the first header line that appears in all reports after the report title. It can be used to identify your facility.
Reports	Second Line	This field controls the second header line that appears in all reports after the report title. It can be used to identify your facility.
Reports	Reporting N/A String	This field controls the text that is displayed in reports when something is “not applicable”.
Units	Date Format	This field controls the display format for date-related fields in the MIU and most areas of ProHelp® EPM.
Units	Date Delimiter	This field controls the delimiter for date-related fields in most areas of ProHelp® EPM and should be modified, as appropriate, to match the “Date Format”. This setting does not affect the MIU.
Units	Time Amount Format	This field controls the display format for time-related fields in most areas of ProHelp® EPM. This setting does not affect the MIU.
Units	Time Delimiter	This field controls the delimiter for time-related fields in most areas of ProHelp® EPM and should be modified, as appropriate, to match the “Time Amount Format”. This setting does not affect the MIU.
Units	Part Weight Units	This field controls the display format for part weight data. This field affects the data that is displayed on the screen only. All weight-related data is stored in the database in “grams”. This setting does not affect the MIU.

Tab	Field	Description
Units	Material Weight Units	This field controls the display format for material weight data. This field affects the data that is displayed on the screen only. All weight-related data is stored in the database in “grams”. This setting does not affect the MIU.

Advanced Tip #1

MIU Security, Overall Equipment Effectiveness (OEE), Preventive Maintenance, and ProStat® SPC/SQC are optional features. You may purchase these features at any time by contacting the Mattec Sales Department.

Advanced Tip #2

It is a good idea to reboot the server after making changes to the system configuration to ensure that your changes take effect.

Advanced Tip #3

Fields in the System Configuration screen will be disabled if they are associated with an optional feature and you have not purchased that feature.

Advanced Tip #4

If you have purchased the ProStat® SPC/SQC option, Automatic SPC sampling is always enabled for a machine/job. This sampling is enabled on the “ProStat” tab of the System Configuration screen but can be overriden on a machine-by-machine basis in the Machine Configuration program. Reference Section 2.12 for additional information.

Advanced Tip #5

System Configuration is not a good place for “trial and error”. If you are unfamiliar with a setting in System Configuration, contact the Mattec Customer Service Department before modifying the setting.

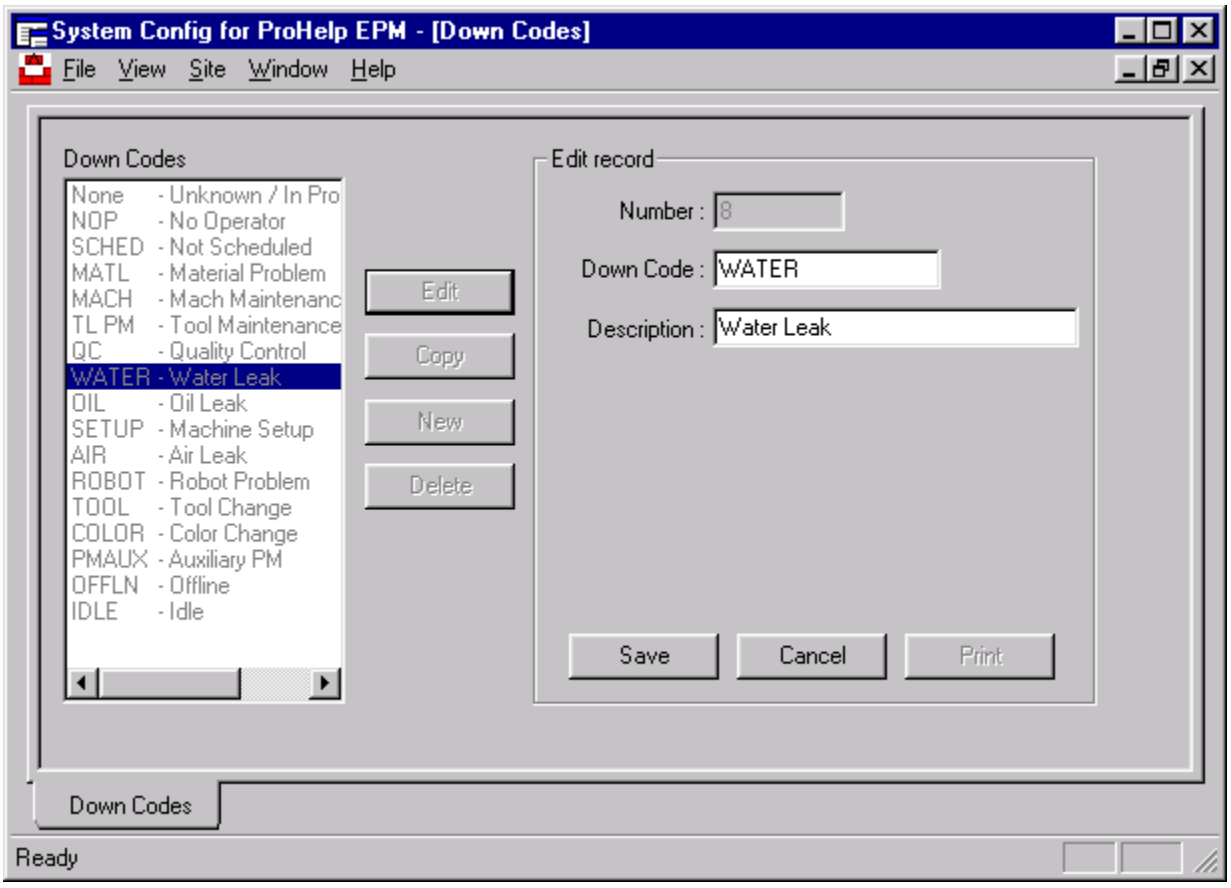
2.6 Down Codes

The System Manager can define up to 100 down codes for the entire system. Down codes are then assigned to a down map that can then be assigned to a specific machine.

To configure a down code, follow these steps:

- Start the **`System Configuration`** program. To do this, start the **`Main Menu`** and press the **`Launch System Configuration`** icon.

- Click the **`Site`** menu, click on the **`Code`** menu, and select **`Down`**. The **`Down Codes`** configuration screen will be displayed.



Down Codes Configuration

You can view existing down codes, edit existing down codes, create new down codes, and delete existing down codes if you have been assigned appropriate security permissions by the System Manager. You can delete a down code only if the down code is not assigned to a down map.

When a machine is down, the Job Number and Machine Number fields will be colored YELLOW on the Real-Time Display.

Advanced Tip #1

The down code where “Number” equals 1 is a special reason and can not be deleted. This code represents “downtime unknown” and is the down code that is selected automatically when the MIU first goes down, provided that the “downtime unknown” feature is turned on in System Configuration. Reference Section 2.5 for additional information.

Advanced Tip #2

The System Manager can define up to 100 down codes. However, the down code where “Number” equals 0 must be manually added to the database if it is required. Contact the Mattec Customer Service Department for additional information.

2.6.1 Down Map

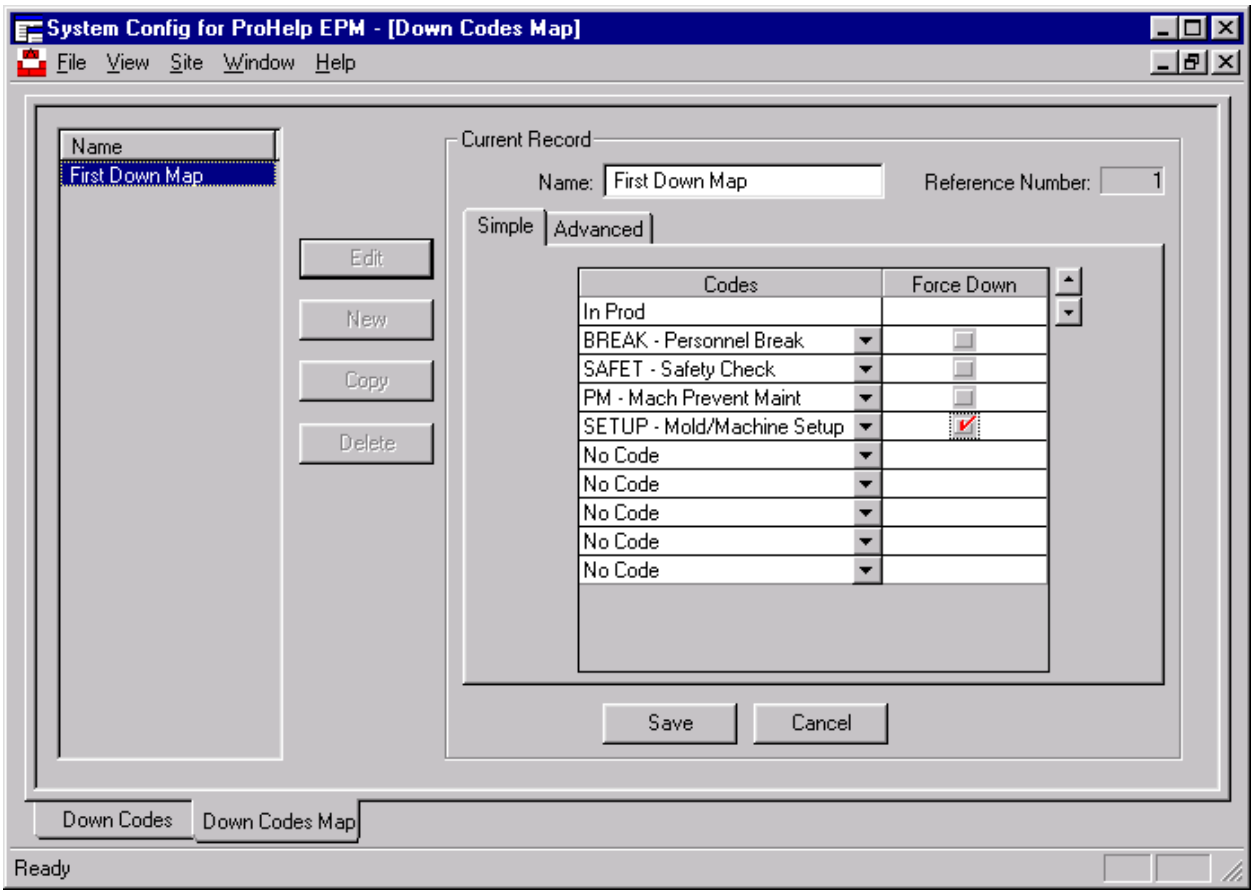
A down map is a subset of the 100 system-wide down codes. A down map must be defined before you can create machines. A down map is assigned to a machine via the Machine Configuration program. It is common for all machines in a department to specify the same down map. Reference Section 2.12 for additional information.

A down map is comprised of both a “Simple Map” and an “Advanced Map”. The “Simple Map” is used for older MIUs, those that are capable of using 10 down codes only. The “Advanced Map” is used for new MIUs, including those that are capable of using up to 100 down codes.

To configure a down map, follow these steps:

- Start the **`System Configuration`** program. To do this, start the **`Main Menu`** and press the **`Launch System Configuration`** icon.

- Click the **`Site`** menu, click on the **`Codes`** menu, and select **`Down Map`**. The **`Down Map`** configuration screen will be displayed.



Down Map Configuration

Advanced Tip #1

The down map allows you to select a subset of the 100 system-wide down codes so these codes can be assigned to one or more machines. It is a good practice to have all of the machines in a department use the same down map.

Advanced Tip #2

Check the “Force Down” checkbox to make the down code a “force-down reason” (or “NPC” reason). When the machine operator selects a force-down reason, the machine will be treated as if it were down, regardless of whether or not it is cycling. That is, run time and parts made will not be accumulated.

A common use of this feature is to allow the machine to be placed in “setup”, where the machine will periodically be cycled, but will not produce parts.

The machine operator must manually restart the machine by selecting the down reason “In Prod” after selecting a force-down reason.

Advanced Tip #3

The Advanced Down Map is created by creating a "category", then selecting one or more existing down reasons to be assigned to that category. Up to 20 categories can be created. Each category must contain at least 1 down reason and may contain as many as 10 down reasons.

The Advanced Down Map will behave differently (at the MIU) depending on the number of down reasons that you assign to each category. Specifically:

- If one (and only one) down reason is assigned to all categories, then the actual down reason will be displayed on the down entry button at the MIU. This is the preferred behavior that most users will desire.

- If two or more down reasons are assigned to any category, then the entire Advanced Down Map will be treated as if it has a primary/secondary configuration. When the down entry program is displayed at the MIU, the names that were entered for the categories will be displayed on the down buttons ("primary" down reasons). When you press those buttons, the actual down reasons that were assigned to the category will be displayed ("secondary" down reasons). This allows you to configure more down reasons for entry at the MIU and assign those down reasons to sub-categories for ease-of-use.

Advanced Tip #4

Data entry at a TSMIU is easiest if you assign one (and only one) down reason to each category.

If you have 10 or fewer down categories, the Downtime Selection display at the TSMIU will use large push buttons for the data entry. If you have between 11 and 20 down categories, Downtime Selection display at the TSMIU will use small push buttons for the data entry.

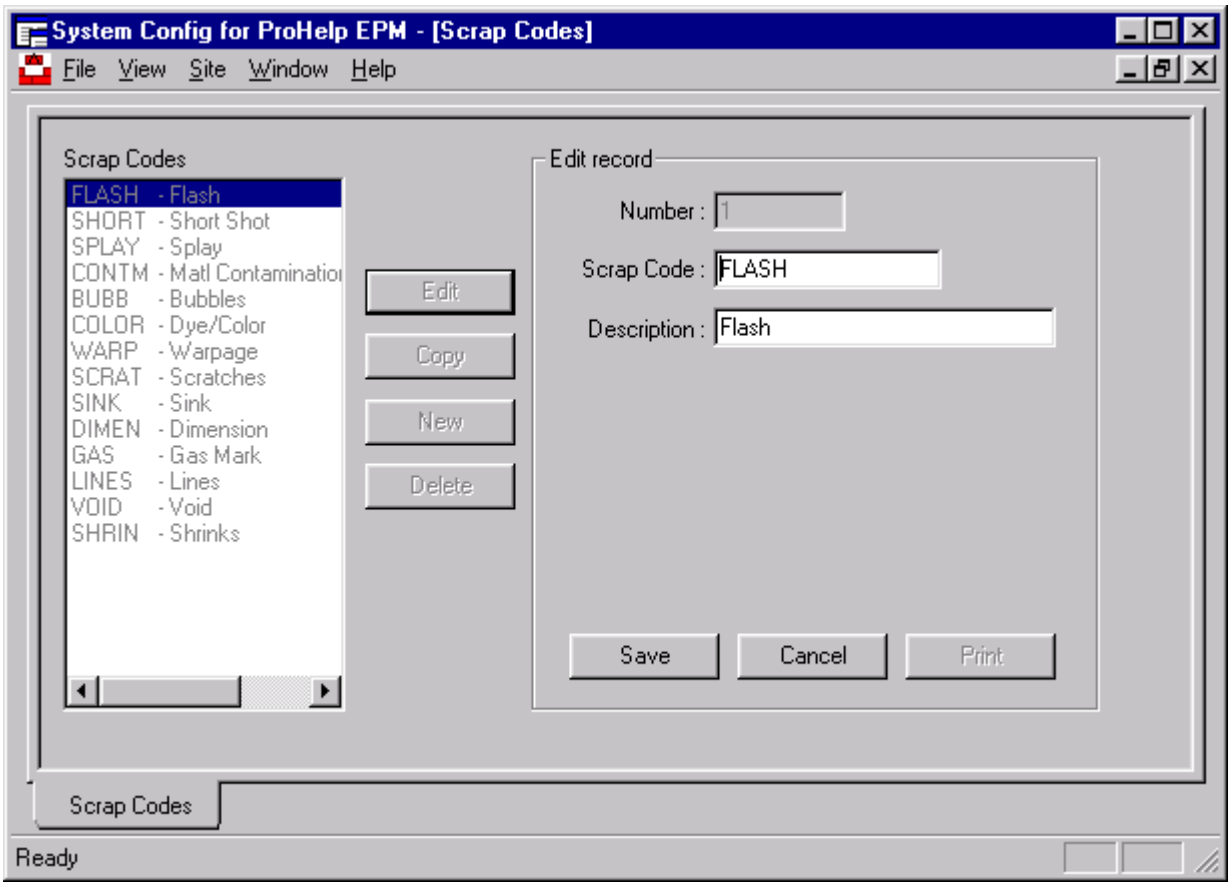
2.7 Scrap Codes

The System Manager can define up to 100 scrap codes for the entire system. Scrap codes are then assigned to a scrap map that can then be assigned to a specific machine.

To configure a scrap code, follow these steps:

- Start the **`System Configuration`** program. To do this, start the **`Main Menu`** and press the **`Launch System Configuration`** icon.

- Click the **`Site`** menu, click on the **`Codes`** menu, and select **`Scrap`**. The **`Scrap Codes`** configuration screen will be displayed.



Scrap Codes Configuration

You can view existing scrap codes, edit existing scrap codes, create new scrap codes, and delete existing scrap codes if you have been assigned appropriate security permissions by the System Manager. You can delete a scrap code only if the scrap code is not assigned to a scrap map.

2.7.1 Scrap Map

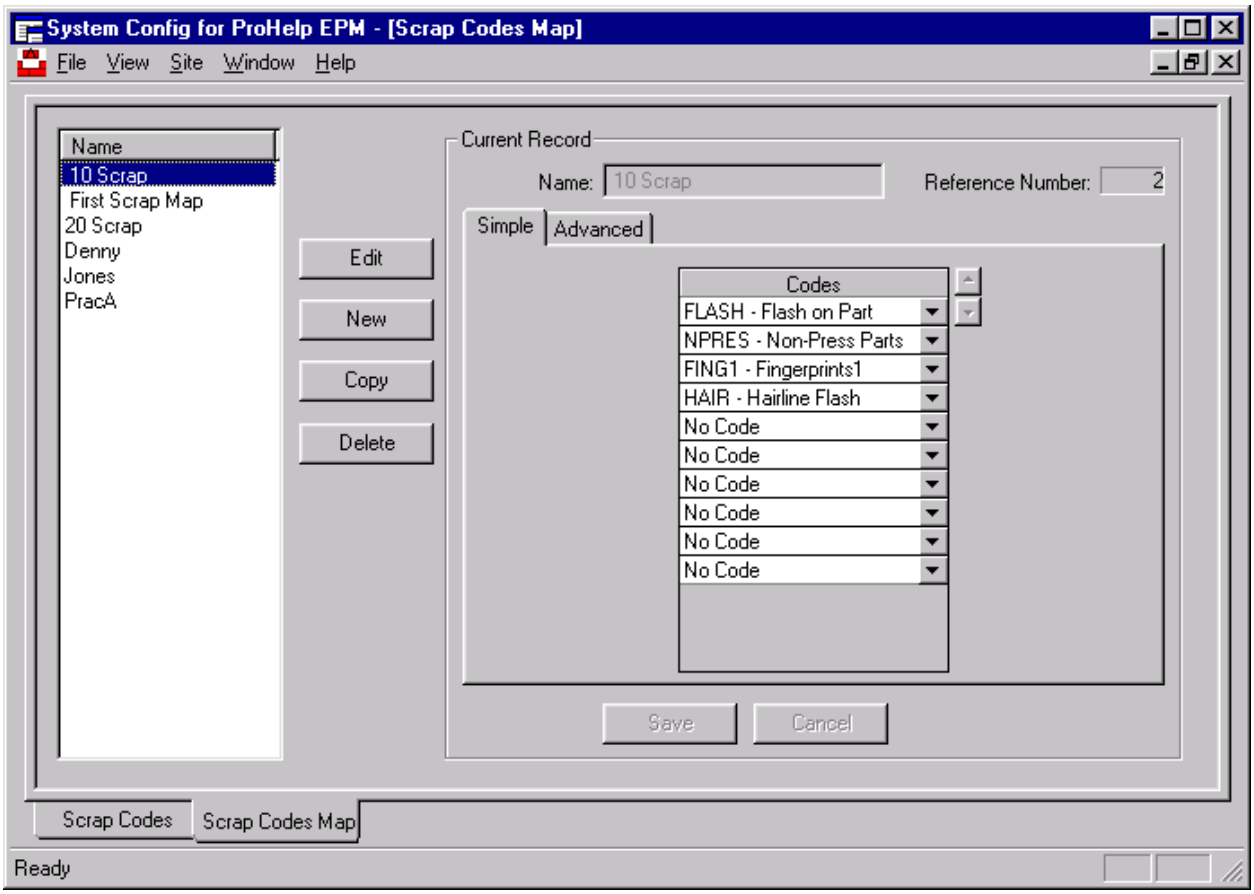
A scrap map is a subset of the 100 system-wide scrap codes. A scrap map must be defined before you can create machines. A scrap map is assigned to a machine via the Machine Configuration program. It is common for all machines in a department to specify the same scrap map. Reference Section 2.12 for additional information.

A scrap map is comprised of both a "Simple Map" and an "Advanced Map". The "Simple Map" is used for older MIUs, those that are capable of using 10 scrap codes only. The "Advanced Map" is used for new MIUs, including those that are capable of using up to 100 scrap codes.

To configure a scrap map, follow these steps:

- Start the **`System Configuration`** program. To do this, start the **`Main Menu`** and press the **`Launch System Configuration`** icon.

- Click the **`Site`** menu, click on the **`Codes`** menu, and select **`Scrap Map`**. The **`Scrap Map`** configuration screen will be displayed.



Scrap Map Configuration

Advanced Tip #1

The scrap map allows you to select a subset of the 100 system-wide scrap codes so these codes can be assigned to one or more machines. It is a good practice to have all of the machines in a department use the same scrap map.

Advanced Tip #2

ProHelp® EPM uses the system-wide scrap reasons as the names of Attribute SQC “defects”.

The Simple Scrap Map is used to define the Attribute SQC “defects” that are available for entry from an MIU (for MIUs that support this feature).

Advanced Tip #3

The Advanced Scrap Map is created by creating a “category”, then selecting one or more existing scrap reasons to be assigned to that category. Up to 20 categories can be created. Each category must contain at least 1 scrap reason and may contain as many as 10 scrap reasons.

The Advanced Scrap Map will behave differently (at the MIU) depending on the number of scrap reasons that you assign to each category. Specifically:

- If one (and only one) scrap reason is assigned to all categories, then the actual scrap reason will be displayed on the scrap entry button at the MIU. This is the preferred behavior that most users will desire.

- If two or more scrap reasons are assigned to any category, then the entire Advanced Scrap Map will be treated as if it has a primary/secondary configuration. When the scrap entry program is displayed at the MIU, the names that were entered for the categories will be displayed on the scrap buttons ("primary" scrap reasons). When you press those buttons, the actual scrap reasons that were assigned to the category will be displayed ("secondary" scrap reasons). This allows you to configure more scrap reasons for entry at the MIU and assign those scrap reasons to sub-categories for ease-of-use.

Advanced Tip #4

Data entry at a TSMIU is easiest if you assign one (and only one) scrap reason to each category.

If you have 10 or fewer scrap categories, the Scrap Entry display at the TSMIU will use large push buttons for the data entry. If you have between 11 and 20 scrap categories, the Scrap Entry display at the TSMIU will use small push buttons for the data entry.

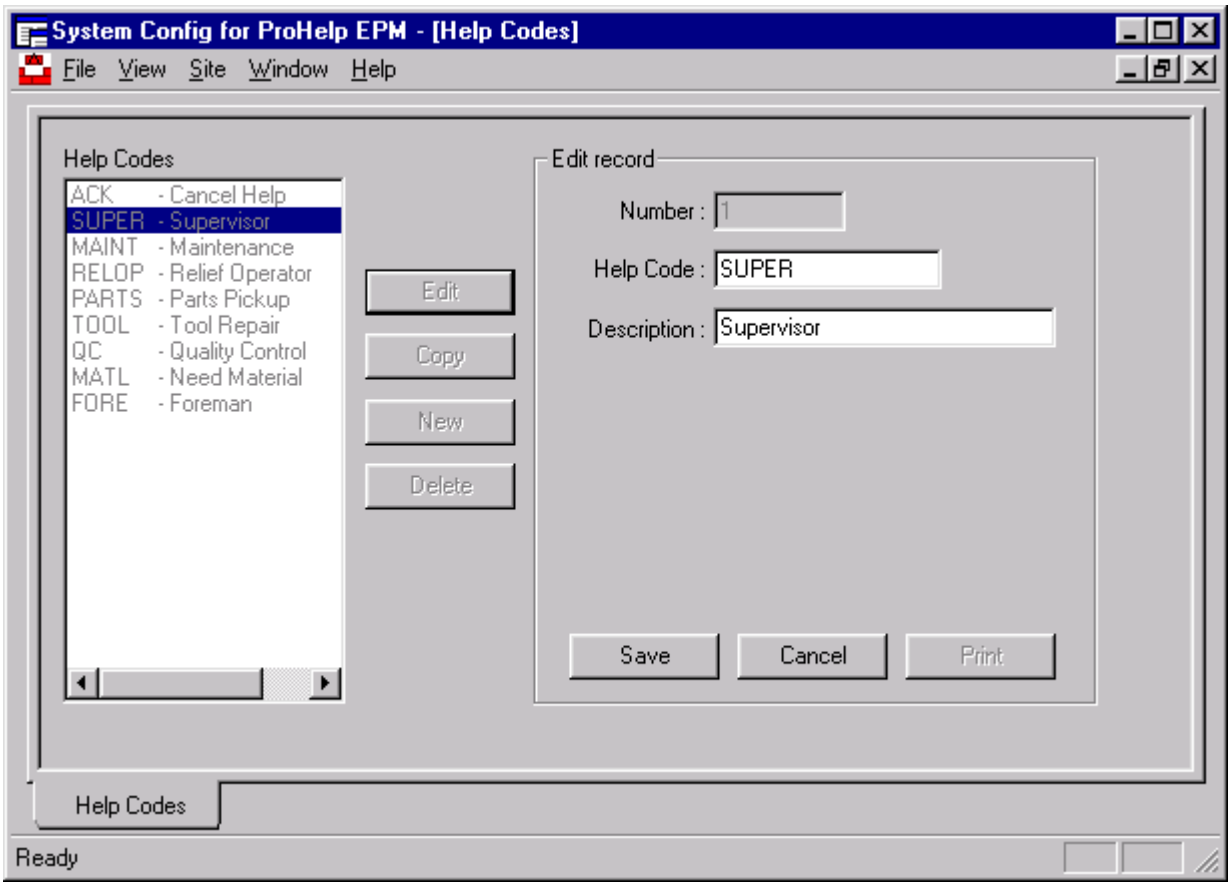
2.8 Help Codes

The System Manager can define up to 100 help codes for the entire system. Help codes are then assigned to a help map that can then be assigned to a specific machine.

To configure a help code, follow these steps:

- Start the **`System Configuration`** program. To do this, start the **`Main Menu`** and press the **`Launch System Configuration`** icon.

- Click the **`Site`** menu, click on the **`Codes`** menu, and select **`Help`**. The **`Help Codes`** configuration screen will be displayed.



Help Codes Configuration

You can view existing help codes, edit existing help codes, create new help codes, and delete existing help codes if you have been assigned appropriate security permissions by the System Manager. You can delete a help code only if the help code is not assigned to a help map.

Advanced Tip #1

The help code where “Number” equals 0 is a special reason and can not be deleted. This code represents “cancel help” and is the help code that the machine operator selects to cancel an active call for help.

2.8.1 Help Map

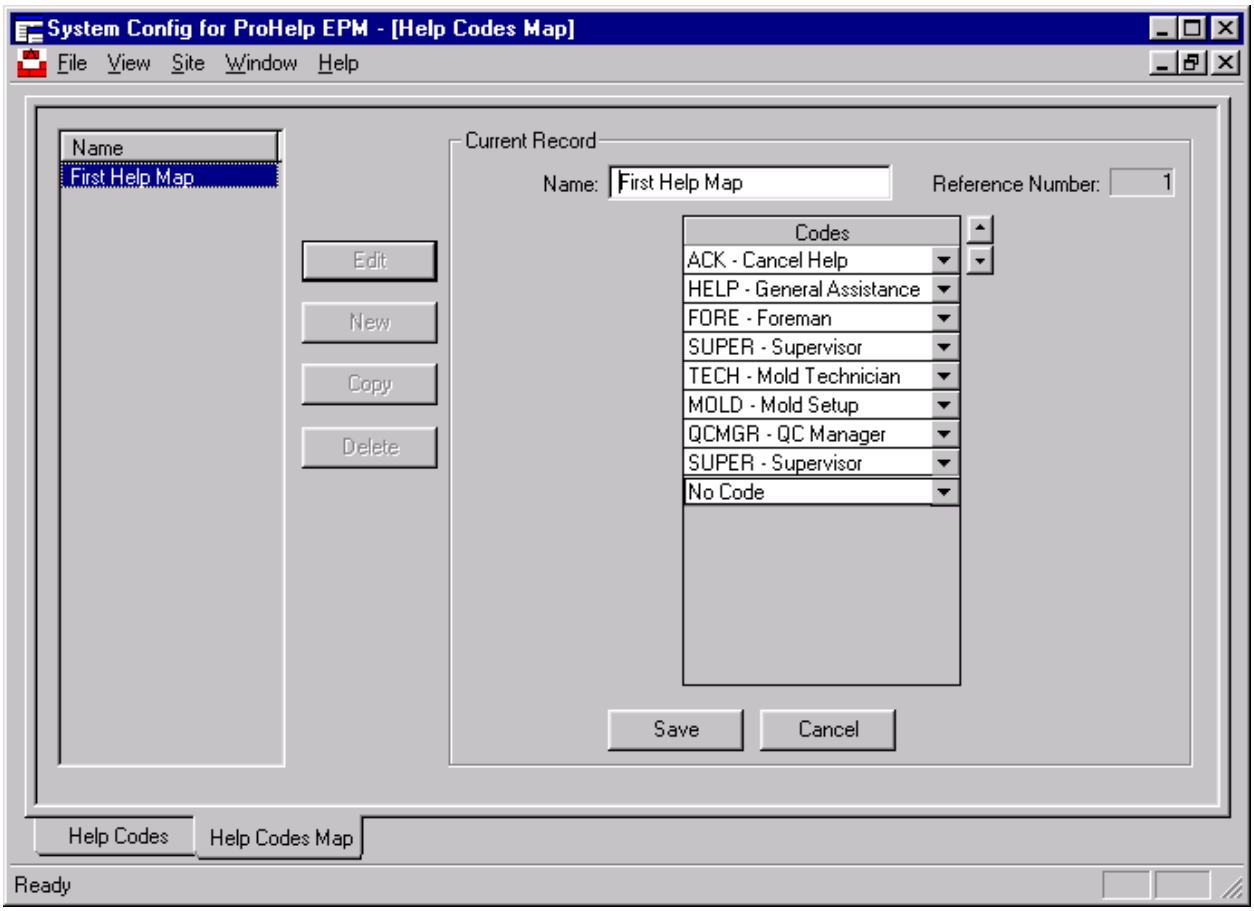
A help map is a subset of the 100 system-wide scrap codes. A help map must be defined before you can create machines. A help map is assigned to a machine via the Machine Configuration program. It is common for all machines in a department to specify the same help map. Reference Section 2.12 for additional information.

There is no such thing as an “Advanced Help Map”. Most MIUs are capable of using eight (8) help codes only, plus “Cancel Help”.

To configure a help map, follow these steps:

- Start the **`System Configuration`** program. To do this, start the **`Main Menu`** and press the **`Launch System Configuration`** icon.

- Click the **`Site`** menu, click on the **`Codes`** menu, and select **`Help Map`**. The **`Help Map`** configuration screen will be displayed.



Help Map Configuration

Advanced Tip #1

The help map allows you to select a subset of the 100 system-wide help codes so these codes can be assigned to one or more machines. It is a good practice to have all of the machines in a department use the same help map.

Advanced Tip #2

The first help code in a help map is always “Cancel Help”. This is the help code that the machine operator selects to cancel an active call for help.

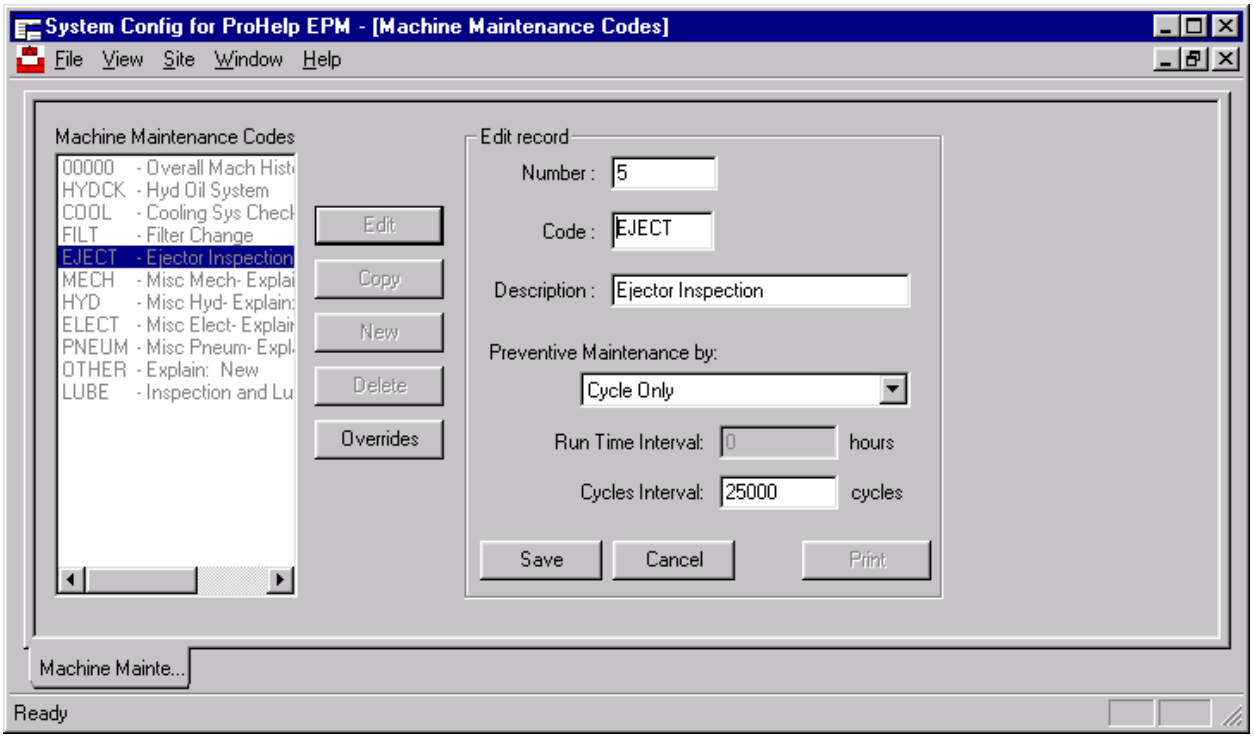
2.9 Machine Maintenance Codes

The System Manager can define up to 99 machine maintenance codes for preventive maintenance tracking and forecasting. The system will predict when each maintenance code will next be due provided that you perform maintenance (i.e., enter history) for the specific maintenance code for a specific machine. Preventive Maintenance is an optional feature in the ProHelp® EPM system.

To configure machine maintenance codes, follow these steps:

- Start the **`System Configuration`** program. To do this, start the **`Main Menu`** and press the **`Launch System Configuration`** icon.

- Click the **`Site`** menu, click **`Codes`**, and select **`Machine Maintenance`**. **`The Machine Maintenance Codes`** configuration screen will be displayed.



Machine Maintenance Codes Configuration

Advanced Tip #1

Preventive Maintenance is an optional feature. You may purchase this feature at any time by contacting the Mattec Sales Department.

When you create machine maintenance codes, you can instruct the system to predict when the maintenance will next be due based on the following:

- Machine Run Time ("Time Only"),
- Machine Cycles ("Cycle Only"),
- Either Machine Run Time or Machine Cycles,
- Both Machine Run Time and Machine Cycles.

You can modify the machine odometer in Edit Facilities. This will affect maintenance predictions, so you should modify the odometer with care.

Advanced Tip #2

The system will predict when each maintenance code will next be due provided that you perform maintenance (i.e., enter history) for the specific maintenance code for a specific machine. Thus, even though machine maintenance codes are configured system-wide, they will only apply to those machines where you have specifically entered history.

Advanced Tip #3

Machine Maintenance Code Number 0 is not a machine maintenance code at all. Rather, it is a special record that represents the machine odometer. This record should not be modified using the Machine Maintenance Codes Configuration screen and a warning is displayed if you attempt to modify this record in this manner.

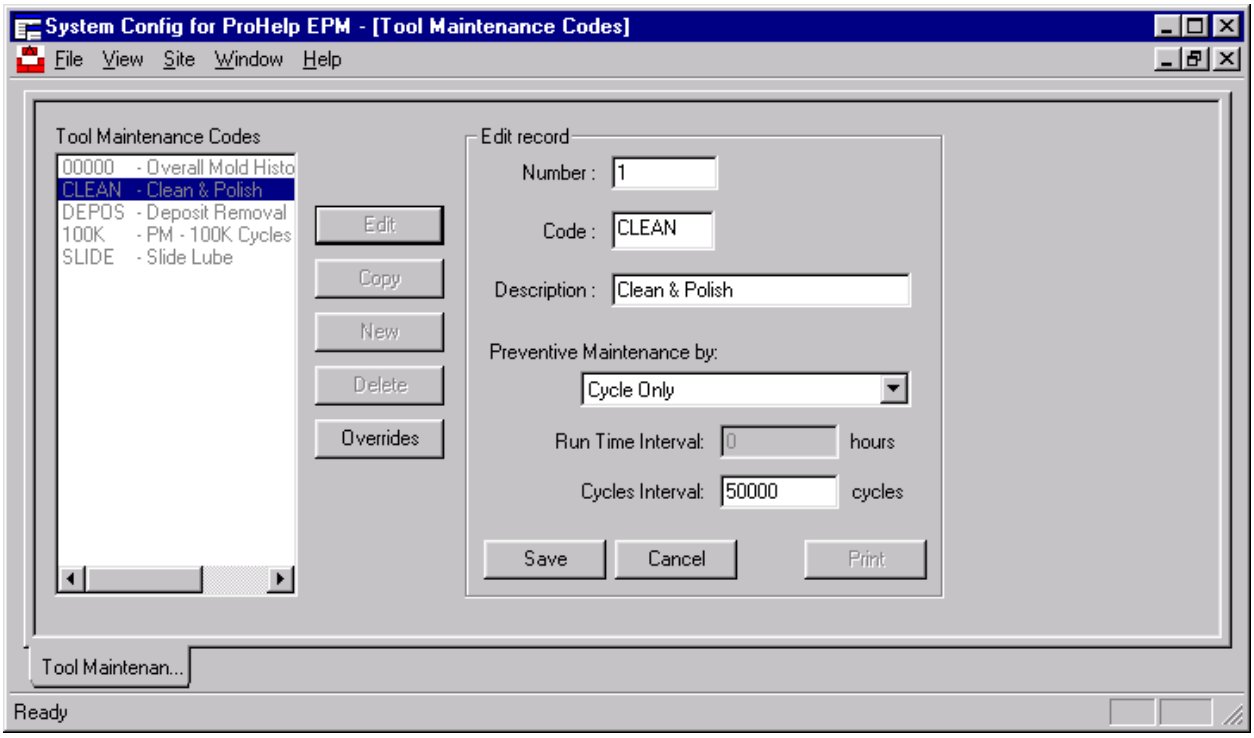
2.10 Tool Maintenance Codes

The System Manager can define up to 99 tool maintenance codes for preventive maintenance tracking and forecasting. The system will predict when each maintenance code will next be due provided that you perform maintenance (i.e., enter history) for the specific maintenance code for a specific tool. Preventive Maintenance is an optional feature in the ProHelp® EPM system.

To configure tool maintenance codes, follow these steps:

- Start the **`System Configuration`** program. To do this, start the **`Main Menu`** and press the **`Launch System Configuration`** icon.

- Click the **`Site`** menu, click **`Codes`**, and select **`Tool Maintenance`**. **`The Tool Maintenance Codes`** configuration screen will be displayed.



Tool Maintenance Codes Configuration

Advanced Tip #1

Preventive Maintenance is an optional feature. You may purchase this feature at any time by contacting the Mattec Sales Department.

When you create tool maintenance codes, you can instruct the system to predict when the maintenance will next be due based on the following:

- Tool Run Time ("Time Only"),
- Cycles Against the Tool ("Cycle Only"),
- Either Tool Run Time or Cycles Against the Tool,
- Both Tool Run Time and Cycles Against the Tool.

You can modify the tool odometer in Edit Facilities. This will affect maintenance predictions, so you should modify the odometer with care.

Advanced Tip #2

The system will predict when each maintenance code will next be due provided that you perform maintenance (i.e., enter history) for the specific maintenance code for a specific tool. Thus, even though tool maintenance codes are configured system-wide, they will only apply to those tools where you have specifically entered history.

Advanced Tip #3

Tool Maintenance Code Number 0 is not a tool maintenance code at all. Rather, it is a special record that represents the tool odometer. This record should not be modified using the Tool Maintenance Codes Configuration screen and a warning is displayed if you attempt to modify this record in this manner.

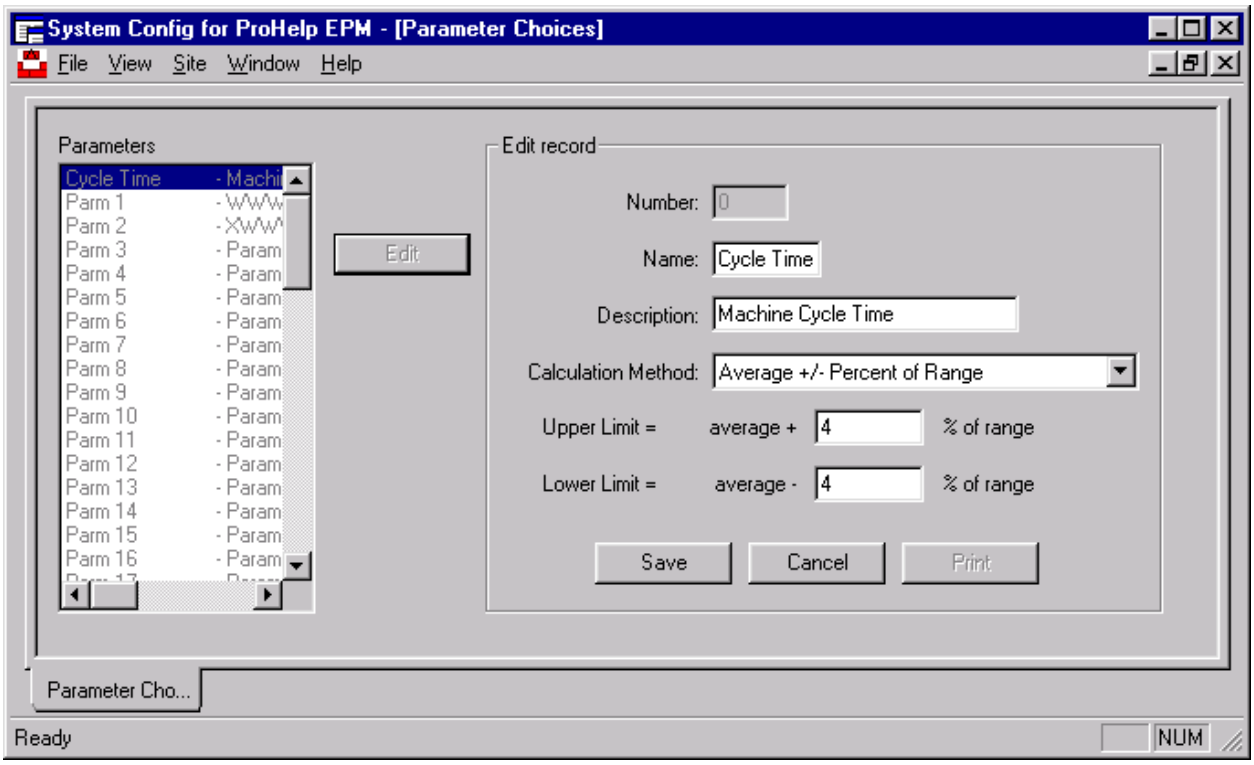
2.11 Process Parameters

The System Manager can define up to 64 process parameters for the entire system. A subset of these Process Parameters is then assigned to specific machines, as appropriate.

To configure a process parameter, follow these steps:

- Start the **`System Configuration`** program. To do this, start the **`Main Menu`** and press the **`Launch System Configuration`** icon.

- Click the **`Site`** menu and select **`Parameter`**. The **`Parameter`** configuration screen will be displayed.



Parameter Configuration

You can view existing process parameters and edit existing process parameters if the System Manager has assigned you appropriate security permissions. You can not delete a process parameter, and by default, all 64 process parameters are initialized to default values when the system is installed.

The “Upper Limit” and “Lower Limit” fields are obsolete and are not used.

2.12 Machine Configuration

The Machine Interface Unit (MIU) is an industrial-strength data collection device that has been designed and manufactured by Mattec. It is used to collect production and process information from the manufacturing machine and transmits that data in real-time to the server computer.

There are a wide variety of MIUs. Most have a graphical interface that allows the machine operator to view data about the current job and input relevant information (e.g., scrap parts). Many MIUs have both analog and digital inputs. Many MIUs have an optional "PLC interface" that can be used to extract data directly from supported machine controllers.

Machines (MIUs) are grouped together in departments. MIUs are wired to the server computer in channels. Each machine can have its own shift schedule, scrap map (scrap reasons), down map (down reasons), help map (help call reasons), machine preventive maintenance reasons, and process parameters. However, for conformity and ease-of-use, it is common for all machines in a department to be configured in a similar manner.

The machine configuration program is unique because it must correspond to the physical hardware and wiring in your system. It is used to perform the following:

- Identify the physical MIU hardware that will be used to collect data from the manufacturing machine, including analog inputs, digital inputs, PLC inputs, and reduction methods. This configuration must correspond to the actual MIU hardware that will be used.

- Identify configuration for the MIU, including shift schedule, scrap map (scrap reasons), down map (down reasons), help map (help call reasons), and process parameters.

Caution:

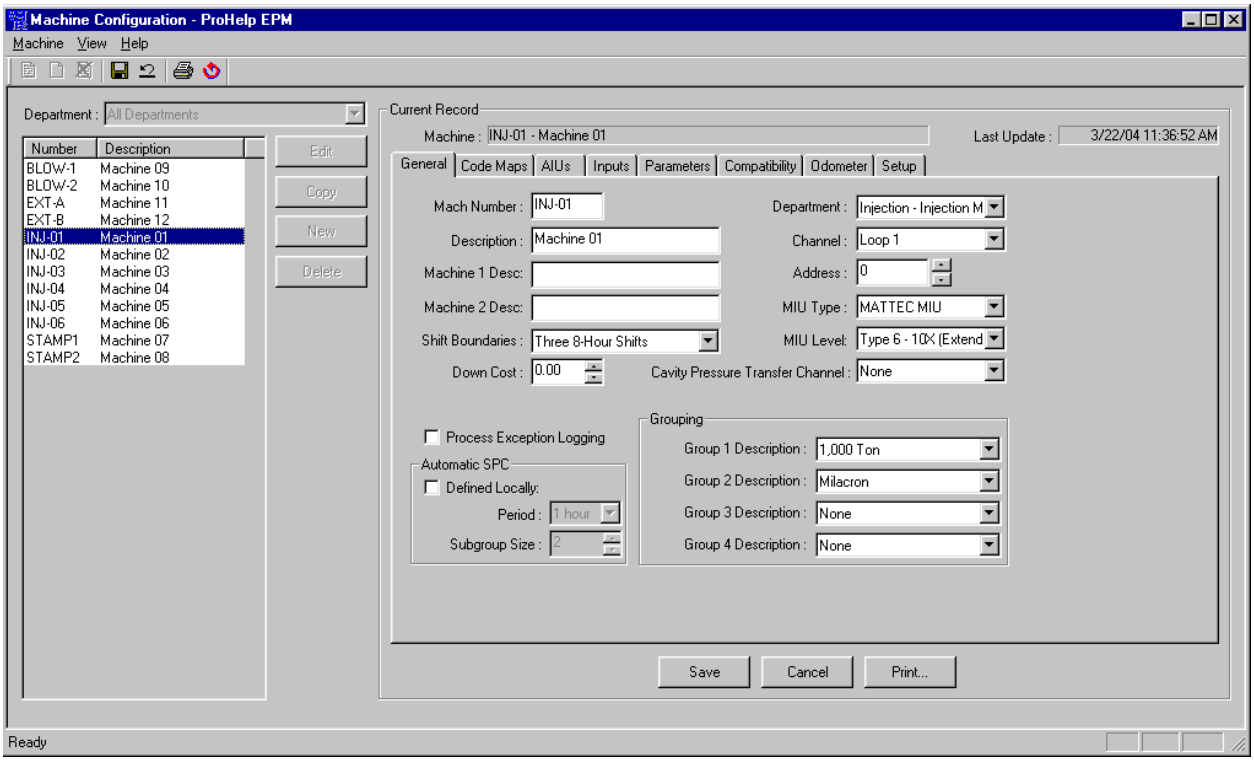
It is a good idea to contact the Mattec Customer Service Department for assistance when you need to modify an existing machine configuration or need to add a new machine to your system.

Changes that are made to this configuration can cause permanent loss of data! For example, if you delete an existing machine, all data that is associated with that machine will also be deleted, including all process sheets, jobs, and job and shift history that are associated with the machine.

To configure a machine, follow these steps:

- Start the **`System Configuration`** program. To do this, start the **`Main Menu`** and press the **`Launch System Configuration`** icon.

- Click the **`Site`** menu and select **`Machine Configuration`**. The **`Machine Configuration`** program will be displayed.



Machine Configuration

Advanced Tip #1

Changes to the machine configuration program should be made with care.

Advanced Tip #2

You must reboot the server after making changes to the machine configuration.

There are several tabs on the Machine Configuration screen that are used to configure different areas of the MIU, including:

Field	Description
General	This tab is used to configure general information for the MIU, including the machine number (name), department that the machine is assigned to, physical cabling information (channel and address), and the type of MIU (MIU Type and MIU Level).
Code Maps	This tab is used to select an existing down map, scrap map, and help map that will apply to this MIU.
AIUs	This tab is used to configure the AIU hardware that comprises the physical MIU. When referred to in this context, an AIU is a collection of analog and digital inputs that are part of the MIU. Modern MIUs, including the TSMIU, have two (2) built-in AIUs. Older MIUs, including the "black box" MIU, have one (1) built-in AIU. If the MIU has an optional PLC interface, the PLC interface is specified here. If you are using TSMIUs, you must also select the PLC interface at the MIU's Service Display screen.
Inputs	This tab is used to configure the physical analog and digital inputs that are associated with an AIU, including the offset, gain, and the number of decimal places to associate with the physical input. If you specified that the MIU has an optional PLC interface (on the AIU tab), then the inputs on this tab can optionally be configured as "PLC Source". When this is done, additional information is required to configure the PLC input, and that configuration is entered on this display. Inputs are automatically added or deleted as you add or delete AIUs.
Parameters	This tab is used to configure process parameters. This is the actual data that will be collected from the machine (analog inputs, digital inputs, and/or PLC inputs) and that will be stored for jobs. A process parameter is selected from the list of configured process parameters (see Section 2.11). Each process parameter is associated with one input. However, multiple process parameters can be associated with the same input. This tab allows you to define the reduction method that will be used to convert the physical input into useful information.
Compatibility	The compatibility tab allows you to specify Tool / Machine Compatibility information that can be used to manually compare with the Tool ID. This tab does not affect the MIU's data collection.
Odometer	This tab is used to modify/reset the machine odometer (run time or machine cycles). The machine odometer is used to predict preventive maintenance.
Setup	This tab is used to specify a web-based setup sheet or to enter a text-based setup sheet for the Machine. These documents can be seen in different areas of the system. This tab does not affect the MIU's data collection.

Advanced Tip #3

If you delete an existing machine, all data that is associated with that machine will also be deleted. For example, all process sheets, jobs, and job and shift history that are associated with the machine will be deleted.

Advanced Tip #4

If you delete an AIU from an existing machine, all parameters that are associated with that AIU will also be deleted. All historical information that is associated with those parameters will also be deleted, including Automatic SPC history.

Advanced Tip #5

If you delete a parameter from an existing machine, all historical information that is associated with that parameter will also be deleted, including Automatic SPC history.

If you have purchased the ProStat® SPC/SQC option, Automatic SPC sampling is always enabled for a machine/job. This sampling is enabled in the System Configuration screen of the System Configuration program (reference Section 2.5) but can be overriden on a machine-by-machine basis in the Machine Configuration program.

The fields in the “Automatic SPC” area of the “General” tab in the Machine Configuration program allow you to override the system-wide Automatic SPC settings, including the sample period and the subgroup size.

Advanced Tip #6

ProStat® SPC/SQC is an optional feature. You may purchase this feature at any time by contacting the Mattec Sales Department.

The System Manager selects appropriate machine filter groups in the “Grouping” section of the “General” tab in the Machine Configuration program. These groups may be used as filter conditions on the Real-Time Display. The Mattec Customer Service Department can manually configure the names of each filter and the values in each group.

Advanced Tip #7

Unlike older ProHelp® systems, ProHelp® EPM supports only one (1) monitoring node. All MIUs in the system are wired into the same server computer.

Advanced Tip #8

MIUs are daisy-chained together on a channel. The channel is connected to a buffer box which, in turn, is connected to the server computer. Different types of MIUs can be wired together on the same channel provided that they are all configured to communicate at the same baud rate.

The Process Exception Log will record any machine cycles that result in a violation of specification limits, control limits, and/or part qualification limits for any monitored process parameter. This log can be enabled for a machine by placing a checkmark in the “Process Exception Log” field on the “General” tab in the Machine Configuration program.

WARNING:

The Process Exception Log has the potential to grow very rapidly and should only be turned on if the data collected will be used. The Process Exception Log is intended to be a short-term debugging tool and should not be used in place of statistical analysis of data.

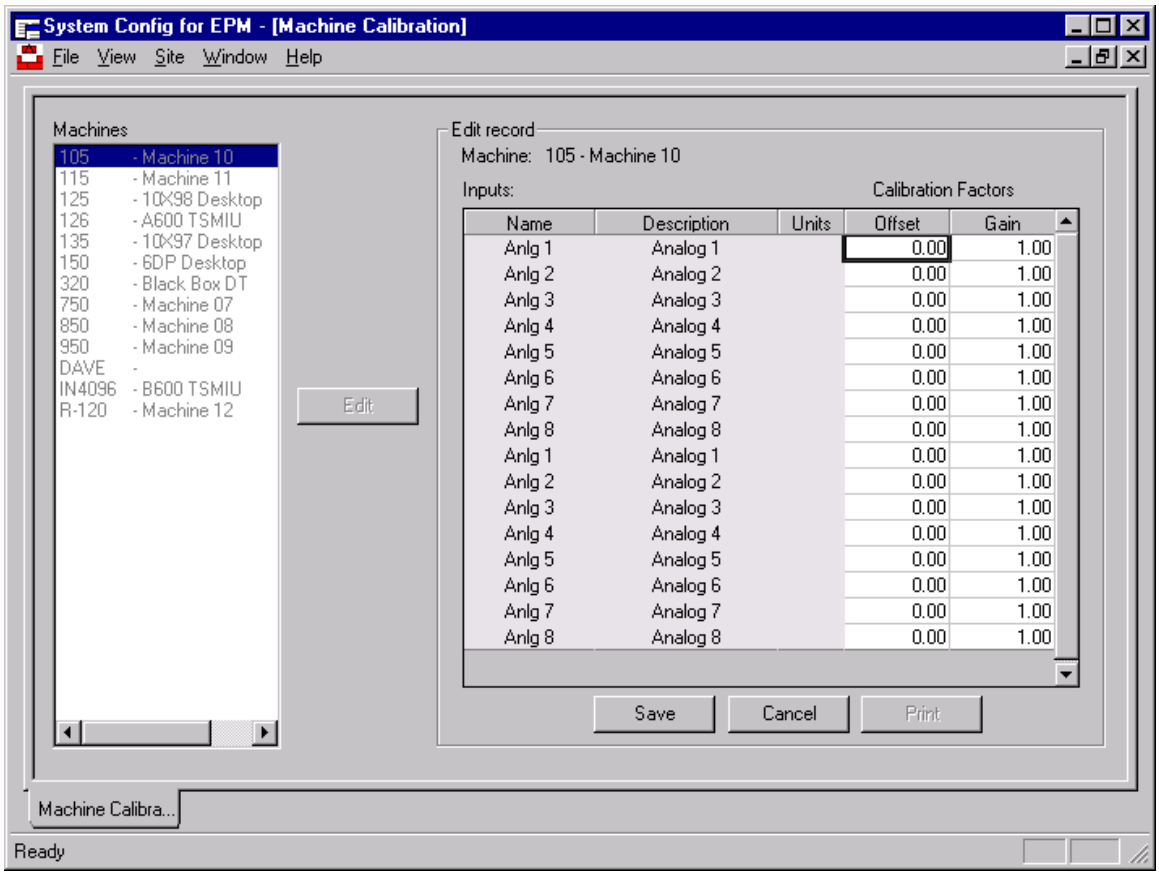
2.13 Machine Calibration

The Machine Calibration program allows users to enter known calibration information, including "gain" and "offset", for the analog signals that are configured for MIUs.

To enter calibration settings for a machine, follow these steps:

- Start the **`System Configuration`** program. To do this, start the **`Main Menu`** and press the **`Launch System Configuration`** icon.

- Click the **`Site`** menu and select **`Machine Calibration`**. The **`Machine Calibration`** program will be displayed.



Machine Calibration

Advanced Tip #1

Mattec teaches a 2-day "Maintenance, Calibration, and Troubleshooting" class that instructs attendees in the proper calibration techniques for MIUs. This class is intended for maintenance technicians who are responsible for calibrating MIUs.

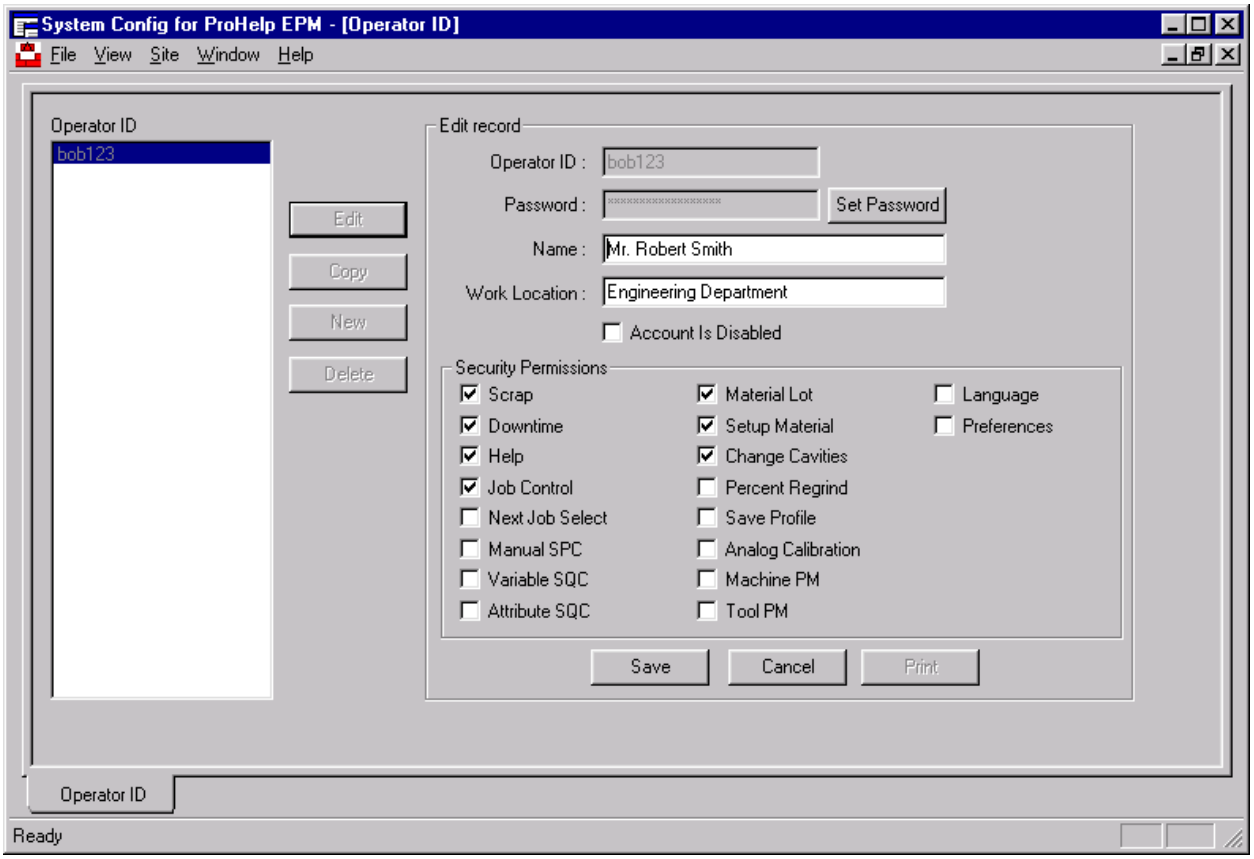
2.14 Operator Permissions

The Operator Permissions program allows the System Manager to create User IDs and Passwords that control access to MIU functions.

To configure MIU Operator settings, follow these steps:

- Start the **`System Configuration`** program. To do this, start the **`Main Menu`** and press the **`Launch System Configuration`** icon.

- Click the **`Site`** menu and select **`Operator Permissions`**. The **`Operator Permissions`** program will be displayed.



Operator Permissions

Advanced Tip #1

MIU Security is an optional feature that requires a supported MIU. You may purchase this at any time by contacting the Mattec Sales Department.

Operator IDs and Passwords must be at least 4 alphanumeric characters. You are always required to enter an Operator ID and Password.

The following table describes the fields on the Operator Permissions display:

Field	Description
Name	A descriptive name for the machine operator.
Work Location	The work location, department, or other description for the machine operator.
Account Is Disabled	This field allows you to temporarily disable an Operator ID without deleting the record. This may be necessary, for example, when an authorized user takes a temporary leave-of-absence from your company.
Security Permissions	These fields control access to the related MIU functions. For example, a user with "Scrap" permission is permitted to enter scrap parts at an MIU, whereas a user who does not have "Scrap" permission can view the MIU's Scrap Display but can enter scrap parts.

Advanced Tip #2

Operator permissions at an MIU are automatically revoked after a certain amount of time of inactivity at the MIU. The amount of time is configured in the "Security Timeout" field in the System Configuration screen. Reference Section 2.5 for additional information.

Advanced Tip #3

You may optionally use the Operator Permissions display to create Operator IDs even if you have not purchased the MIU Security option. This data can then be viewed on the "Operator Login Report" and the "Operator Efficiency Report" in System Reports and the Operator Efficiency Real-Time Display.

You will be required to enter a password for each user that is created, even though you have not purchased the MIU Security option.

3. Real-Time Display Writer

Users can create their own custom Real-Time Displays for use with the Real-Time Display program. This powerful, yet easy-to-use, feature gives you a great deal of flexibility to control the information that is available in real-time to users of the system.

There are four (4) types of Real-Time Display, including:

- Standard Real-Time Display
- Operator Efficiency Display
- Cost Display
- Process Alarm Tab

Advanced Tip #1

A display type is assigned to the custom Real-Time Display when the display is created and can not be modified.

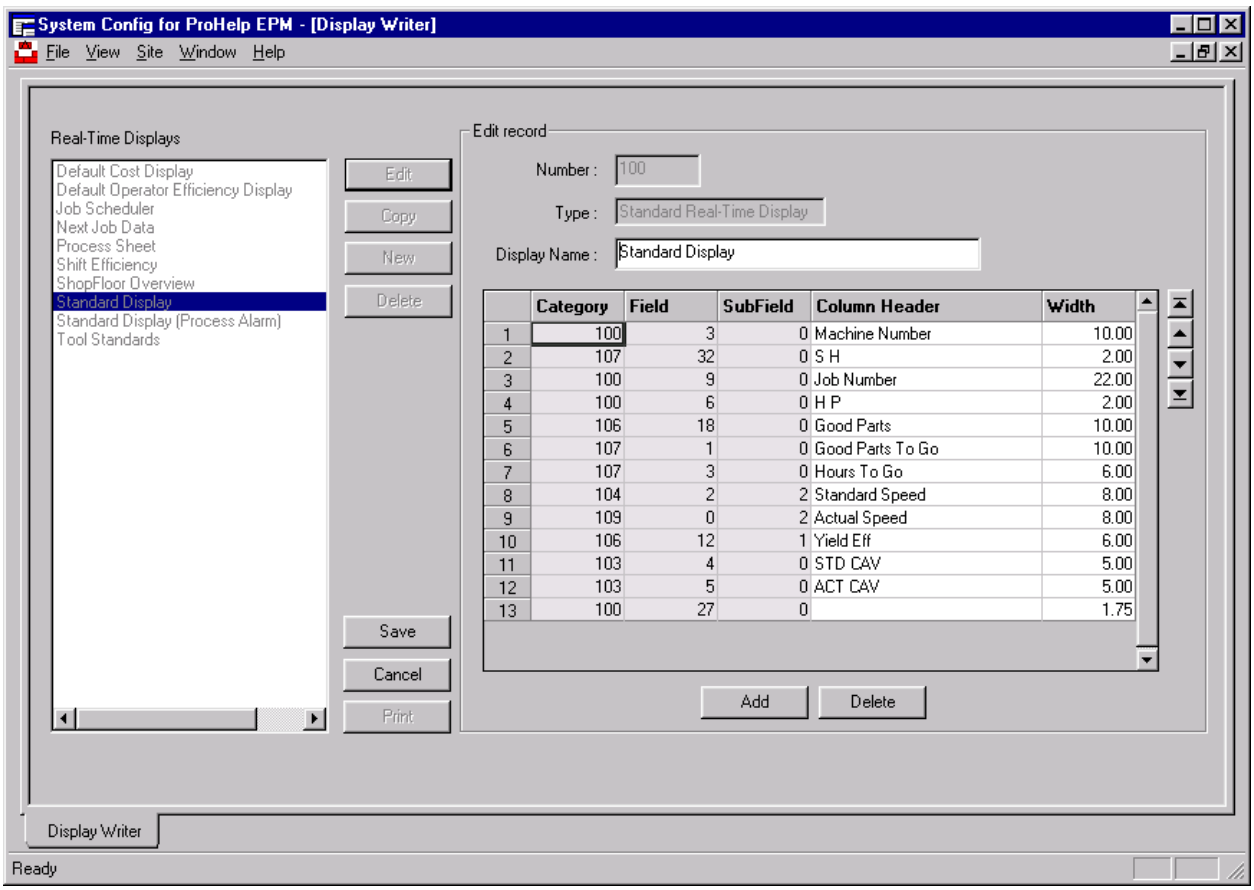
Advanced Tip #2

Your ProHelp® EPM system shipped with several built-in Real-Time Displays. Mattec created these displays using the Real-Time Display Writer. You can modify or delete these displays, if desired.

To start the Real-Time Display Writer, follow these steps:

- Start the **`System Configuration`** program. To do this, start the **`Main Menu`** and press the **`Launch System Configuration`** icon.

- Click the **`Site`** menu and select **`Real-Time Display Writer`**. The **`Real-Time Display Writer`** screen will be displayed.



Real-Time Display Writer

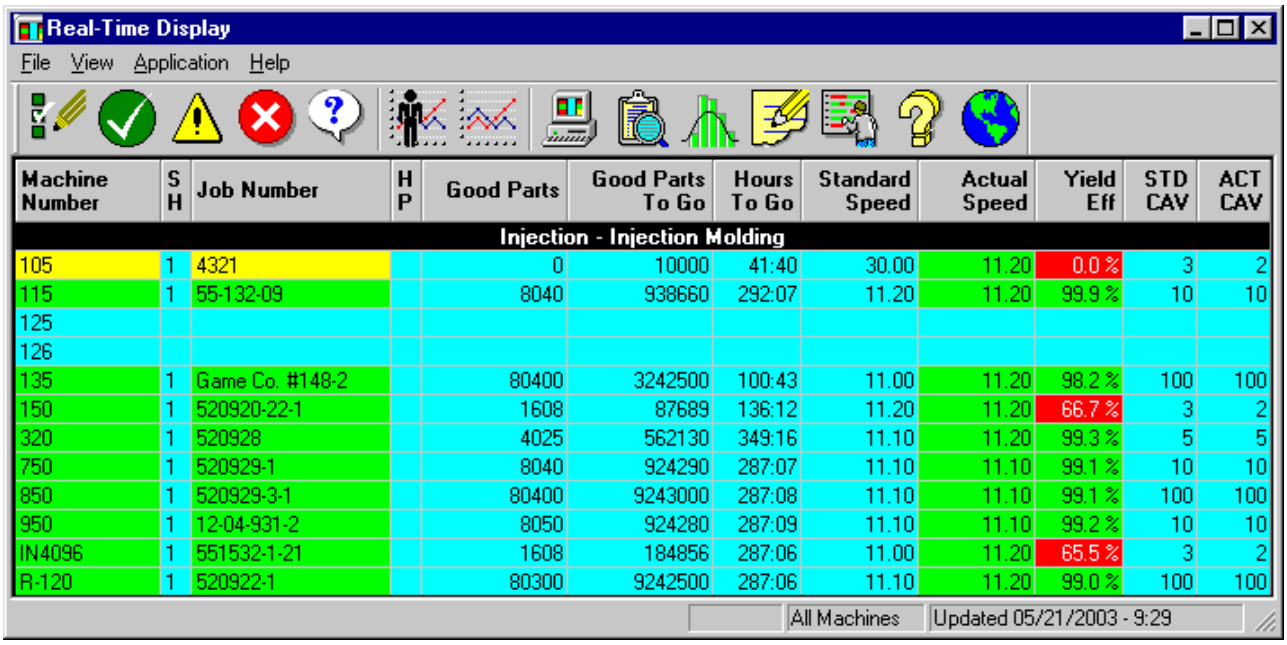
The Real-Time Display Writer is used to create, modify, or delete any of the four supported display types. Displays that are created will be available to all users of the ProHelp® EPM system. Each display type is described further in the following sections.

3.1 Standard Real-Time Display

The Real-Time Display is one of the most powerful features in the ProHelp® EPM system. This display allows users throughout your facility to view the status of all jobs and machines in the plant in real-time. Fields are color-coded to make identifying problems easy.

To view a Standard Real-Time Display, follow these steps:

- Start the **`Real-Time Display`** program. To do this, start the **`Main Menu`** and press the **`Launch Real-Time Display`** icon. The **`Standard Real-Time Display`** screen will be displayed.



Standard Real-Time Display

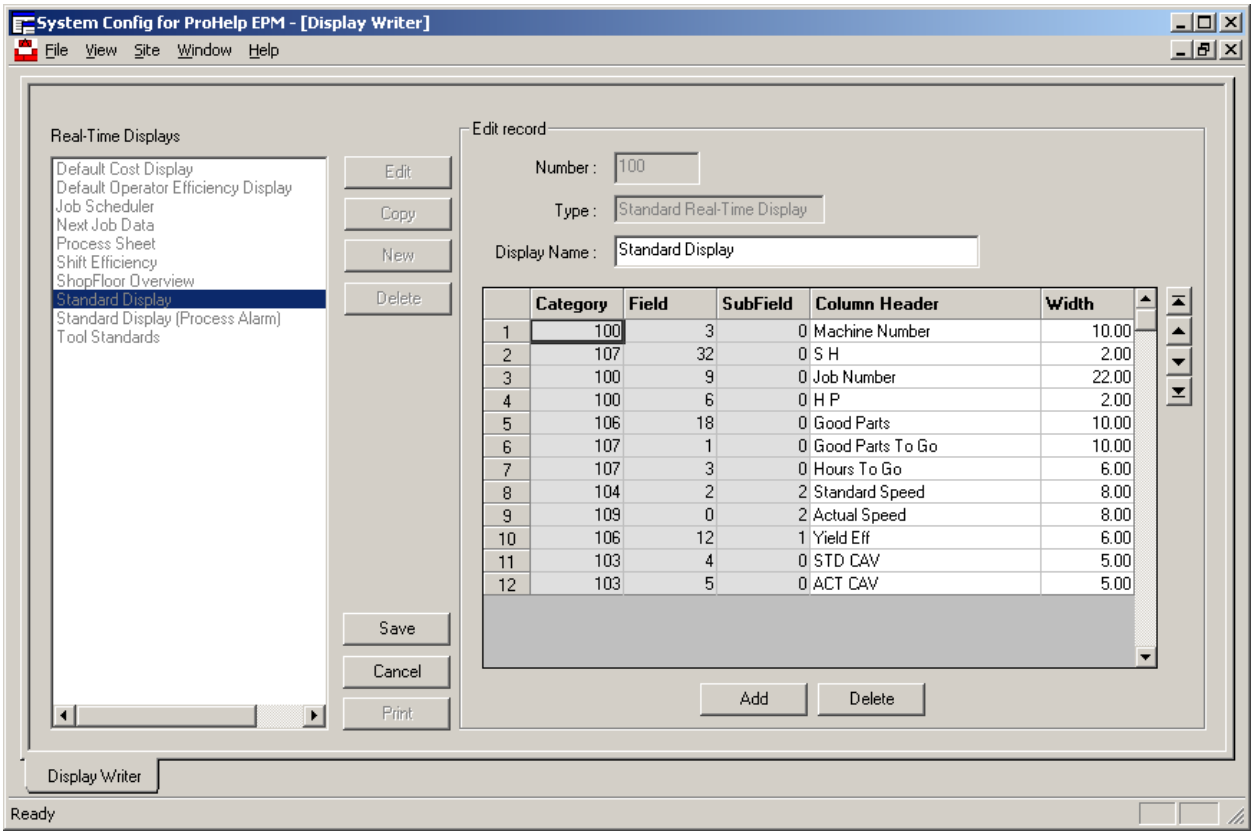
The fields on the Standard Real-Time Display screen are configurable by the System Manager in the Real-Time Display Writer screen. More than 200 fields are available for display, including the following:

- Job Standards
- Part Standards
- Tool Standards
- Current process parameter values
- Shift Production History
- Job Production History
- Next Job Data

To start the Real-Time Display Writer, follow these steps:

- Start the **`System Configuration`** program. To do this, start the **`Main Menu`** and press the **`Launch System Configuration`** icon.

- Click the **`Site`** menu and select **`Real-Time Display Writer`**. The **`Real-Time Display Writer`** screen will be displayed.



Sample Standard Real-Time Display

The Real-Time Display Writer will show a list of all existing displays for the supported display types. All standard Real-Time Displays displays will identify their "Type" as "Standard Real-Time Display".

To add a new field to the display, press the Add button. A list of available fields will be displayed. You can manually modify the "Column Header" and "Width" for the field or you can accept the default values.

You can reorder the fields in the display. To do this, hightlight a field and use one of the four arrow keys on the right-hand side of the display to move the field up or down.

To delete a field from the display, highlight the field and press the Delete button.

There are so many fields that are available for display that the fields are broken down into "Categories". The following table describes of the various categories of data that are available for Standard Real-Time Displays:

Category	**Description**
Basic Data	Contains various fields related to the Machine or Job Descriptor, including the Machine Number, Job Number, Department information, and internal fields that are useful to the Mattec Customer Service Department.
Job Data	Contains fields related to Job Descriptor standards.
Part Data	Contains fields related to Part ID standards.
Tool Data	Contains fields related to Tool ID standards.
Process Sheet Data	Contains fields related to Process Sheet standards.
Father Job Data	Contains fields related to Father Job Descriptor standards. These fields will be blank for "bachelor" jobs.
Shift Production Data	Contains fields related to the shift production history data that is being accumulated in real-time for the running jobs.
Job Production Data	Contains fields related to the overall job production history data that is being accumulated in real-time for running jobs.
Process Parameter Indicators	Contains fields related to process parameters. Rather than display the process parameter value, fields in this category will display a color-coded "indicator", where "1" is used for the first parameter, "2" is used for the second parameter, etc. Fields in this category can dramatically impact system performance. Each process parameter that is added to the display will require one additional read from the database for every machine that is displayed.
Process Parameter Values	Contains fields related to process parameters. The fields in this category will display a color-coded value for each parameter that is selected. Fields in this category can dramatically impact system performance. Each process parameter that is added to the display will require one additional read from the database for every machine that is displayed.
Process Parameter Calculations	Contains fields that are calculated based on the value of certain process parameters.
Next Job Data	Contains fields related to Job Descriptor standards for the next scheduled job.

Advanced Tip #1

When you add new fields to the display, a name and description are shown in the "Field" picklist. Generally, only Mattec Service Personnel will be interested in viewing fields that contain the description "Internal".

For example, the field labelled "MachNo – Internal MachNo" is not the same as the field that is labelled "Mach Number – Machine Number". Both fields can be found in the "Basic Data" category.

Advanced Tip #2

When you add a field to the display, you may be permitted to modify the "SubField", depending on which field you have just added. For example, if you add any process parameter to the display from the "Process Parameters Values" category, then the "SubField" controls the number of decimal places that will be displayed.

The text in the "SubField Description" describes the purpose of the "SubField" for the current field.

Advanced Tip #3

Unlike the other types of Real-Time Display, you must consider speed and performance issues when you create a Standard Real-Time Display.

When you add a field from a new "Category" of data to the display, the Real-Time Display will require one additional read from the database for every machine that is displayed. For example, if your Real-Time Display has one field from each of three (3) categories, then three (3) database reads will be required for every machine that is displayed. Conversely, if your Real-Time Display has three (3) fields from a "typical" category (e.g., Basic Data), only one database read will be required for every machine that is displayed.

You should be very careful when using fields from the "Process Parameter Indicators" and "Process Parameter Values" categories. Fields in these categories can dramatically impact system performance. Each field that is added to the display from one of these two categories will require one additional read from the database for every machine that is displayed.

For example, if your Real-Time Display has thirteen (13) different process parameter values on the display (from the "Process Parameter Values" category), the display will require thirteen (13) reads from the database for every machine that is displayed.

Contact the Mattec Customer Service Department for additional information.

3.2 Operator Efficiency Display

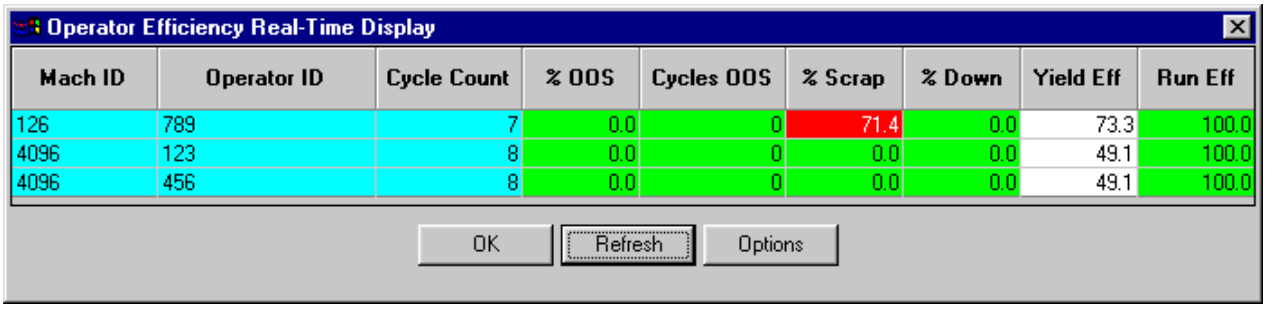
This feature allows machine operators to log in at supported MIUs for operator efficiency recording. The system will then automatically record performance information for the machine operator, including parts made, percent down, percent scrap, percent of machine cycles that are out-of-specification, yield efficiency, and much, much more.

The information that is collected for the machine operator is available in the Operator Efficiency Report and can be seen in real-time on the Operator Efficiency Real-Time Display.

To view an Operator Efficiency Real-Time Display, follow these steps:

- Start the **`Real-Time Display`** program. To do this, start the **`Main Menu`** and press the **`Launch Real-Time Display`** icon.

- Press the **`Operator Efficiency Display`** icon. The **`Operator Efficiency Real-Time Display`** screen will be displayed.



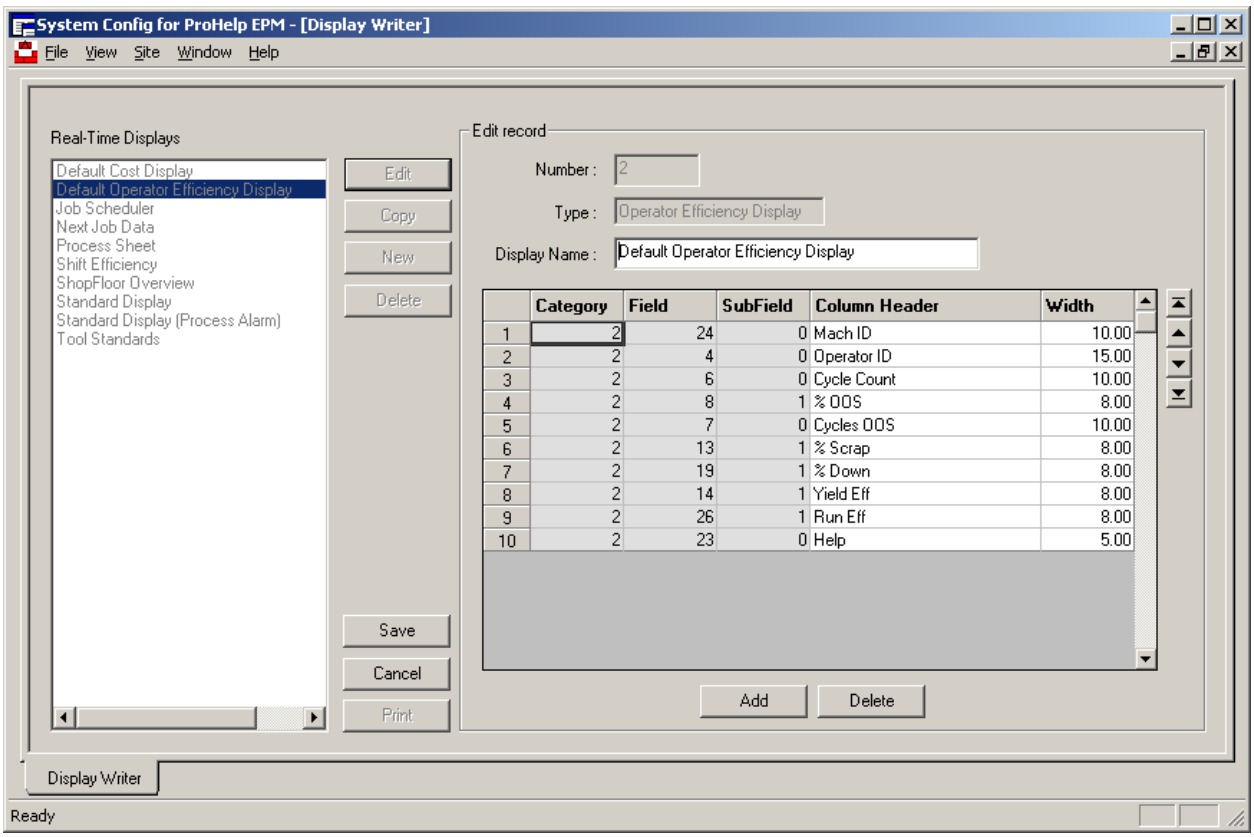
Operator Efficiency Real-Time Display

The fields on the Operator Efficiency Real-Time Display screen are configurable by the System Manager in the Real-Time Display Writer screen.

To start the Real-Time Display Writer, follow these steps:

- Start the **`System Configuration`** program. To do this, start the **`Main Menu`** and press the **`Launch System Configuration`** icon.

- Click the **`Site`** menu and select **`Real-Time Display Writer`**. The **`Real-Time Display Writer`** screen will be displayed.



Sample Operator Efficiency Real-Time Display

Advanced Tip #1

Operator Efficiency is an optional feature. You may purchase this at any time by contacting the Mattec Sales Department.

The Real-Time Display Writer will show a list of all existing displays for the supported display types. All Operator Efficiency displays will identify their "Type" as "Operator Efficiency Display".

To add a new field to the display, press the Add button. A list of available fields will be displayed. You can manually modify the "Column Header" and "Width" for the field or you can accept the default values.

You can reorder the fields in the display. To do this, hightlight a field and use one of the four arrow keys on the right-hand side of the display to move the field up or down.

To delete a field from the display, highlight the field and press the Delete button.

Advanced Tip #2

There are no speed concerns regarding Operator Efficiency Real-Time Displays. You can add any of the available operator efficiency-related fields to the display without a noticeable impact on system performance.

3.3 Cost Display

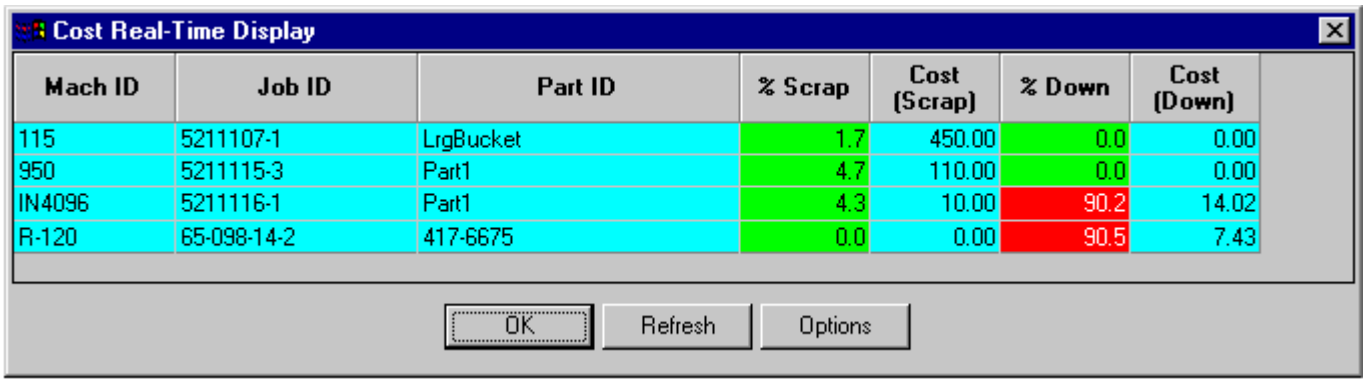
This feature allows users to associate costs with different types of data (e.g., material costs, part costs, etc.). The system will then provide basic costing information.

The cost of scrap and downtime for running jobs is available in real-time on the Cost Real-Time Display.

To view a Cost Real-Time Display, follow these steps:

- Start the **`Real-Time Display`** program. To do this, start the **`Main Menu`** and press the **`Launch Real-Time Display`** icon.

- Press the **`Cost Display`** icon. The **`Cost Real-Time Display`** screen will be displayed.



Cost Real-Time Display

Advanced Tip #1

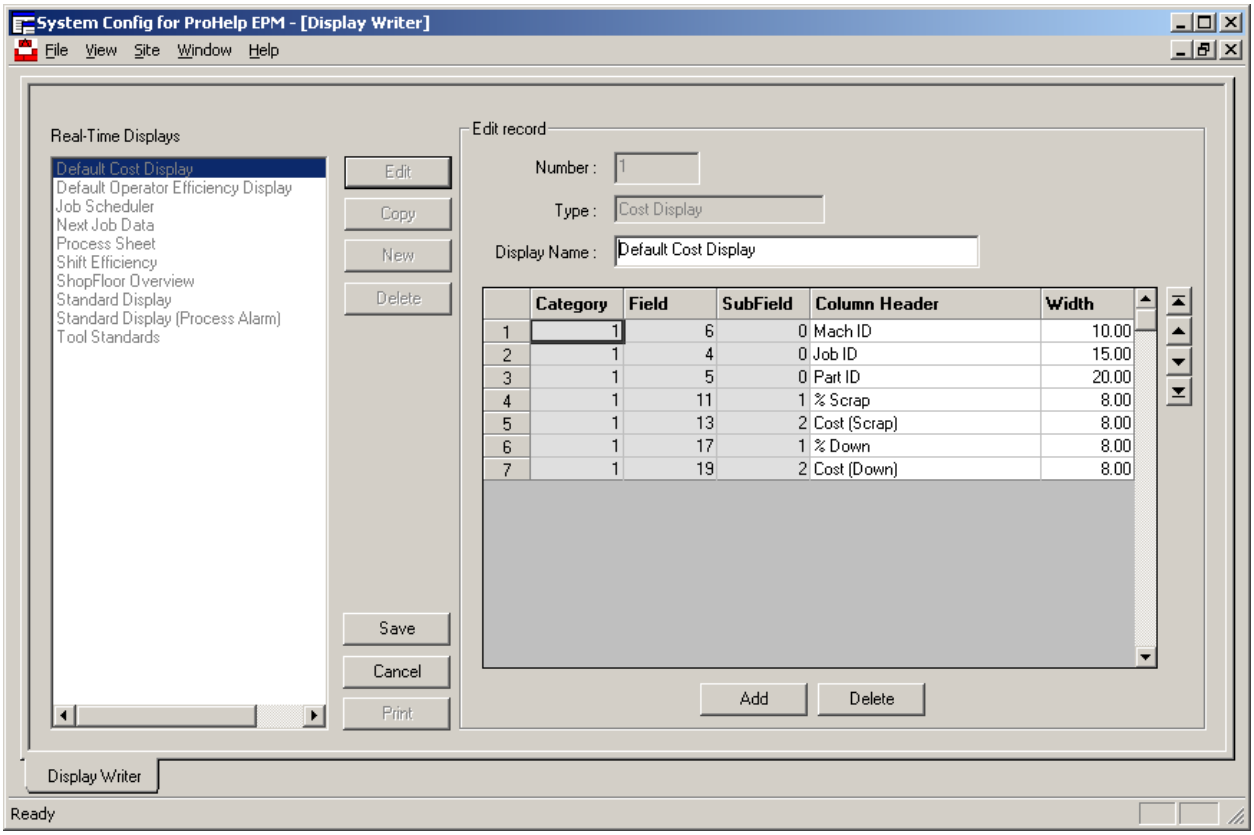
Cost Manager is an optional feature. You may purchase this at any time by contacting the Mattec Sales Department.

The fields on the Cost Real-Time Display screen are configurable by the System Manager in the Real-Time Display Writer screen.

To start the Real-Time Display Writer, follow these steps:

- Start the **`System Configuration`** program. To do this, start the **`Main Menu`** and press the **`Launch System Configuration`** icon.

- Click the **`Site`** menu and select **`Real-Time Display Writer`**. The **`Real-Time Display Writer`** screen will be displayed.



Sample Cost Real-Time Display

The Real-Time Display Writer will show a list of all existing displays for the supported display types. All Cost Efficiency displays will identify their "Type" as "Cost Display".

To add a new field to the display, press the Add button. A list of available fields will be displayed. You can manually modify the "Column Header" and "Width" for the field or you can accept the default values.

You can reorder the fields in the display. To do this, hightlight a field and use one of the four arrow keys on the right-hand side of the display to move the field up or down.

To delete a field from the display, highlight the field and press the Delete button.

Advanced Tip #1

There are no speed concerns regarding Cost Real-Time Displays. You can add any of the available cost-related fields to the display without a noticeable impact on system performance.

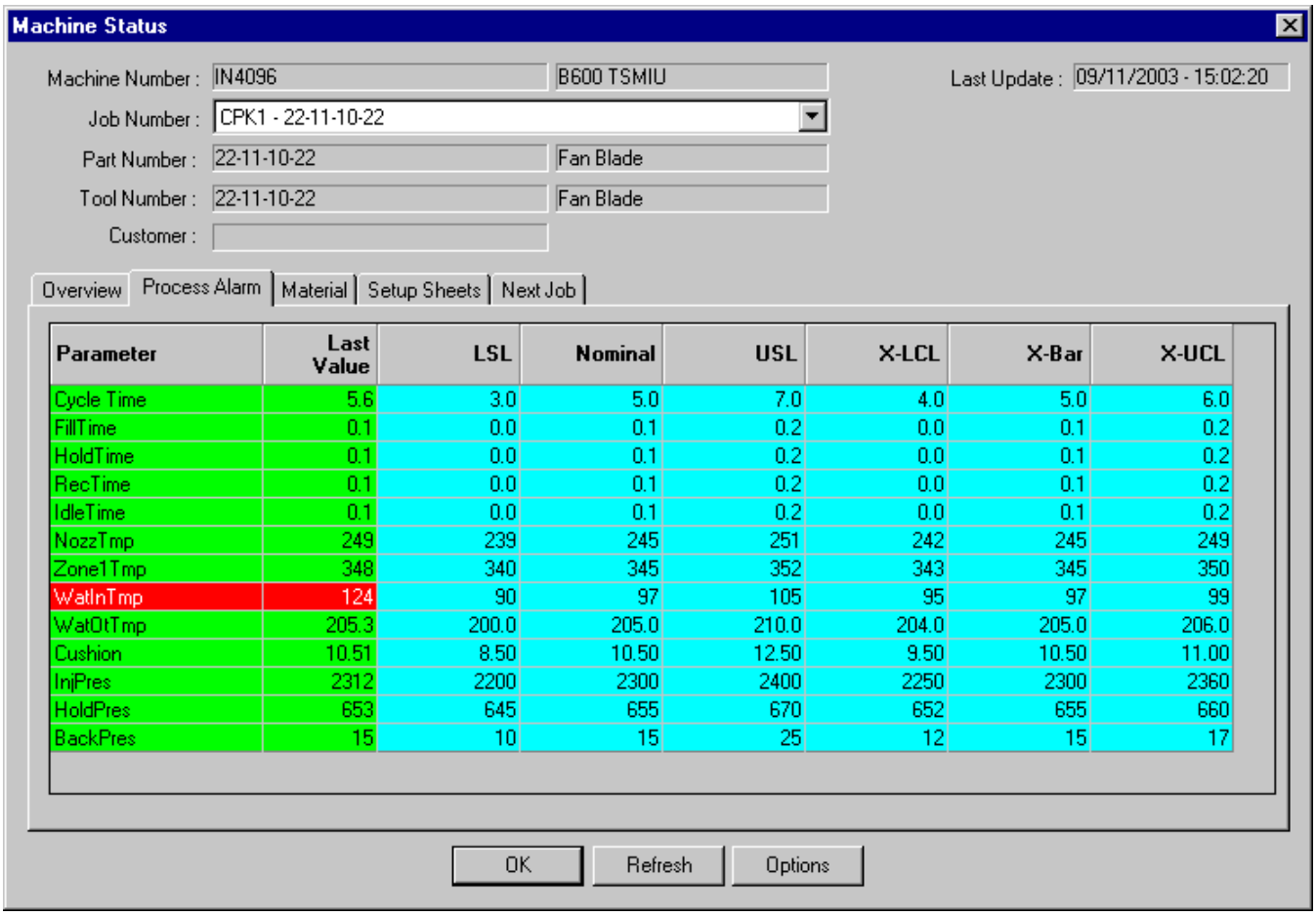
3.4 Process Alarm Display

The Process Alarm Real-Time Display doesn't look like a Real-Time Display at all. However, the fields on this display are configurable just like the other types of Real-Time Displays.

To view a Process Alarm Display, follow these steps:

- Start the **`Real-Time Display`** program. To do this, start the **`Main Menu`** and press the **`Launch Real-Time Display`** icon. The **`Standard Real-Time Display`** screen will be displayed.

- Double-click on any machine number or job number. The **`Machine Status`** screen will be displayed. Press the **`Process Alarm`** tab. The Process Alarm screen will be displayed.



Parameter	Last Value	LSL	Nominal	USL	X-LCL	X-Bar	X-UCL
Cycle Time	5.6	3.0	5.0	7.0	4.0	5.0	6.0
FillTime	0.1	0.0	0.1	0.2	0.0	0.1	0.2
HoldTime	0.1	0.0	0.1	0.2	0.0	0.1	0.2
RecTime	0.1	0.0	0.1	0.2	0.0	0.1	0.2
IdleTime	0.1	0.0	0.1	0.2	0.0	0.1	0.2
NozzTmp	249	239	245	251	242	245	249
Zone1Tmp	348	340	345	352	343	345	350
WatInTmp	124	90	97	105	95	97	99
WatOtTmp	205.3	200.0	205.0	210.0	204.0	205.0	206.0
Cushion	10.51	8.50	10.50	12.50	9.50	10.50	11.00
InjPres	2312	2200	2300	2400	2250	2300	2360
HoldPres	653	645	655	670	652	655	660
BackPres	15	10	15	25	12	15	17

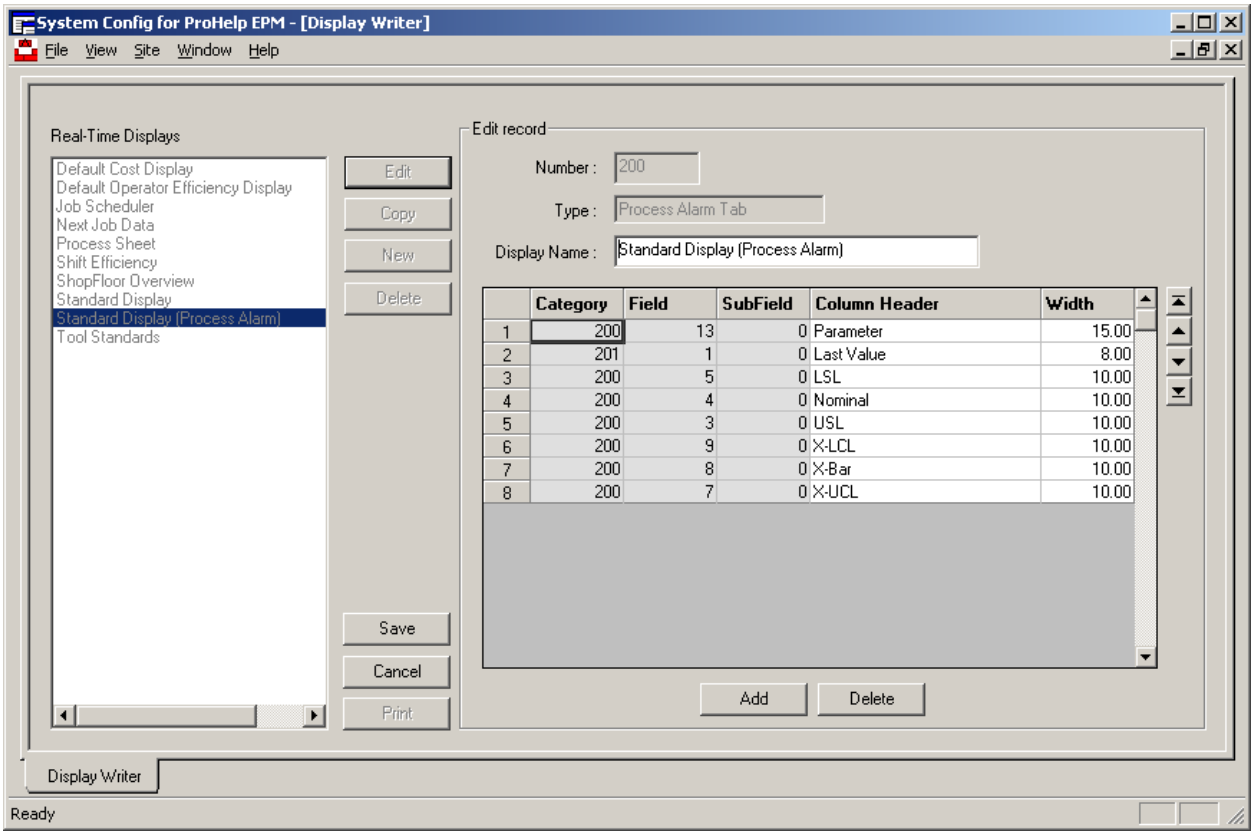
Process Alarm Tab

The fields on the Process Alarm screen are configurable by the System Manager in the Real-Time Display Writer screen.

To start the Real-Time Display Writer, follow these steps:

- Start the **`System Configuration`** program. To do this, start the **`Main Menu`** and press the **`Launch System Configuration`** icon.

- Click the **`Site`** menu and select **`Real-Time Display Writer`**. The **`Real-Time Display Writer`** screen will be displayed.



Sample Process Alarm Display

The Real-Time Display Writer will show a list of all existing displays for the supported display types. All Process Alarm displays will identify their "Type" as "Process Alarm Tab".

To add a new field to the display, press the Add button. A list of available fields will be displayed. You can manually modify the "Column Header" and "Width" for the field or you can accept the default values.

You can reorder the fields in the display. To do this, hightlight a field and use one of the four arrow keys on the right-hand side of the display to move the field up or down.

To delete a field from the display, highlight the field and press the Delete button.

Advanced Tip #1

There are no significant speed concerns regarding Process Alarm Real-Time Displays. All data for each line of the Process Alarm display is read with two or fewer reads of the database. This data is viewed one machine at a time. You can add any of the available process alarm-related fields to the display without a significant impact on system performance.

4. Advanced System Administration

The following sections describe advanced system administration functionality.

4.1 System Security

ProHelp® EPM relies heavily on the user/group security that is built into Windows 2000 to permit/limit access to areas of the ProHelp® EPM software.

To add a new user to the ProHelp® EPM system, follow these steps:

- Create a new Windows 2000 user using Microsoft Windows **`Computer Management`** utility.
- Make the user a member of the **`SQL Users`** group.
- Make the user a member of ***`MATTEC`*** groups, as appropriate.

Advanced Tip #1

If you are using Microsoft's "domain security", you can follow the above steps on the domain controller, provided that Mattec's security-related scripts were run on the domain controller. Contact the Mattec Customer Service Department for additional information.

The security within ProHelp® EPM is extremely flexible, and it is common for customers to customize the security to meet their needs.

Security to specific areas of ProHelp® EPM is based on the user's rights to the security files in the **C:\Program Files\Mattec\ProHelp\Sys\Security** directory. Three types of permissions exist, including:

- **None** – The user can not view, edit, create, nor delete records in this area of ProHelp® EPM.
- **Read+Execute** – The user can view records in this area of ProHelp® EPM, but can not edit, create, or delete records.
- **Create** – The user can view, edit, create, or delete records in this area of ProHelp® EPM.

For example, the file "Schedule" in the above directory permits/denies access to the Job Schedule in ProHelp® EPM. A user who has no rights to the "Schedule" file will be unable to view or modify the Job Schedule. A user who has "Read+Execute" rights to the "Schedule" file

will be able to view the Job Schedule, but will be unable to modify the Job Schedule. A user who has "Create" rights to the "Schedule" file will be able to view, edit, create, or delete records in the Job Schedule.

You can grant access to areas of the ProHelp® EPM system by assigning users to the MATTEC-related groups. The following table lists the Windows 2000 groups that are created by the installation program and the area of the system that they permit access to:

Windows 2000 Group	**Description**
MATTEC Basic User	The "MATTEC Basic User" has read access to most areas of the ProHelp® EPM system and has full access to the following areas: • Cavity Entry • Remote Downtime Selection • Real-Time Display Writer • Material Lot Edit • Packed Parts Entry • Scrap Parts Entry
MATTEC Maintenance User	The "MATTEC Maintenance User" has read access to most areas of the ProHelp® EPM system and has full access to the following areas: • Cavity Entry • Remote Downtime Selection • Real-Time Display Writer • Help Acknowledge • Machine Calibration • Machine Maintenance Logs • Tool Maintenance Logs
MATTEC SPC User	The "MATTEC SPC User" has read access to most areas of the ProHelp® EPM system and has full access to the following areas: • Cavity Entry • Real-Time Display Writer • GagePort Configuration • Process Sheets • Sample Sheets • Setup Sheets • Packed Parts Entry • Scrap Parts Entry • ProStat® SPC/SQC • ProStat® Sample Data Edit
MATTEC Job Manager	The "MATTEC Job Manager" has full access to most areas of the system except for some System Configuration-related areas. The "MATTEC Job Manager" is able to view/modify cost-related fields.
MATTEC System Administrator	The "MATTEC System Administrator" has full access to all areas of the ProHelp® EPM system.

Advanced Tip #2

If a user is a member of two groups that have access to ProHelp® EPM security files, the most-restrictive group settings take effect if you are using NTFS security.

Advanced Tip #3

By default, the Windows 2000 group “Administrators” will have full access to all areas of the system.

Advanced Tip #4

The Mattec security groups are a simple method for providing access to the relevant security files in the security directory. Knowledgeable users can create their own groups or can modify the permissions on the relevant security files directly in order to permit/deny access to the system, as appropriate.

The following table lists the security files that are installed in the security directory and the area of the system that they control access to:

Security File	Description
Cavity Entry	Controls access to the cavity entry feature in the Real-Time Display.
Cost Manager	Controls access to the Cost Display in the Real-Time Display.
Data Exchange	Controls access to the Data Import/Export program.
Departments	Controls access to the Department configuration in System Configuration.
Display Writer	Controls access to the Real-Time Display Writer in System Configuration.
Down Codes	Controls access to the Down Codes and Down Map configuration in System Configuration.
Down Select	Controls access to the remote downtime selection feature in the Real-Time Display.
Down Time Cost Restriction	Controls access to the down cost fields in the system.
Downtime Edit	Controls access to the Downtime Edit program in Edit Facilities.
Gage Configuration	Controls access to the GagePort configuration in the ProStat® Sample Data Edit program.
Help Ack	Controls access to the help acknowledge feature in the Real-Time Display.
Help Codes	Controls access to the Help Codes and Help Map configuration in System Configuration.
JobControl	Controls access to Job Control.
Job Setups	Controls access to Job Setup Notes in Edit Facilities.
Machine Calibration	Controls access to the Machine Calibration in System Configuration.
Machine Configuration	Controls access to the Machine Configuration in System Configuration.
Machine Maintenance Codes	Controls access to the Machine Maintenance Codes in System Configuration.
Machine Maintenance Logs	Controls access to the Machine Maintenance Logs in Edit Facilities.
Material Lots	Controls access to the Material Lots in Edit Facilities.
Operator Efficiency	Controls access to the Operator Efficiency Display in the Real-Time Display.
Operator ID	Controls access to the Operator Permissions program in System Configuration.
Packed Entry	Controls access to the packed parts entry feature in the Real-Time Display.

Security File	Description
Parameter Choices	Controls access to the Parameter configuration in System Configuration.
Part Cost Restriction	Controls access to the part cost fields in the system.
Part IDs	Controls access to Part IDs in Edit Facilities.
Process Sheets	Controls access to Process Sheets in Edit Facilities.
Production Edit	Controls access to the Production History Edit program in Edit Facilities.
ProStat	Controls access to the ProStat® SPC/SQC data analysis program.
RealTimeDisplay	Controls access to the Real-Time Display program.
Sample Data	Controls access to the ProStat® Sample Data Edit program in Edit Facilities.
Sample Sheets	Controls access to the ProStat® Sample Sheets in Edit Facilities.
Schedule	Controls access to the Job Schedule.
Scrap and Packed Parts	Controls access to the scrap and packed parts entry program in Edit Facilities.
Scrap Codes	Controls access to the Scrap Codes and Scrap Map configuration in System Configuration.
Scrap Entry	Controls access to the scrap entry feature in the Real-Time Display.
Setup Sheets	Controls access to the Document Control Center.
Shift Configuration	Controls access to the Shift Boundaries configuration in System Configuration.
Shift Exceptions	Controls access to the Shift Exception configuration in System Configuration.
System Configuration	Controls access to the System Configuration option in System Configuration.
Tool IDs	Controls access to the Tool IDs in Edit Facilities.
Tool Maintenance Codes	Controls access to the Tool Maintenance Codes in System Configuration.
Tool Maintenance Logs	Controls access to the Tool Maintenance Logs in Edit Facilities.

Advanced Tip #5

It is possible to manually modify security access to the system within SQL Server. This is not recommended. By default, the “SQL Users” group has been created to give users read/write access to SQL Server. Any user who will have access to ProHelp® EPM will need to be a member of this group

4.2 Database Backup

It is important to backup the system's data to protect against accidents**. Daily backup is recommended; weekly backup is mandatory.**

Advanced Tip #1

If the hard drive in your ProHelp® EPM server "crashes", the system will be rebuilt using a database backup. If you don't have a database backup that is physically separate from the server (e.g., located on a tape), then you may lose all data from your system!

Advanced Tip #2

The most important job that the System Manager has is to properly backup the ProHelp® EPM database in a timely manner and to copy the database to an appropriate storage device (including tape, a CD, a DVD, or another computer's hard drive).

This job will likely go unnoticed unless/until your system's hard drive "crashes". At that point, all eyes will be focused on the System Manager.

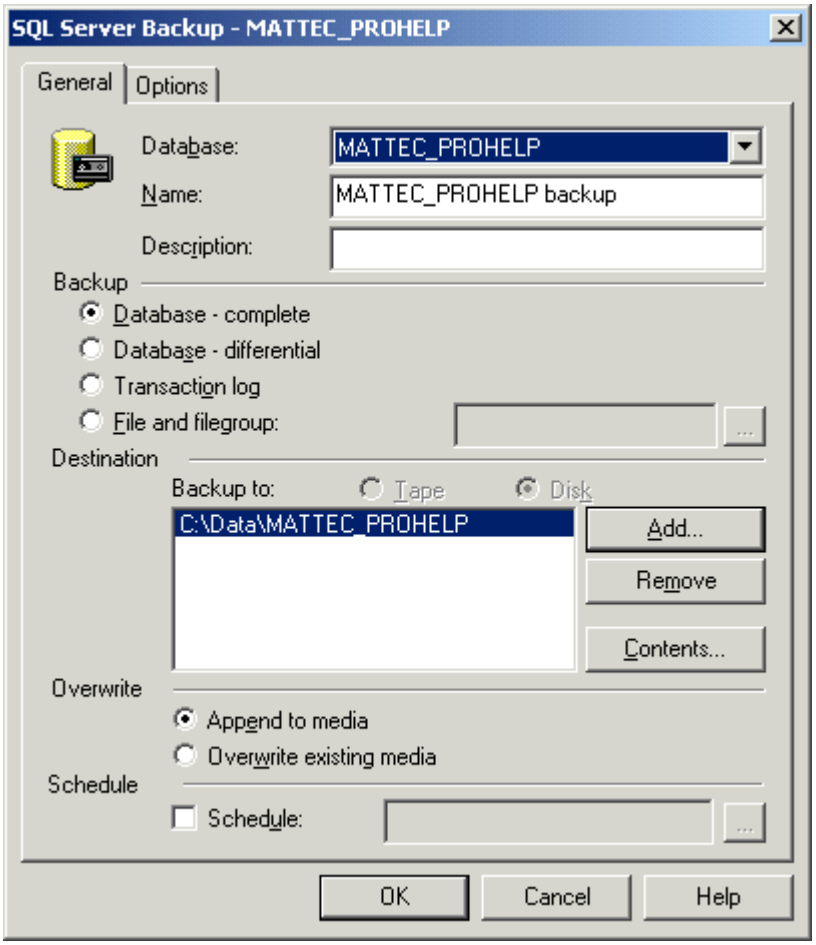
Backing up the database is a function of SQL Server. That is, ProHelp® EPM does not provide any tools for performing a database backup.

To backup the database, follow these steps:

- Start the **SQL Server Enterprise Manager**. To do this, click on the Microsoft Windows **Start Menu**. Click on the **Programs** menu, click on the **Microsoft SQL Server** menu, and select **Enterprise Manager**.
- Locate the ***MATTEC_PROHELP*** database.
- Right-click on the ***MATTEC_PROHELP*** database, click on **All Tasks**, and select **Backup Database**. The **SQL Server Backup** screen will be displayed.
- Ensure that **Database – complete** is selected.
- Ensure that in the **Backup To** area that **Disk** is selected. This will backup the database to a disk file.
- You can press the **Add** button to specify a **Destination** name for the database backup. If you have already run this utility, a **Destination** name will already be present. If you will copy the file to a removable device, then it is OK to reuse the **Destination** name. If you are copying the file to another computer's hard drive,

then it would be a good idea to **Remove** the existing **Destination** name and **Add** a unique **Destination** name.

- Press **OK** to start the database backup.
- Repeat this process on the ***master*** database.



SQL Server Backup Screen

Advanced Tip #3

If you are copying the database backup to a removable device (e.g., a tape), then it is OK to use the same "Destination" name over and over.

If you are copying the database backup to another computer's hard drive (e.g., a network drive), then you should probably "Remove" the existing "Destination" name and "Add" a unique "Destination" name every time you make a database backup.

Advanced Tip #4

The Mattec Customer Service Department can automate the database backup procedure for you. Then, the only job for the System Manager is to ensure that the database backup ran successfully and was copied to an appropriate storage device (including tape, a CD, a DVD, or another computer's hard drive).

4.3 Purge

The System Manager is responsible for "purging" old data from the system after this data has been properly backed up. It is necessary to periodically purge data from the system in order to limit the amount of data that is kept on-line in order to maintain an acceptable level of system speed.

Advanced Tip #1

It is a good idea to backup your database and to store that backup in a secure location before purging data from the system. This will potentially allow you to view that data in the future.

"Purge" is a stored procedure that must be executed manually in order to delete old data from the system.

The maximum number of days of historical data to retain is specified on the "Purge" tab of the System Configuration screen in System Configuration (Section 2.5). All data that is older than the specified dates will be deleted from the system when the purge stored procedure is executed. The data is not physically purged from the system unless/until you execute the purge stored procedure.

Advanced Tip #2

The maximum number of days of historical data to retain is specified on the "Purge" tab of the System Configuration screen in System Configuration (Section 2.5). However, the data is not physically purged from the system until you execute the purge stored procedure.

Advanced Tip #3

The Mattec Customer Service Department can automate the purge stored procedure for you.

4.4 Loading the Client Software

The System Manager is responsible for loading the ProHelp® EPM client software on computer workstations throughout your facility. This will need to be done periodically for the following reasons:

- When a new employee is hired, his/her computer will need to be configured to access ProHelp® EPM.

- When you receive a software update from Mattec Corporation, all existing client computers will need to be updated with the new software.

There are two types of client installations, including:

- **Typical** – This installation leaves most application files on the ProHelp® EPM server and does not copy files to the client computer. This type of installation can slow down the system slightly but can eliminate the need to update client computers when minor enhancements or patches are loaded on the system.

- **Local** – This installation copies all the necessary application files to the client computer. This type of installation provides the greatest system performance but makes it necessary to update all client computers when a new release of software is loaded on the system.

To load the ProHelp® EPM client software on a client computer, follow these steps:

- Ensure that the client computer is running an approved Microsoft operating system.

- Ensure that the user of the client computer has the appropriate login permissions on the ProHelp® EPM server computer.

- Ensure that the user of the client computer has the appropriate ProHelp® EPM security permissions on the ProHelp® EPM server computer. Reference Section 4.1 for additional information.

- If this is a new client computer installation, create an **`ODBC DSN`** on the client computer that connects to the ProHelp® EPM server's ***`MATTEC_PROHELP`*** database. The name of the **`ODBC DSN`** must be the same name as the database on the ProHelp® EPM server for historical reasons. Reference Section 4.4.1 for additional information.

- Install the ProHelp® EPM client software. This software can be found on the ProHelp® EPM Installation CD that came with your system in a sub-directory named **`Client`**. Follow the on-screen prompts as appropriate.

- When prompted, reboot the computer and ensure that the installation finishes without any errors.

- If this is a new client computer installation, run the **`System Names Edit`** program and configure it as appropriate. Reference Section 4.4.2 for additional information.

- Resolve any errors immediately with the Mattec Customer Service Department.

Advanced Tip #1

You should resolve any installation errors immediately with the Mattec Customer Service Department.

4.4.1 ODBC Data Source

An ODBC Data Source (ODBC DSN) is the mechanism that is used by the ProHelp® EPM Software to read data from the server computer. Before loading the ProHelp® EPM software on a client computer, you must create an ODBC DSN to connect to the ProHelp® EPM system.

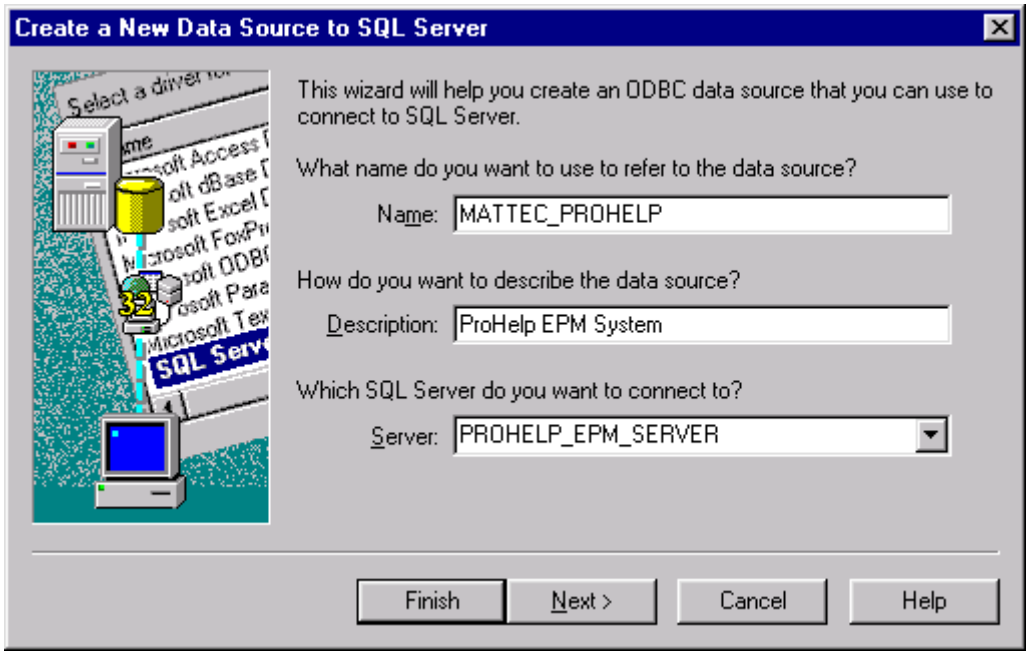
This step only needs to be performed once. You do not need to perform this step when upgrading an existing client computer with a new release of software.

To create an ODBC DSN, follow these steps:

- Start the **`ODBC Data Source Administrator`** on the client computer. To do this, click on the Microsoft Windows **`Start Menu`**, click on the **`Settings`** menu, and **`select Control Panel`**. In the **`Control Panel`** window, double-click on the **`Data Sources (ODBC)`** icon. The **`ODBC Data Source Administrator`** window will be displayed.

- In the **`ODBC Data Source Administrator`** window, select the **`System DSN`** tab. Press the **`Add`** button.

- When prompted to **`Select a drive for which you want to set up a data source`**, select **`SQL Server`**. Press **`Finish`**.



ODBC DSN Creation Display

- When prompted, specify ***`MATTEC_PROHELP`*** as the **`Data Source Name`**, where

MATTEC_PROHELP is the data source name that was used on the server. Enter the name of the ProHelp® EPM server in the **`Server`** field. Press **`Next`**.

- Press **`Finish`**.

- Select **`Test Data Source`**. Do not continue until the data source test completes successfully.

Advanced Tip #1

The steps for starting the ODBC Data Administrator vary slightly depending on the version of Microsoft Windows that is loaded on the client computer. Reference the Microsoft documentation that came with the client computer for additional information.

Advanced Tip #2

The name of the ODBC DSN must be the same name as the physical database on the ProHelp® EPM server. This is required for legacy applications to be able to access the system. This requirement may be removed in the future.

Advanced Tip #3

It is recommended that you select TCP/IP on the Client Configuration screen. Older ProHelp® EPM systems required this value to be set to Named Pipes. This is no longer required.

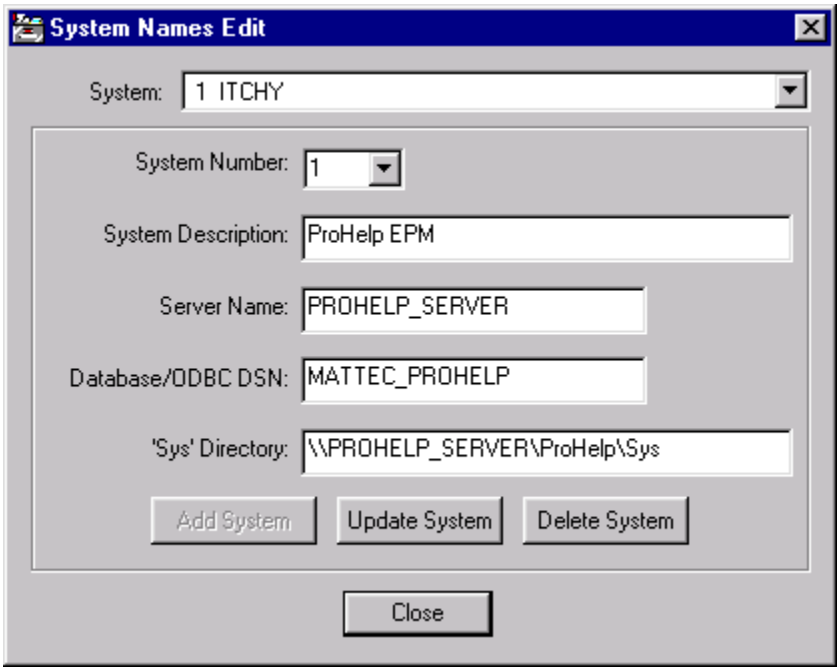
4.4.2 System Names Edit

After loading the ProHelp® EPM software on a client computer, the computer must be configured to connect to the ProHelp® EPM system. The System Names Edit program is used to perform this configuration.

This step only needs to be performed once. You do not need to perform this step when upgrading an existing client computer with a new release of software.

To run the System Names Edit program, follow these steps:

- Click on the Microsoft Windows **`Start Menu`**.
- Click on the **`Programs`** menu, click on the **`Mattec`** menu, click on the **`Utilities`** menu, and select **`System Names Edit`**.
- The **`System Names Edit`** program will be displayed.



System Names Edit Program

The following fields are available in the System Names Edit screen:

Field	Description
System Number	The number for the system, corresponding to the number that is configured on the server (in the registry and in the System Names Edit program). For most installations, this number will be "1".
System Description	A description for the system. This description will appear in the title bar of some applications.
Server Name	The name of the ProHelp® EPM server. This value should be entered without a leading "\\".
Database / ODBC DSN	The name of the ODBC DSN that is capable of connecting to the database on the ProHelp® EPM server.
'Sys' Directory	The location of the **Sys** directory on the server computer. Typically, the **C:\Program Files\Mattec\ProHelp** directory on the server computer will be shared under the name "ProHelp".

Contact the Mattec Customer Service Department if you need assistance determining the values for any of the above configuration parameters.

Advanced Tip #1

A single client computer can be configured to connect to as many as 99 different ProHelp® EPM systems, provided that all of the systems are running the same version of software. If a client computer is configured to connect to two (2) or more systems, the user will be prompted to select which system he/she is connecting to whenever he/she starts an application. The System Names Edit program is used to perform this configuration.

Advanced Tip #2

When you start the System Names Edit program, you will be prompted to enter a password. This password is not a closely guarded secret and exists simply to prevent novice users from deleting their client computer configuration.

If you do not know the password to the System Names Edit program but have a need to know the password, contact the Mattec Customer Service Department.