ISACC MANAGER for Windows

User's Manual

Version 2.1.145

Phonetics, Inc.

Every effort has been made to ensure that the information in this document is complete, accurate and up-to-date. Phonetics, Inc. assumes no responsibility for the results of errors beyond its control. Phonetics, Inc. also cannot guarantee that changes in equipment made by other manufacturers, and referred to in this manual, will not affect the applicability of the information in this manual.

Copyright 1998 by Phonetics, Inc.

Second edition, version 2.1.145, November, 1998.

Written and produced by Phonetics, Inc. Please address all comments on this publication to:

Phonetics, Inc. 901 Tryens Road Aston, PA 19014

Sensaphone is a registered trademark of Phonetics, Inc.

Touch Tone is a registered trademark of AT&T.

Windows is a registered trademark of Microsoft Corporation.

ISACC Manager Table of Contents

Chapter 1 Getting Started	1
Installing and Starting MANAGER	1
Installing MANAGER	
Installation Procedure:	
Starting MANAGER	
MANAGER Menu Bar	
Tool Bar	
Chapter 2 Configuring MANAGER for your System.	5
Local Port Setup	
Modem Setup	
Adding a New Unit to your Database	
Editing Unit Information	
Deleting a Unit from your Database	
Opening a Unit	
Closing a Unit	
Copying Programming using Drag and Drop	11
On-line Programming	
Off-line (Unit Database) Programming	12
Chapter 3 Programming	. 13
SYSTEM TAB	
INPUTS TAB	
OUTPUTS TAB	
PHONE TAB	
C PROGRAMMING TAB	
BLOCK FUNCTIONS	
KEYBOARD SHORTCUTS	
CONTROL KEYS	
REAL TIME TAB	26
DATA LOGGING TAB	29
TEXT MODE TAB	34

Chapter 4 Receive Alarm Mode	35
AUTO ANSWERING	35
VIEWING ALARM INFORMATION	36
Chapter 5 Real Time Screen Builder	37
Building your Screen	39
Appendix A Troubleshooting	41

Chapter 1 Getting Started

ISACC MANAGER can be installed in just a few minutes. The instructions below outline the procedure and system requirements. It is important to note that this manual is specific to the ISACC MANAGER software program. For information on ISACC and its operation you should consult the ISACC Owner's Manual.

Installing and Starting MANAGER

MANAGER minimum requirements:

- 486 or better computer (Pentium recommended)
- 10 MB of free disk space
- 4 MB RAM (16 MB RAM recommended)
- Graphics card compatible with Microsoft Windows® 3.1, 95 or NT (such as VGA)
- Microsoft Windows® 3.1, 95 or NT
- VGA or Super VGA monitor
- Mouse
- Modem

Installing MANAGER

MANAGER's setup program makes installation quick and easy. You will be prompted to insert the installation disks in the order they are numbered. Make sure that all windows applications are closed before attempting to run Setup. If you encounter problems during installation see Troubleshooting, in Appendix A.

The ISACC MANAGER Software for Windows will install to a directory named ISACCMAN. If necessary, you may change the directory when prompted during installation. If you have an older version of MANAGER for DOS, do not use the directory name MANAGER since this will result in overwritten files and program conflicts.

Installation Procedure:

For Windows® 95

- 1) Start Microsoft Windows.
- 2) Insert disk 1 in drive A.

- 3) Select Start>Settings>Control Panel. Double click on Add/Remove Programs.
- 4) Follow the prompts to install the software.

For Windows® 3.1

- 1) Start Microsoft Windows.
- 2) Insert disk 1 in drive A.
- 3) Choose File, then Run, to open the Windows Run dialog box.
- 4) In the Command Line box, type a:\setup.
- 5) Click OK, and follow the instructions in the dialog boxes displayed on the screen.

Starting MANAGER

To start MANAGER, position the mouse over the MANAGER icon and double click. When you run the program for the first time it will ask if would like the software to self-configure for your system. You may choose to skip this or selectively allow it to configure only your modem or your local COM port. The Auto procedure is recommended because it simplifies setting-up your communications. When the software finishes the configuration process you will see a menu and toolbar with the New Unit form in the MANAGER window. You may enter the information for a new unit at this time or simply click *Cancel* to add a new unit later. The menus and tools at the top of the screen will allow you to open new ISACC units, communicate with existing ISACC units, observe real-time input values and numerous other features.



MANAGER Menu Bar

The menu bar at the top of the MANAGER window lists menu commands for selecting a unit, configuring your communication ports, sending and receiving programming, enabling automatic features and other functions. You can choose these commands by clicking them with the mouse. Many frequently used commands are also available as tools on the toolbar.



The following table briefly describes each menu. Shortcut keys that you can use to display each menu are included in parentheses next to the menu names.

Menu name	Functions under this menu
File (Alt, F)	Adding new units, opening existing units, editing existing units, closing units and deleting units; printing information; exiting MANAGER.
Communications (Alt, C)	Local port setup, modem setup
Data Transfer (Alt, D)	Sending and receiving unit programming between the computer and ISACC; Sending and receiving programming to the computer database; restoring database programming from MANAGER's backup copy
Options (Alt, O)	Enabling/Disabling alarm receiving; Viewing alarm data; Alarm Reception Settings; Activating/Deactivating polling; Viewing the polling schedule; Real Time Settings
Window (Alt, W)	Cascade; Tile; Arrange Icons
Help (Alt, H)	Accessing MANAGER on-line help; Program Information

Tool Bar

The tool bar appears below the menu bar and is made up of nine buttons. On each button, a name tag appears when the pointer rests on it. The toolbar allows fast one-click access to the following ISACC MANAGER functions:



New - Configures a new unit in the database for programming and communication.

Open - Opens a unit for online communication or database programming.

Edit - Permits editing of a unit's phone number and modem baud rate.

Close - Terminates a communication session whether online or using the database.

Delete - Deletes a unit from the database.

From Unit - Downloads the programming from a unit to the computer screen.

To Unit - Uploads programming from the computer to the unit.

From Database - Retrieves information from the database and puts it on the screen.

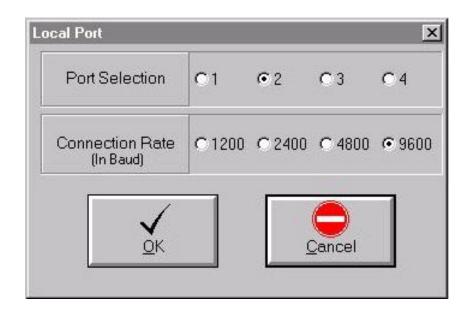
To Database - Sends the on-screen programming to the database.

Chapter 2 Configuring MANAGER for your System

ISACC MANAGER will communicate to your ISACC through your computer's local serial port or through your modem. These communication paths must be properly configured for a connection to be established. (If you allowed the software to automatically configure your system you only need to configure the modem initialization string).

Local Port Setup

Click on *Communications* from the menu bar. Click on *Local Port Setup*. Select the appropriate serial port and baud rate to communicate with ISACC. Select a serial port on your computer that is unused and can be attached to ISACC's RS232 port. Note that the maximum (and default) speed at which ISACC can communicate is 9600 baud. When finished click *OK*.

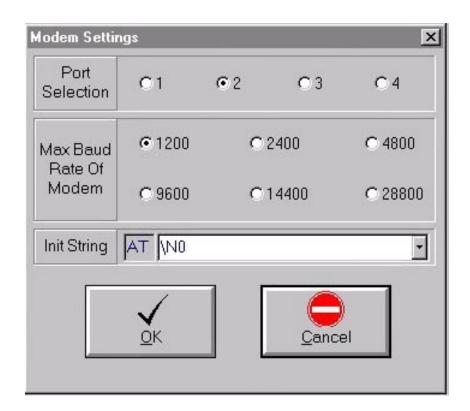


Modem Setup

Click on *Communications* from the menu bar. Click on *Modem Setup*. Select the serial port that communicates with your modem and select the maximum baud rate of your modem. Next, select the appropriate modem initialization string (init string) for your modem. The initialization string is a command given to your modem to configure it for various communication purposes. Certain modems perform the additional features of data compression and error correction. The two most common protocols are MNP4-5 and V.42. These special features conflict with the operation of ISACC's modem and must be disabled. Check with your modem owner's manual to see if you have these features. To disable these features an

initialization string is sent to the modem. Some common initialization strings are listed in the drop down box on your screen. Click on the down arrow next to the blank box to see a list of initialization strings. Select the initialization string that is appropriate for your modem or type one in that adjusts your modem accordingly. Click on *OK* when finished. Listed below are some sample initialization strings for several popular modems.

Manufacturer & Model Number	Initialization String
Bocamodem M144EW	\N0
Intel 9600bps	\ N 0
Practical Peripherals PM144	\N0
U.S. Robotics Sportster14.4 & 28.8kbps	&K0&M0
Wisecom 28.8kbps	\ N 0



Adding a New Unit to your Database

Click on 'New' from the file menu or click on the "New" toolbar button. The 'New Unit' form will appear.



Enter the Unit ID name, phone number, and modem speed. The Unit ID is the identification name for the unit and may be up to 31 characters long. This will appear in your unit list and in other forms. The phone number is the number for your ISACC unit and may be up to 31 characters long. ISACC MANAGER will dial this number when connecting with your modem. Modem Rate refers to ISACC's modem speed. This should be set to 1200 for most applications.

Enter the ISACC unit's data password under both Password and Verification. The password may be up to 30 characters long. Next, select either Programming or Status-Only access. If Programming access is selected, full access to all unit functions is granted when MANAGER opens the unit. When MANAGER opens a unit with Status-Only access selected, only the Real Time Status screen and the Data Log screen will be visible. In Status-Only mode, no programming changes will be allowed.

NOTE: The ISACC Manager database uses the Unit ID as the database key. Therefore it is imperative that the database and your ISACC unit have identical Unit ID descriptions.

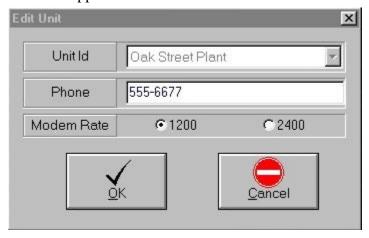
Next, choose whether to save the password to disk. If this box is checked, MANAGER will automatically enter the programmed password when a unit is opened. If this box is not checked, MANAGER will prompt you to manually enter the unit's password when a unit is opened.

When connecting to a new unit (a new unit being one with no Unit ID, no unit phone number and no password), Manager will automatically copy the unit ID, the phone number and password from the NEW UNIT form into the unit. This ensures that the Unit ID matches the database.

Editing Unit Information

This function permits editing of a unit's phone number and modem baud rate.

1. Click on *Edit* from the File menu or click on the "Edit" button on the toolbar. The 'Edit Unit' form will appear.



2. Select a unit from the list, make the desired changes, then click 'OK'.

Deleting a Unit from your Database

- 1. Click on 'Delete' from the file menu or click on the 'Delete' toolbar button (trash can). The 'Delete Unit' form will appear.
- 2. Select a unit from the list.
- 3. Click '*OK*'.



Note: Deleting a unit deletes ALL information pertaining to that unit. This includes unit programming and any downloaded Data Log, and Alarm Data information.

Opening a Unit

- 1. Click on *Open* from the File menu or click on the "Open" button on the toolbar.
- 2. Select a unit from the list.
- 3. Choose a communication method.



If you Open a Unit using either "Local" or "Modem" communication, you will be connected directly to an ISACC unit. If you Open a Unit using the 'Unit Database' selection, you can view downloaded Datalogger information, setup a polling schedule or pre-program an ISACC. The on-line connection (Local or Modem) allows you to make programming changes and load them into the unit immediately. When you Open a Unit using either "Local" or "Modem" communication, the ISACC's data is automatically downloaded to the PC for comparison. If the ISACC's data does not match the PC's database data, a "Data Mismatch" warning appears.



The Data Mismatch form gives you three options:

- Overwrite Database With Unit Data This option will download the programming from ISACC and copy it into the database. This choice is useful if you are connecting to a previously programmed unit and are connecting to it for the first time using ISACC Manager for Windows.
- Overwrite Unit With Database Data This option will upload the programming in your computer Database to ISACC. This choice is useful if you have set all of your programming in the unit database and wish to copy it into your ISACC unit.
- Ignore Mismatch and Edit Unit Data This option will simply display the programming in your ISACC unit. No programming will be copied to either your database or ISACC unit. If you are unsure about what option to select, this is the safe choice.

Closing a Unit

Click on *Close* from the File menu, or click the "Close" button on the toolbar. When you close a unit and you have made programming changes, the 'Close Unit' form appears. You will be given the option of saving your changes to the ISACC unit as well as to the database on your PC.

Connecting to a Unit not in your Database

If you want to connect to an ISACC unit that is already programmed, but this unit is not in your database, follow the instructions below.

If you know the *exact* Unit ID description, just follow the instructions for "Adding a New Unit to Your Database" in this chapter. When you connect to the unit, the data mismatch box will appeaer. Select "Overwrite Database with Unit Data." Your PC database will now contain the programming from the unit.

If you are unsure of the exact Unit ID description but you know the phone number and password, you can connect to the unit and get the exact Unit ID. Start by creating a dummy unit named Temp. follow the instructions for "Adding a New Unit to Your Database" in this chapter, but use the name "Temp" for the Unit ID. Go online with the unit. A data mismatch form will appear. Select "Ignore Mismatch and Edit Unit Data." Go to the "Text Mode" tab. Type ">show system" at the ISACC prompt. The Unit Identification will appear in the listing. Write it down exactly as it appears. Close the connection *without* saving to the unit or database. Delete the Temp unit. Now create a NEW unit using the exact Unit ID. When you connect to the unit, the data mismatch box will appear. Select "Overwrite database with Unit Data." Your PC database will now contain the programming from the unit.



Copying Programming using Drag and Drop

Phonetics MANAGER for Windows is an MDI application that allows you to have several different unit forms open at the same time. You can only be on-line with one ISACC unit at a time so the other unit forms must represent off-line units. Drag and Drop has been implemented for data transfer between unit forms. To Drag ISACC parameters from one unit to another, click on the icon of a hand holding a sheet of paper in the upper left hand corner of the form.



NOTE: This icon exists only on the System, Inputs, Outputs, and Phone tabs. You must have one of these tabs open in both units to perform Drag and Drop between units.

Keeping your mouse button depressed, move your mouse pointer over the tab of another unit form until it transforms into an open hand dropping a page. Then release the button. Data from the System, Inputs, Outputs, and Phone tabs can be copied from the first unit form to the second. Releasing the mouse button will bring up the following form:



The Drag and Drop form allows you to select the data to be copied. Click OK to proceed with transferring the data between units.

On-line Programming

If you Open a Unit using either 'Local' or 'Modem' communication, you will be connected directly to an ISACC unit. This on-line connection allows you to make programming changes and load them into the unit immediately.

When using the MANAGER software to go on-line with a unit, the data you see on your screen will reflect what the ISACC Unit currently holds **only if you have maintained programming settings between both database and unit.** It is the user's responsibility to keep the data consistent between the database and the ISACC unit. While Manager software is designed to prompt you to save changes in most instances, you should make a habit of *always* saving your programming changes to both the unit and database, no matter how minor the change might be. **Remember, if you are On-line with ISACC and you make a programming change on the screen, you must send the updated data to the ISACC.** The software will automatically prompt you to save when you *Close* your connection; however, you may also save the information *immediately* by clicking on the *To Unit* button or *To Database* button on the toolbar. These features are also available on the *Data Transfer* menu.



When you use the TO UNIT/FROM UNIT and TO DATABASE/FROM DATABASE buttons, the Unit ID, Unit phone number, and password are not transferred or changed.

Off-line (Unit Database) Programming

If you Open a Unit using the 'Unit Database' selection, you can change a unit's programming without actually connecting to the unit. All programming will be saved to the unit database in your PC. The next time you open the unit using either 'Local' or 'Modem' communication, you'll be able to replace the unit's programming with your PC's database information. This feature is useful if you want to pre-program a unit before connecting to it.

Uploading Programming (copying programming information from your PC's database to an ISACC unit)

- 1. Open an on-line connection with a unit.
- 2. Select 'To Unit' from the 'Data Transfer' menu, or click the 'To Unit' button on the toolbar.

Downloading Programming (copying programming information from an ISACC unit to your PC's database)

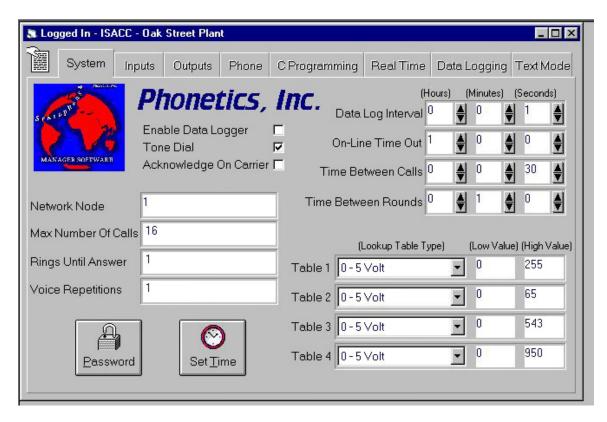
- 1. Open an on-line connection with a unit.
- 2. Select 'From Unit' from the 'Data Transfer' menu, or click the 'From Unit' button on the toolbar.

Chapter 3 Programming

MANAGER organizes all of ISACC's programmable parameters into a fill-in-the-blank format. Within a unit record, there are eight easy-to-read programming screens, referred to as tabs. The tab titles are: System, Inputs, Outputs, Phone, C Programming, Real Time, Data Logging, and Text Mode.

SYSTEM TAB

The System tab contains programming parameters that apply globally to the operation of the unit.



Enable Data Logger - Check this box to enable ISACC's Data Logging feature. The Data Logger can record and store up to 512 logs. Each log contains the present value of all 16 inputs with a time stamp. Remember, the datalogger won't start until you upload your programming.

Tone Dial - ISACC can dial out using Touch-Tones or Pulses. Check this box to select Tone dialing. If the box is not checked, ISACC will dialout using pulses.

Acknowledge on Carrier - If this box is checked and ISACC makes an alarm call to a computer, it will consider the alarm acknowledged when it detects a modem carrier signal. If not, ISACC will expect an acknowledgment code before it will consider the alarm acknowledged. If you are going to use a PC running MANAGER software to receive alarm calls, *you must disable this feature*.

Network Node - Up to 16 ISACC units may be networked together via the RS485 port. The Network Node number identifies the ISACC unit in the network. This number may be from 0 to 15, the default is 1. If ISACC is not part of a network, its network node should be set to 1. When units are networked, the master must be set to 0.

Max Number of Calls - This is the total number of calls that ISACC will make in the event of an alarm. ISACC will continue to call the eight Phone Numbers in sequence until the alarm is acknowledged or the Max Number of Calls has been reached. The Max Number of Calls parameter may be programmed from 0 to 9999

CAUTION: If Max Number of Calls is programmed to zero, ISACC will not dial out at all.

Rings Until Answer - This is the number of rings that ISACC will wait before answering an incoming call. The minimum number of Rings Until Answer is 1, the maximum is 15.

Voice Repetitions - This is the number of times ISACC will repeat the alarm message during an alarm dialout phone call before requesting acknowledgment. The number of repetitions of the alarm message may be from 1 to 255 for each phone call. The default is 3 repetitions. NOTE: If the voice repetitions is set to 0 (zero), ISACC will not recite the alarm message.

Data Log Interval - This is the amount of time ISACC waits between making entries to the Data Logger. The minimum time is 1 second and the maximum time is 18 hours. Use the up and down arrow buttons to set the Data Log Interval.

NOTE: The Data Logger must be enabled to write data to the data logger, otherwise no data will be logged.

On-Line Time Out - This parameter allows you to program the amount of time that ISACC will wait before disconnecting during Text-Mode communication. When on-line with ISACC in Text-Mode, the unit looks for communications inactivity. When the unit has not received a command for the duration of the On-Line Time Out, ISACC will disconnect and display the message TIME OUT on the screen.

NOTE: This parameter only affects communications in Text-Mode. If any of the other Windows forms are displayed, ISACC MANAGER for Windows will terminate the connection after a fixed time-out of 10 minutes. After this time period a warning message will appear on the screen. You will have 30 seconds to acknowledge the message and remain connected.

Time Between Calls - This is the amount of time ISACC will wait between dial-outs. The minimum time is five seconds and the maximum is 273 minutes. Use the up and down arrow buttons to set the Time Between Calls.

Time Between Rounds - This parameter is used to set the amount of time that a unit will wait after calling all the Phone Numbers in its list before starting over again. The minimum time is zero minutes. The maximum time is 273 minutes. Use the up and down arrow buttons to set the Time Between Rounds.

Lookup Table Type - ISACC offers you the ability to create up to 4 linear lookup tables for 0-5V or 4-20mA analog input types. Use the drop down arrow to select either a 0-5V or 4-20mA Lookup Table Type.

Lookup Table Low Value - This is the low limit of the analog lookup table. Position the cursor in the field and type a numerical value between -9999 and 9999.

Lookup Table High Value - This is the high limit of the analog lookup table. Position the cursor in the field and type a numerical value between -9999 and 9999.

Set Time - This is used to set the date and time of ISACC's internal clock. While on-line with a unit, click the Set Time button and the 'Set Unit Time' form will appear. Position the cursor in the date and time fields and enter the desired values. If you wish to transfer your PC's internal time and date directly to ISACC, click the PC Date/Time button. Click 'OK' when finished.

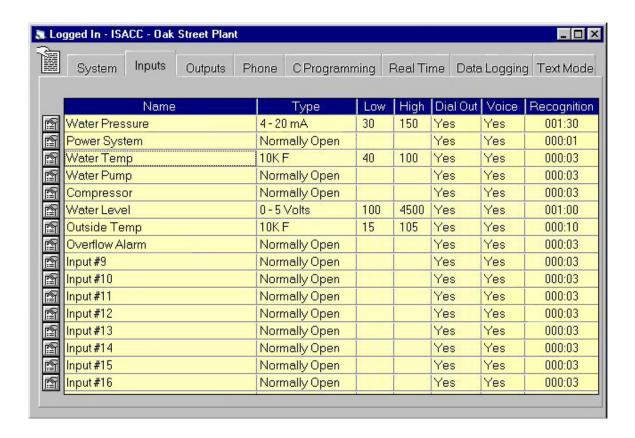
NOTE: This feature is only available while on-line with a unit.

Password - This button is used to change ISACC's data password. While on-line with a unit, click the Password button. A form will appear prompting you to enter the current password. If you don't know the current password, you won't be able to change it. Enter the current password, click 'OK', and the 'New Password' form appears. Enter the new password under both Password and Verification. The password can be up to 30 characters long. Next, choose whether to save the password to disk. If this box is checked, MANAGER will automatically enter the programmed password when a unit is opened. If this box is not checked, MANAGER will prompt you to manually enter the unit's password when a unit is opened.

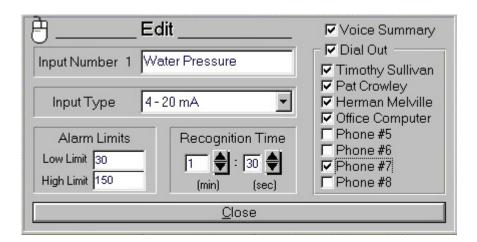
NOTE: This feature is only available while on-line with a unit.

INPUTS TAB

The Inputs tab allows you to view and program the input parameters for all 16 inputs. The main form is shown below.



To program the input parameters, click the input's 'Edit' button, located to the left of each input. The selected input's 'Edit' form will appear. When finished click *Close*.



Input Name - This is the descriptive name you provide to identify each input. The name can be up to 16 characters long.

Input Type - The input type is defined by this parameter. To program, select one of the following 14 input types:

Normally Closed	10K F
Normally Open	10K C
Pulse Count	Table 1
4 - 20 mA	Table 2
0 - 5 Volts	Table 3
2.8K F	Table 4
2.8K C	User Defined

Limits - If an input's value goes below the low alarm limit or above the high alarm limit, ISACC will dial out with an alarm. The Low and High Alarm Limits can be programmed from -9999 to 9999. To set the Alarm Limits, position the cursor in the field and type in a value.

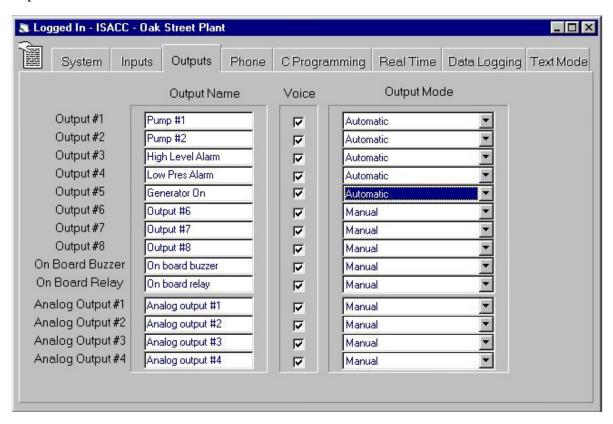
Recognition Time - The Alarm Recognition Time is the length of time an alert condition must exist continuously before ISACC considers it an actual alarm and initiates a response. The recognition time is programmed in minutes and seconds by clicking the up and down buttons or by positioning the cursor in the field and type in a value. The Alarm Recognition Time can be from 0 seconds (recognized as 300 milliseconds) to 273 minutes. The default value is 3 seconds.

Voice Summary - This parameter determines what information will be included in ISACC's status report during a voice dial-in. If Voice is checked for a particular input, that input's status will be included in the status report when you call in over the phone. If Voice is not checked, that input's status will be excluded from the report.

Dial Out - This allows you to enable the input for dialout and allows you to choose which of the 8 phone numbers will be dialed in case of an alarm. To select a phone number for dial out, check the appropriate box. If the 'Dial Out' box for the current input is not checked, the Dial Out feature is disabled and no calls will be made if an alarm occurs on the input.

OUTPUTS TAB

The Outputs tab allows you to program the output name, voice report status and mode of output control.



Output Name - This is the descriptive name you provide to identify each input. The name can be up to 16 characters long.

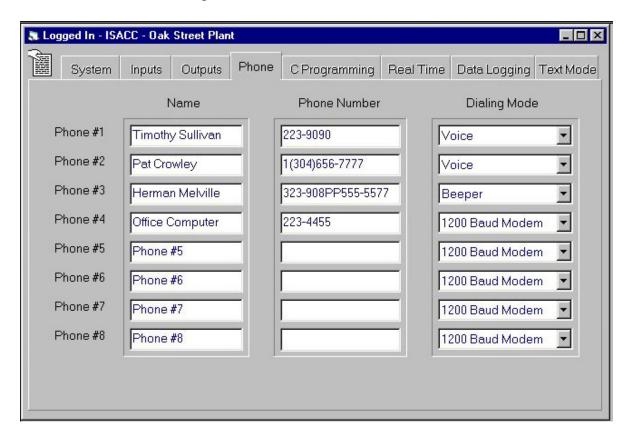
Output Mode - This parameter determines how the outputs are controlled. The choices are manual and automatic. Manual output type means that the output is controlled by the user. Automatic means that the output is controlled within a C program.

NOTE: For an output to work in a C program, its Type MUST be automatic.

Voice - This parameter determines what information will be included in ISACC's status report during a voice dial-in. If Voice is checked for a particular output, that output's status will be included in the status report when you call in over the phone. If Voice is not checked, that output's status will be excluded from the report.

PHONE TAB

The Phone tab allows you to program the phone numbers that will be called when ISACC has an alarm. The Phone Tab is pictured below:



Name - This is the descriptive name you provide to identify each dial-out contact person. The name can be up to 16 characters long. To edit the name, click in the text box and type.

Phone Number - These are the numbers that ISACC will call in case of an alarm dialout. The Phone Number can be up to 31 characters long. To edit the phone number, click in the phone number text box and type.

Special Dialing Codes

In programming the Phone Numbers, four special dialing codes may be incorporated to account for pauses and to wait for special phone line tones. The five dialing codes are:

P = two-second pause

W = wait for dial tone

A = wait for answer

I = send input numbers in alarm

Code P - This code tells ISACC to wait two seconds during the dialout. A two-second pause may be placed anywhere in the Phone Number that a pause is desired. It accounts for one character and may be used more than once.

Example: 9-**P-**1(601)555-7744 (if you need to dial 9 to get an outside line)

Code W - This code tells ISACC to wait until a dial tone is detected before dialing the Phone Number. If, after ten seconds no dial tone is detected, ISACC will dial-out automatically.

Example: 109-W-1(402)123-4432 (dial extension 109, wait for dialtone and dial the number)

Code A - This code tells ISACC to wait for the phone to stop ringing before ISACC continues. This is useful if you are calling a beeper and the beeper service does not produce a tone when ready. If the phone number is called in voice mode, ISACC will automatically wait until the phone is answered before speaking.

Example: 556-4433-**A**-(609)423-2222 (pager phone number)

Code I - This code tells ISACC to send the input number that has an alarm. It can only be used if you are dialing out to a pager. After the call is received by the pager company, the 'I' code instructs ISACC to send a two-digit number indicating which input is in alarm.

Example: 1(301)665-8877-PP-444-5511-**I** (pager number with alarms)

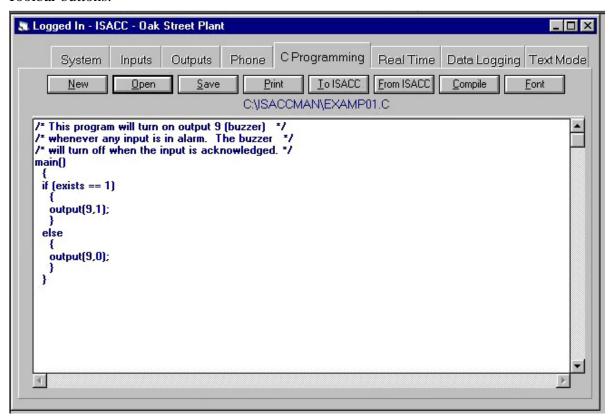
Dialing Mode - Program the Dialing Mode by clicking on the down arrow of the selection box and selecting the desired Dialing Mode. ISACC is capable of performing the following types of dialout:

300 Baud Modem (data mode) 1200 Baud Modem (data mode) 2400 Baud Modem (data mode) Voice Beeper External Modem

Data mode dialout is used when you wish to have your computer answer alarm calls. This requires you to have your computer and modem on continuously and also have ISACC Manager Software running in Receive Alarm Mode (see chapter on Receive Alarm Mode).

C PROGRAMMING TAB

The C PROGRAMMING tab provides a user-friendly environment to write, edit, and manage your C programs. The toolbar buttons above the Editor screen provide access to all available functions. For instruction on writing C programs, refer to Chapter 8 of the ISACC Operator's Manual. The following is a description of the functions of the C Programming Toolbar buttons.



New - This will clear the editor screen so you can create a new C program. If there is already a C program in the editor window, you will be prompted to save changes to it before it is cleared.

Open - This will clear the editor screen and load a previously saved C program. If there is already a C program in the editor window, you will be prompted to save changes to it before it is cleared.

Save - This button allows you to name your program and save it as a file. Type the name you want to give your program ("*.C" is the default). MANAGER will automatically tag your program with the extension ".C" if you do not include an extension. Click 'OK' and MANAGER will save your program under that name and return you to the editor window. The name of your program will be displayed below the toolbar buttons.

Print - Prints the C current program.

To ISACC - Copies (uploads) the current C program into an ISACC unit. NOTE: The "To ISACC" upload feature is only available while on-line with a unit.

From ISACC - Copies (downloads) the C program from an ISACC unit to the editor screen. NOTE: This feature is only available while on-line with a unit.

Compile - This feature searches your program for errors and reports the number of global variables detected. If a programming error is detected, the Compiler will provide an error type and description along with the line number where it detected the error. It is possible to pass the scan with no errors, but receive an error during a program run. A run time error occurs when the syntax of a built-in function is incorrect. If the program compiled successfully, you will be asked if you wish to start the program. If you choose "OK," you will be asked to enter a program reload rate.

NOTE: The C-Program reload rate can be interrupted by the Real Time Download if the download delay is set too short. The delay is programmable from the main menu under *Options>Real Time Settings*. Be sure to set the delay to at least 5000 ms if you will be using Real Time mode with a C-Program running.

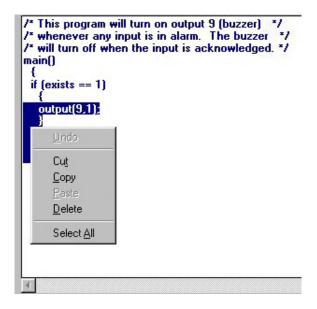
Below is a list of compiling errors:

ERROR TYPE	DESCRIPTION
0	Syntax
1	Semicolon expected
2	Unbalanced braces
3	Parentheses expected
4	While expected
5	Quote expected
6	Variable not found
7	Too many variables defined, limit is 127
8	Bracket expected
9	Compiled file too big

Font - This button allows you to change the attributes of the text displayed in the editor window.

BLOCK FUNCTIONS

The following keys are called block functions. They allow you to cut and paste blocks of programming text. An example is shown below:



Define a block - This function is used to select the section of your program that you want to edit. A block selected for editing by highlighting the text. To use, position the cursor in your program where you want to start the block. Hold down the left mouse button and drag it to highlight a block of text. Once highlighted, the portion of text you want to delete, move or copy is now ready to edit. To access the editing functions, place the cursor over the highlighted text and click the right mouse button (Windows 95 and NT only, if you're using Windows 3.x use the Alt -? functions listed below). Manager's editing functions are: Cut, Copy, Paste, Delete, and Select All.

Cut (Alt - X) - This function removes the highlighted section of your program from the screen and places it on the Windows clipboard. You may then use the Paste command to reinsert the cut block into your program. When used this way, you can move portions of your program around, eliminating retyping.

Copy (Alt - C) - This function copies the highlighted section of your program from the screen to the Windows clipboard. You may then use the Paste command to re-insert the copied block into your program.

Paste (Alt - V) - This function is used to insert a Cut or Copied block into your program. To use, position the cursor where you want to insert the block. Click the right mouse button to access the editing functions and select Paste. The block will be inserted in the program at the place you specified.

Delete - This function deletes the highlighted section of your program.

Select All - This is used to quickly highlight your entire program.

KEYBOARD SHORTCUTS

Most of the C program editor's block functions may be accessed using keyboard shortcuts.

Define - Shift+Arrow
Cut - Shift+Delete
Copy - Ctrl+Insert
Paste - Shift+Insert
Delete - Delete

CONTROL KEYS

The following are CONTROL keys. They help you to move around the Editor window.

Control Key	<u>Function</u>
CTRL-Home	Go to beginning of document
CTRL-End	Go to end of document
CTRL-PageDown	Go to bottom of screen
CTRL-PageUp	Go to top of screen

CTRL-Home - This function will return the cursor to the beginning of your program. To use, press CTRL + Home key.

CTRL-End - This function will take you to the end of your program. To use, press CTRL + End key.

CTRL-PageDown - This command will position the cursor at the bottom of the screen. To use, press CTRL + PageDown key.

CTRL-PageUp - This command will position the cursor at the top of the screen. To use, press CTRL + PageUp key.

OTHER FUNCTION KEYS

The following are additional functions to help you to move around the Editor window.

KEY	FUNCTION

End Go to end of line

Home Go to beginning of line PageUp Go up one screen PageDown Go down one screen

Arrow keys Cursor up, down, left, right

End - This key will take you to the end of a program line. To use, press End.

Home - This key will take you to the beginning of a line. To use, press Home.

PageUp - This key will take you up one page or screen. To use, press PageUp.

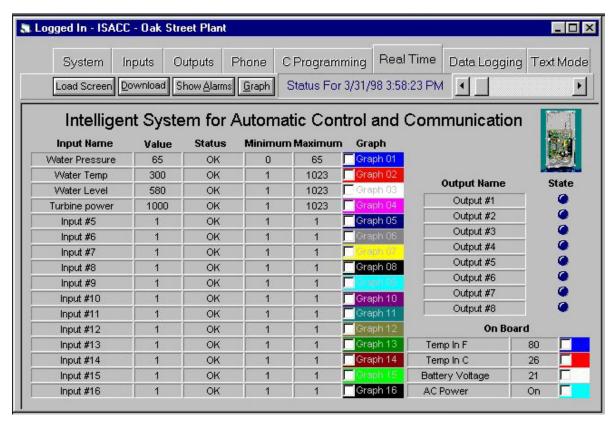
PageDown - This key will take you down one page or screen. To use, press PageDown.

Arrow keys - These keys are used to cursor one character up, down, left, or right.

REAL TIME TAB

The Real Time tab allows you to monitor ISACC's inputs in real time while you are on-line with a unit. You will be able to watch input values change and see alarms as they occur. You can make your own custom Real Time Screen using the Real Time Screen Builder (see the chapter on "Real Time Screen Builder"). This is a separate program included with ISACC Manager Software.

Real time ISACC data may be displayed two ways: the Real Time form or a real time graph. The Real Time form is shown below:



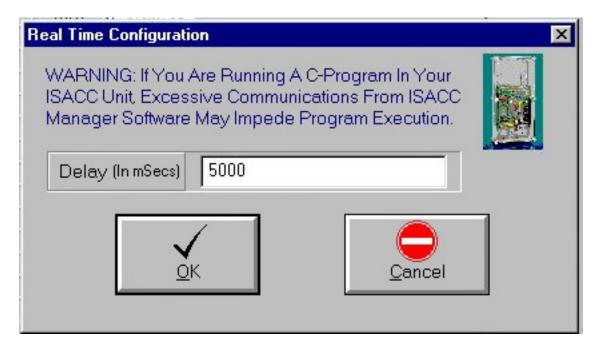
Following is a description of the functions of the Real Time toolbar buttons.

Load Screen - This button allows you to load in a custom screen that was made with the Real Time Screen Builder.

Download - In order to receive real time data from ISACC, you must click the Download button while on-line with a unit. While the Download button is depressed, the display dial spins to indicate that ISACC's inputs are being monitored in real time. Information on all of ISACC's inputs is continuously transferred to the MANAGER software while the Download button is depressed. To stop real time monitoring, click the Download button again.

NOTE: Downloading will start automatically when you first connect to a unit.

The Real Time display's update speed depends on the delay time programmed on the *Real Time Settings* form under *Options* from the main menu. The delay time is programmable in milliseconds (i.e. 1000 milliseconds = 1 second). The minimum delay time is 0 milliseconds, but this setting is only recommended if you are **not** running a C-Program. If you are running a C-Program, a delay of 0 milliseconds will impede the execution of the C-Program, causing it not to run at the programmed interval. To prevent this problem, set the delay to at least 5000 milliseconds or longer, depending on the run time of your C-Program and the baud rate of your connection. Shown below is the Real Time Settings configuration form:

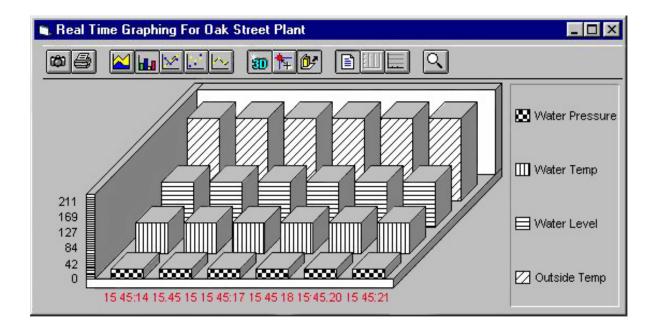


Show Alarms - This button will display all unacknowledged alarms that may exist.

Graph - To include an input in a real time graph, you must first check the Graph Option check box for that input. Each selected input will be drawn in a different color so that they can be distinguished on the graph. Click the *Graph* button. Next, click Download to begin the real time data transfer. You may add or remove an input from the real time graph during the data transfer by checking the Graph Option check box for that input.

The Graph feature has many options for displaying your data such as line graph, bar chart 3-D, etc... Experimentation is the best way to determine the format most applicable to your application. If you come upon a part of the graph that you wish to print, simply click on the 'Printer button' on the graph toolbar. The GRAPH feature also allows you to graph stored real time records. Manager's Real Time function also works like a mini Data Logger. In addition to displaying the unit's real time data, MANAGER will also store up to 100 real time records in your PC. As the unit displays input information in real time, the scroll bar on the top of the form will slowly move to the right. Once it scrolls all the way to the right, Manager will have received 100 records, but now the oldest real time records are being overwritten by the newest ones. When the Download button is clicked again, real time

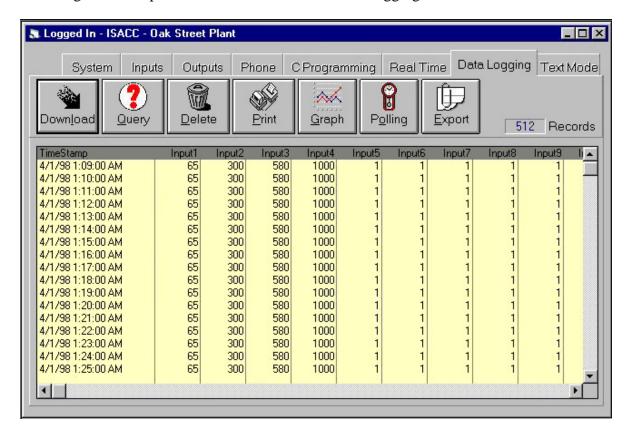
monitoring will stop and your PC will retain the most recent 100 real time records for play-back. To playback the stored real time data, use the left and right scrollbar arrows. The scrollbar can be useful if you are trying to locate the time of a particular event or if you just want to view trends of the conditions being monitored. You may select an input to graph by checking the Graph Option box for that input. Note that once you close the connection, the real time data will be deleted.



DATA LOGGING TAB

The Data Logging tab allows you to retrieve, store and view information collected from an ISACC's datalogger. MANAGER software will collect the data and store it in a database on your PC.

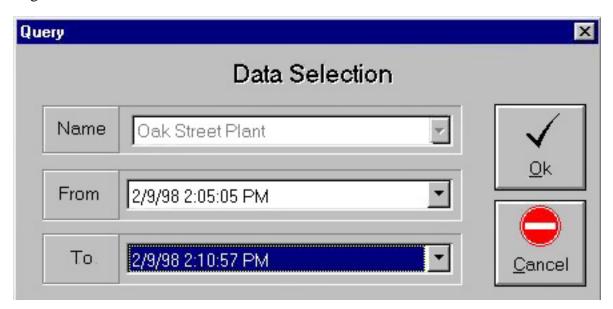
Following is a description of the functions of the Data Logging toolbar buttons:



Download - While on-line with a unit you can instantly download the contents of a unit's Data Logger by clicking on DOWNLOAD. This will instruct ISACC to send all of its datalogger contents to the PC. Every time a unit's Data Logger is downloaded, MANAGER software adds the new information to that unit's database in your PC. It also checks for and filters out duplicate Data Log records. When finished, MANAGER will prompt you to clear ISACC's datalogger. Choosing OK will clear the datalogger in ISACC. By choosing Cancel, ISACC will retain all of its datalogger information and simply start to overwrite the oldest records once it is full. Once you select OK or Cancel, Manager will display the data that was just downloaded.

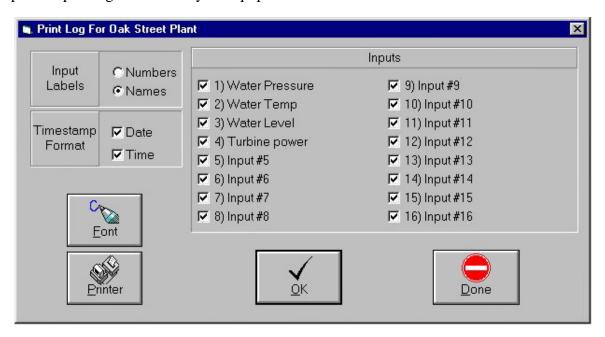
Query - The QUERY button allows you to selectively search and view Data Log information in the PC's database by entering start and end dates in the 'From' and 'To' fields. If you click on the down arrows, the time and dates for all of the records in the database will be displayed in chronological order. Select the time and dates you want to query and click on OK. The query grid may be adjusted to show more inputs on the screen by dragging the lines separat-

ing each input name closer to each other. The scroll bars may also be used to move around the grid and view all of the information.

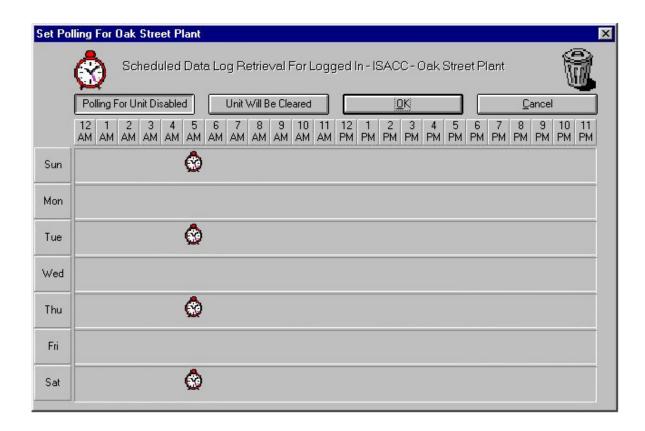


Delete - The DELETE button will delete the visible records in the current Query.

Print - The print button allows you to print the datalogger information that is currently displayed on the Query grid. Clicking on the print button opens a form for selecting print options including: input value headings (by input name or number), time stamp options (date, time or both), which inputs to print, and selectable fonts & point sizes. Your printer may even give you additional options such as printing in portrait or landscape modes. Landscape will print and 8.5" x 11" page sideways so that if you are printing many inputs you can get most, if not all of them, on a page. You will have to experiment with fonts and point sizes to optimize printing results with your equipment.



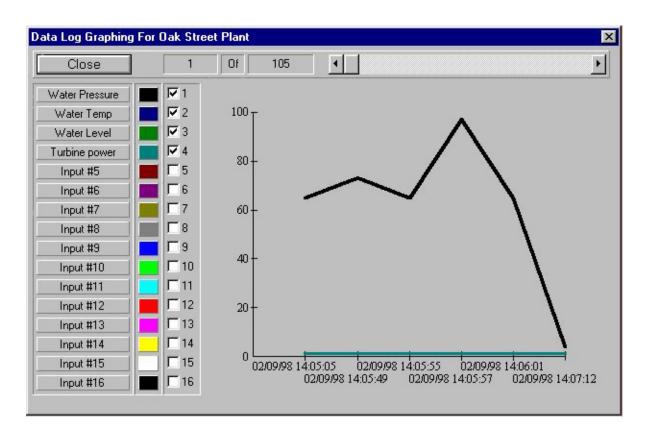
Polling - Polling is an automated method of having MANAGER contact your ISACC unit(s) and retrieve datalogger information on a programmed time schedule. To set-up the polling feature click on the *POLLING* button. The time schedule is configured by grabbing a clock from the top of the screen and dragging it to the appropriate day and time and then releasing the clock. Polling can only be performed on the hour. You may set as many days and times as necessary to ensure that you don't miss any records. This depends on how often ISACC is programmed to log data. For example, if ISACC is logging data every 5 minutes, you would have to retrieve the data every 42 hours (512 records x 5minutes / 60min per hr). To delete a polling time, click on the polling clock you want to delete, then drag and drop it into the trash can at the top of the screen. Click on the 'Polling Enable/Disable' button to turn polling on or off. The button marked "Unit will be Cleared" is the default setting to clear the datalogger in the ISACC after polling. If you wish to retain the data after polling, click on this button to change it to "Unit Will Not Be Cleared." (Clearing after polling will reduce the download time because MANAGER will only have to download the amount of data in the datalogger.) Once you have set up the polling schedule you must enable the polling feature from the Options category on the main menu. Note that in order for the polling feature to work you must: (a) Have the program password saved to disk for the unit you are polling and (b) have the MANAGER software running continuously on your PC, 24 hours a day, 7 days a week.



You can view the polling schedule for all units by clicking on *Polling Schedule* in the *Options* menu. A sample screen is shown below:



Graph - This feature allows you to graph the information that is currently displayed in the Query grid. You may select an input to view on the graph by checking the input's selection box. Each selected input may be drawn in a different color so that they can be distinguished on the graph. Select an input's display color by clicking on the input's color box until the desired color appears. The scroll bar at the top of the form moves the graph left and right. This feature can be useful if you are trying to locate the time of a particular event or if you just want to view trends of the conditions being monitored.



Export - The EXPORT feature creates a comma-delimited text file of the data displayed in the Query grid. This formats the data so that it can be used in spreadsheets such as Microsoft Excel, Lotus 123, or Quattro. Refer to the documentation on these programs to import a comma-delimited text file.

TEXT MODE TAB

Text mode allows you to use the original ISACC programming language as detailed in the ISACC Operator's Manual. This mode is required to program or access some parameters not available from the Windows interface. These parameters include:

- manually turning outputs on or off
- manually setting the analog output values
- checking ISACC diagnostics

Refer the ISACC Operator's Manual for more information on the text mode commands. You will receive warning messages as you enter and leave Text Mode asking you to upload/download changes. It is recommended that you perform the Upload or Download so that none of your programming changes will be lost going into and out of Text Mode.

Chapter 4 Receive Alarm Mode

Receive Alarm Mode is the communication link between ISACC and your computer when you are not there. You must have a modem for MANAGER to receive alarm phone calls from ISACC. MANAGER will answer the incoming alarm calls, record the alarm information in the PC's database, then either acknowledge the alarm or not depending on your programming. Note that in order for the Receive Alarm Mode feature to work you must have MANAGER software running continuously on your PC, 24 hours a day, 7 days a week.

AUTO ANSWERING

To engage Receive Alarm Mode, select *Receive Alarms* from the *Options* menu. MAN-AGER will set your modem to Auto Answer mode. Note that Receive Alarm Mode cannot be enabled while you are on-line with a unit. From the *Options* Menu, select *Alarm Reception Settings* to see the following form:



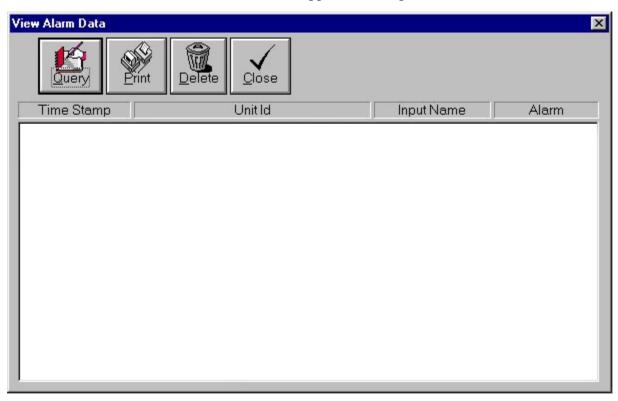
You may choose to clear or print the alarms when they're received. The Default setting will clear the alarms.

NOTE: The automatic Clear Alarms feature is not the same as ISACC's Acknowledge-On-Carrier feature. If Acknowledge-On-Carrier is selected, as soon as ISACC detects a modem carrier tone during a dial out alarm call, it acknowledges the alarm. If MANAGER is programmed to receive alarms, ISACC should NOT be programmed to Acknowledge-On-Carrier (see System Tab in Chapter 3). If it is, the PC will not keep a record of the incoming alarm call because ISACC just acknowledged the alarm so there is nothing to record.

The RECEIVE ALARMS form will run minimized in the bottom left corner of your PC'S screen. Your PC is now ready to receive alarm calls from ISACC units.

VIEWING ALARM INFORMATION

To view the received alarm messages, select View Alarm Data from the Options menu. The VIEW ALARM DATA form will appear. A sample is shown below:



The following is a description of the functions of the View Alarm toolbar buttons:

Query - The Query button allows you to selectively search and view Alarm information in the PC's database by picking a unit and selecting start and end dates.

Print - The Print button allows you to print the Alarm Data information currently displayed in the Query grid.

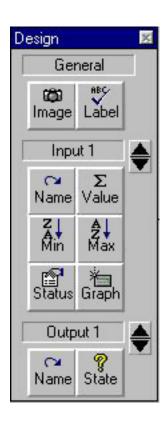
Delete - The Delete button will delete selected Alarm Data records from the PC's database. To delete a record, highlight it first by clicking on it. Multiple records can be highlighted by dragging the cursor up or down while holding the left mouse button. Click the Delete button to delete the highlighted records.

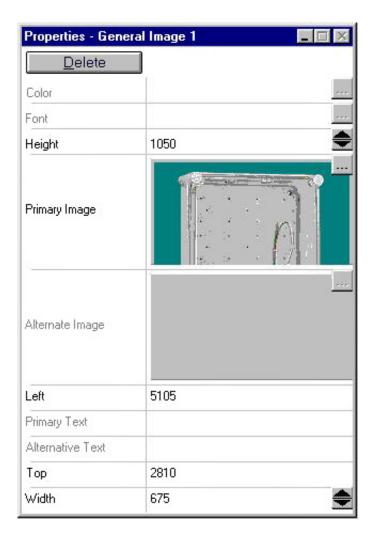
Chapter 5 Real Time Screen Builder

The ISACC MANAGER Real Time Screen Builder is a design tool for customizing the display screen shown on ISACC MANAGER's Real Time programming tab. It is a separate program that is included with ISACC MANAGER Software.

When you first open ISACC MANAGER's Real Time tab, the default monitoring screen is displayed. The screen is composed of two types of display entities, text fields and graphics. Text fields display input and output information such as name, status, and value. Graphics are used to display output states or pictures of your process. They may be inserted anywhere in the monitoring screen to make it more visually appealing.

To create your own Real Time Screen, exit Manager and run *Screen Builder*. When the Real Time Screen Builder program is run, the Properties window and the Design toolbar appear in addition to four buttons across the top of the screen labeled *Clear*, *Open*, *Save* and *Exit*. The rest of the screen is the design palette. This where you will place images and labels to create your screen. Shown below are the Design Toolbar and Properties Window:





The Design toolbar contains all possible entities (images, labels, values, names,...). There are 3 main headings for entities: General, Input, and Output. Input and Output entities are associated with a particular input or output while General entities are just generic images and labels that may be added for convenience. When working with the Input and Output entities you must select the specific input or output with the up/down arrows before you drag the entity to the screen. Listed below is a description of each of the features on the Design Toolbar and Properties Window.

General Images - A graphic entity used for adding images such as pictures or company logos to sections of the monitoring screen. MANAGER's default general image is the Phonetics company logo, but any windows bitmap (.bmp) file may be used as an image entity.

General Labels - A text field used for adding titles to sections of the monitoring screen. The default Real Time tab monitoring screen contains the general labels 'ISACC Real Time', 'Input Name', 'Value', 'Status', 'Minimum', 'Maximum', 'Graph', 'Output Name', 'State', and 'System'.

Input Name - A text field that displays the name of the input. The name displayed is the same name as that programmed from the Inputs tab in the MANAGER program.

Input Value - A text field that displays the current value of the input. For Normally Open and Normally Closed input types, an Open input will display a value of 1, and a Closed input will display a value of 0, however, you can also have a text description appear for Normally Open and Normally Closed inputs. With the Value field selected, type in the 'Open' condition text in the Primary text field on the Properties window and the 'Closed' condition text in the Alternate text field.

Input Min - A text field that displays the lowest value an input has reached.

Input Max - A text field that displays the highest value an input has reached.

Input Status - A text field that displays the current status of an input.

Input Graph - A selection field that allows the user to choose to include an input in a graph.

Output Name - A text field that displays the name of the output. The name displayed is the same as that programmed from the Outputs tab in the Manager program.

Output State - A graphic entity that displays the state of an output. The output state graphic is actually made up of two images, primary and alternate. The primary image is displayed when the output is OFF and the alternate image is displayed when the output is ON. MANAGER's default primary image is a blue light, and it's default alternate image is a red light. However, any windows bitmap (.bmp) file may be used as an image entity.

Building your Screen

- 1. Click on the desired entity from the Design Toolbar.
- 2. Hold the left mouse button down to drag the entity to the desired location and drop it.

Note: To place an Input or Output entity, you must first use the up and down arrows to select the desired input or output.

Moving an entity (text field or graphic):

- 1. Click on the desired entity.
- 2. Hold the left mouse button down to drag the entity to a new location and drop it.

Deleting an entity (text field or graphic):

- 1. Click on the desired entity.
- 2. Click the Delete button at the top of the Properties Window.

Modifying Fonts

- 1. Click on a text field. The Properties Window will display the attributes of the selected field.
- 2. Click the browse button on the right side of the Font line in the Properties Window.
- 3. Select the desired font, style, and point size, then click OK.

Modifying a text field size

- 1. Click on a text field. The Properties Window will display the attributes of the selected field.
- 2. Click the up or down arrows on the right side of the Height and Width fields in the Properties Window until the field is the desired size.

Selecting an image

- 1. Drag and drop an image from the Design Toolbar or click on an image on the screen.
- 2. On the properties toolbar, click on the browse button on upper right-hand corner of the primary image field. Select an image file and click *OK*.

Modifying an image size

- 1. Click on a an image. The Properties Window will display the attributes of the image.
- 2. Click the up or down arrows on the right side of the Height and Width fields in the Properties Window until the image is the desired size.

Modifying Graph Options colors

- 1. Click on a Graph Option field. The Properties window will display the attributes of the selected field.
- 2. Click the browse button on the right side of the Color field in the Properties Window.
- 3. Select the desired color, then click OK.

NOTE: The Graph Option color selected for an input will be used to represent that input when MANAGER creates a real time graph.

Selecting Output State Primary and Alternate images

- 1. Click on an Output State image. The Properties Window will display the attributes of the selected image.
- 2. Click the browse button on the right side of the Primary or Alternate image line in the Properties window.
- 3. Select an image bitmap (.bmp) file, then click OK.

Note: MANAGER's default primary image is a blue light, and it's default alternate image is a red light. However, any windows bitmap (.bmp) file may be used as an image entity.

Appendix A Troubleshooting

Installation Problems

• A common problem during the installation process occurs when the setup program tries to update a windows file (usually a DLL, OCX, or VBX) while that file is in use. If a message pops up telling you that a certain file is in use, the easiest way around the problem is to press the Ignore button. That particular file will not be updated, but the MANAGER Software should still run. The MANAGER Software will just be missing some of the newer enhancements contained in the latest version of that DLL, OCX, or VBX. If you press the ignore button during the installation process and the MANAGER software does not run properly, you may wish to rename the file that caused the conflict and then reinstall MANAGER.

Communication Problems

- I have a laptop plugged into ISACC's RS232 port but I can't get on-line? Check the Local Port setup and make sure you have the correct baud rate and comport selected. Remember, ISACC defaults to 9600 baud.
- I try to go on-line through the modem but it never seems to connect?

 Check the Modem Setup on the Communications menu. Make sure you are using the right setup string. Sometimes this requires trying different strings to find the right one for your modem. If necessary you may have to contact your modem manufacturer to get the setup string. Your setup string must disable error correction and data compression in order to communicate with ISACC.

Programming problems

- When I enable datalogging on the System Tab and then try to Download on the Datalogger
 Tab, I get the message "No records were downloaded."
 When you made changes on the System Tab you probably didn't send your programming
 to ISACC. You must click the *To ISACC* button after making programming changes in
 order for them to be uploaded to ISACC.
- I have MANAGER programmed to poll but it never collects any data? There are several things to check:
 - Make sure that you have the programming password saved to disk.
 - Make sure polling is enabled for that ISACC unit on the Polling screen.
 - Make sure you enabled polling from the Options menu.
 - Make sure your modem is on.

- Make sure your ISACC unit has the date and time programmed
- Make sure ISACC's datalogger is running.
- Make sure your modem communications is properly setup.
- I have MANAGER running in Receive Alarm Mode but I didn't get a message when an alarm occurred?

There are several things to check:

- Make sure your modem communications is setup properly.
- Make sure Acknowledge On Carrier is set to 'No' on the System Tab.
- Make sure you enabled Receive Alarm Mode from the Options menu.
- Make sure your modem and computer are on.
- Can I run in Polling Mode and Receive Alarm Mode at the same time?

 Yes. Manager will perform polling at the programmed time periods and when its not polling it will Receive Alarms.