SysTools™2001

User's Manual

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USER'S MANUAL

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SysTools™2001 - User's Manual

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CONTENTS

1 GENERAL INFORMATION 1
1.1 Program Description 1

2 CONNECTION 3
2.1 Connecting the Terminal to the Host Computer 3
2.1.1 RS-232 Connection 3
2.1.2 RS-485 Connection 5

3 MENU DESCRIPTION 7
3.1 General Menu Descriptions 7
3.2 Menu File 9
3.2.1 EasyGen™ Mode 9
3.2.2 Standard/Enhanced Mode 15
3.3 Menu Utility 21
3.3.1 EasyGen™ Mode 21
3.3.2 Standard/Enhanced Mode 24
3.3.3 Startup Mode 26
3.4 Menu Window 27
3.5 Menu Help 28

4 USE AND OPERATION 29
4.1 Using the Data Collection Window 29
4.2 Network Setup 31
4.2.1 On-Line Configuration 32
4.2.2 Off-Line Configuration 45
4.3 Options 48

5 TROUBLESHOOTING 50

1 GENERAL INFORMATION

This manual describes the installation and use of SysTools™2001 and is intended for those who are already familiar with the MS Windows operating systems.

1.1 PROGRAM DESCRIPTION

SysTools™2001 is a program for Windows 95/98/2000/ME and Windows NT, capable of managing Formula terminals either via an RS-232 connection or via an RS-485 Sysnet network.
It manages two types of communication environments between the host computer and Formula terminals depending on the Startup Mode:

- EasyGen™ Mode
- Standard/Enhanced Mode

For EasyGen™ Mode SysTools™2001 enables:

- interpreters to be loaded onto terminals;
- application programs to be loaded onto terminals (.APP, .POW files);
- collected data from the terminals to be transferred to the host computer (receive table);
- data to be transferred from the host computer to terminals (send table);

For Standard/Enhanced Mode SysTools™2001 enables:

- application programs to be loaded onto terminals (.HEX, .H00 files);
- the record layout from terminals to be configured;
- collected data to be transferred to the host computer.

2 CONNECTION

2.1 CONNECTING THE TERMINAL TO THE HOST COMPUTER

ATTENTION

Before continuing with this phase, ensure that both the computer and terminal are switched off.

2.1.1 RS-232 Connection

To load the program onto the Formula terminal it is necessary to insert it in the Formula Transceiver Charger cradle which has previously been connected to the power supply and to a host computer with an available RS-232 serial line.

Carry out the physical connections as described below:

1- connect the serial port of the host computer to cable 94A054000 for 9-pin connections or to cable 94A054010 for 25-pin connections;

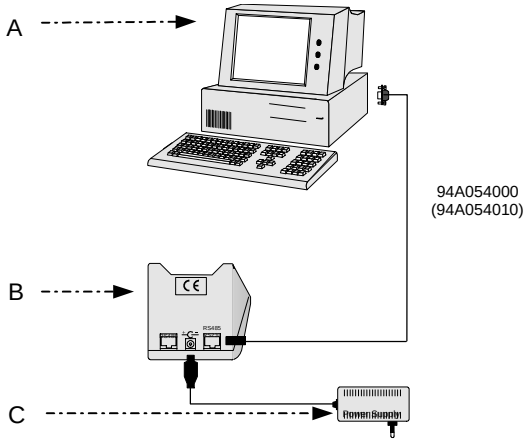
2- connect the other end of the same cable (RJ connector) to the RS-232 port of the cradle;

3- insert the power-supply plug into the outlet on the base of the cradle;

4- attach the power supply to a power outlet;

5- turn on the cradle and the host computer;

6- put the Formula terminal into its cradle and, if necessary, wait for the recharging of the battery.



Key:

A) Host computer

B) Single cradle

C) Power supply

2.1.2 RS-485 Connection

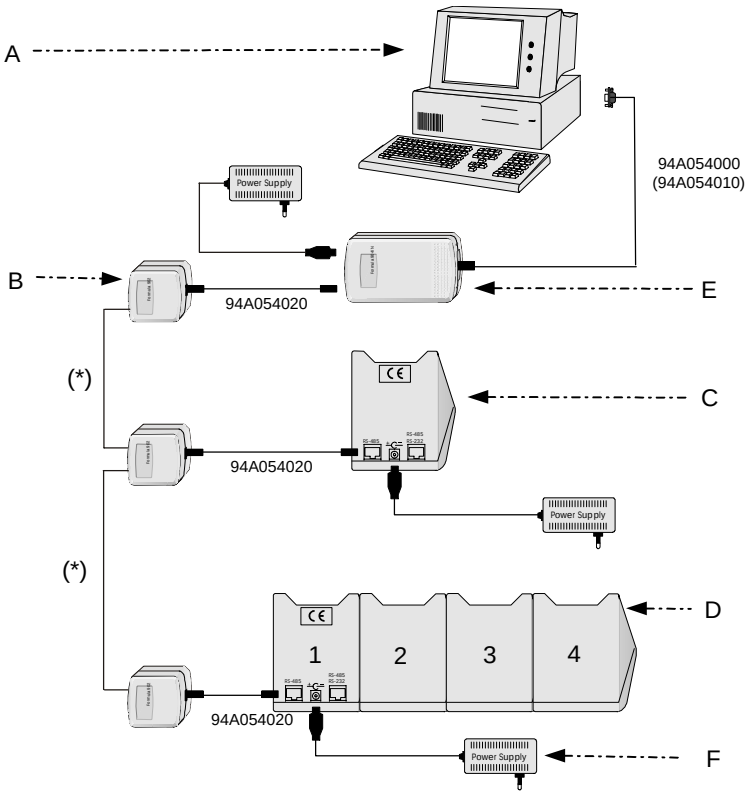
RS-485 allows the connection of several terminals on a single RS-232 line through the installation of a Sysnet network (see the “Formula 904/N User's Manual”).

A simplified Sysnet network allows up to 5 different types of Formula cradles to be connected; the total length of the line cannot exceed 10 m.

If the Sysnet network is made using Formula 902 T-Box the line can extend up to 1200 m linking up to 32 different types of Formula cradles (if multiple cradles are used, the individual work stations must be counted).

NOTE

The RS-485 connection is the only one that allows all the stations of a multi-cradle to be available for the transmission/reception from the host computer.



Key:

A) Host computer

B) Formula 902 T-box

C) Single cradle F951

D) Multi-cradle F950/4

E) Formula 904/N Interconverter

F) Power supply

*) Telephone pair (max. 125 m)

Formula®

3 MENU DESCRIPTION

SysTools™2001 offers two types of communication environments (EasyGen™ Mode and Standard/Enhanced Mode) which enable different options in some of the program menus. For this reason the information referring to these menus is divided into their relative paragraphs.

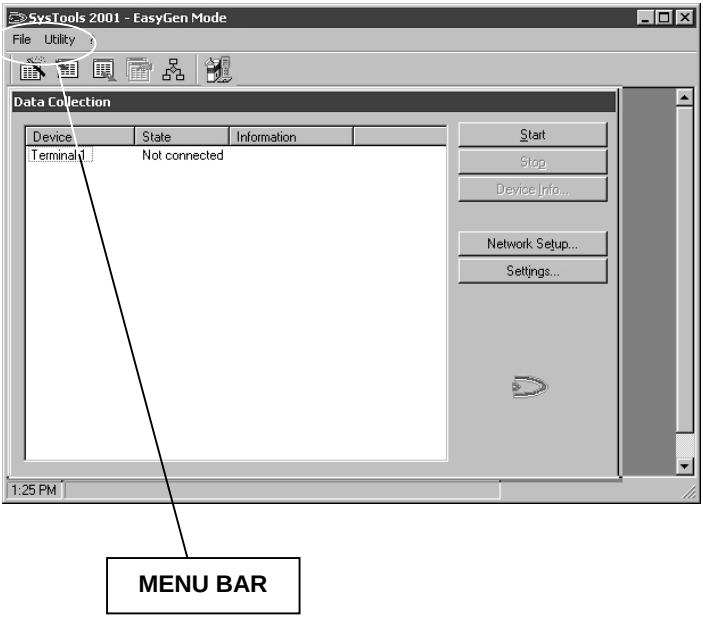
3.1 GENERAL MENU DESCRIPTIONS

To start SysTools™2001 from Windows, press the **<Start>** button, select **Programs**, **Datalogic**, **EasyGen™** then select SysTools™2001 from the list.

The first time the program is run it will start in EasyGen™ Mode and you will then be presented with the following display.

NOTE

If you want to change the Startup Mode of SysTools™2001 you can choose it from the Utility menu. To activate this mode you must restart the program (see par. 3.3.3 "Startup Mode").



1. Menu Bar

The menus in this area enable you to program the terminal, thus preparing it for operation.

File

The options presented in the File menu are enabled depending on the Startup Mode, for this reason options and icons displayed while working in one of the communication environments will not appear while working in the other one.
EasyGen™ Mode allows the operator to enable a series of functions for data exchange.
Standard/Enhanced Mode options allow the operator to create, locate and save work for Formula terminals.
You can also exit the program from this menu.
The same commands can be selected by using the tool bar under the menu.

Utility

Allows an application to be loaded onto the terminal depending on the Startup Mode.

Other menus simplify the working of SysTools™2001.

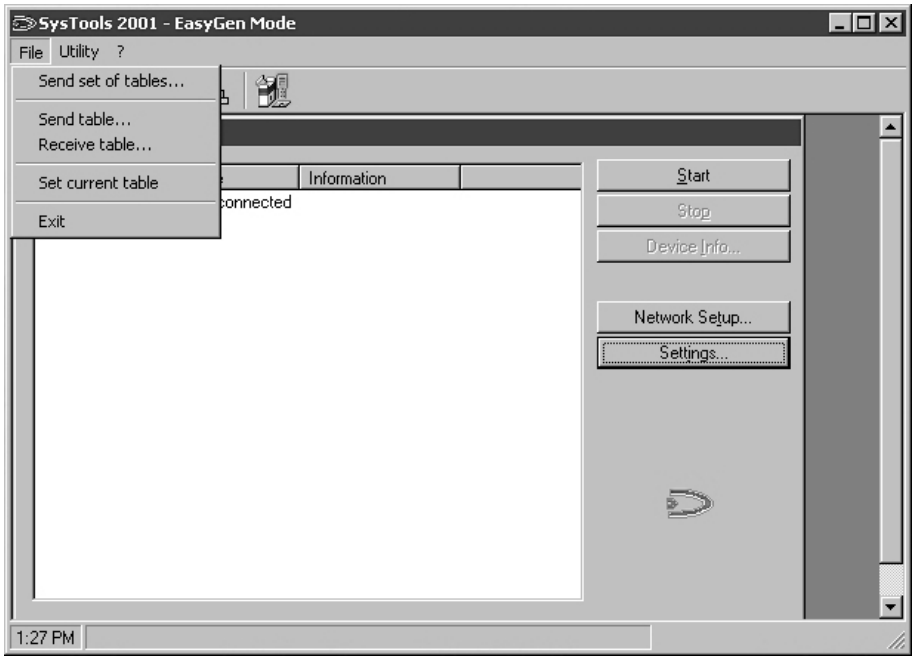
Window (available only in Standard/Enhanced Mode) Provides options on how to display several windows open at the same time.

Help Displays the program help file, provides information about the software and enables connection to the Datalogic web site.

3.2 MENU FILE

3.2.1 EasyGen™ Mode

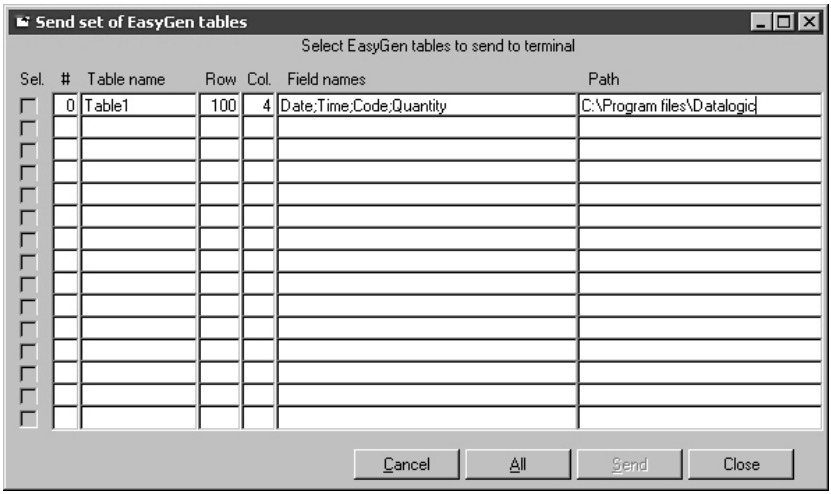
In EasyGen™ Mode, the File Menu and relative Toolbar icons allow selecting, sending and receiving EasyGen™ .DAT table files.



The first two entries in the submenu are used to load data from one or more .DAT files onto a Formula terminal. They differ in the way the data files are selected

❑ **Send set of tables…**

By selecting the EasyGen™ application (.APP, .POW), SysTools™2001 is able to identify all its associated tables, listing them as in the following figure. The .DAT files can then be selected and sent to the Formula terminal.



Sel. (Select): the list allows to select the table to send to the terminal by ticking the check box in the "Sel." column. SysTools™2001 always gives the complete list of the tables defined in a program. When the tables do not have a relative .DAT file to send to the terminal, the corresponding check box is disabled.

Table progr. Number (#): contains the table's location in the Formula terminal's memory. It is a number between 0 and 14.

Table name: contains the table's identifier and it coincides with the name of the .DAT file.

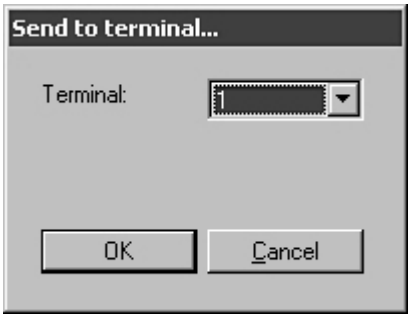
Row: contains the maximum number of records that the table may hold. This value does not necessarily coincide with the actual number of records in the .DAT file.

Col. (Columns): contains the number of fields defined in the corresponding table. This value is defined in the EasyGen™ application and must coincide with the actual length of the .DAT file lines, otherwise an error message is generated.

Field names: contains the names of all fields (columns) defined in the table.

Path: contains the path of the .DAT file. If it is empty, by default SysTools™2001 searches for the .DAT file in the same directory where the .APP or .POW file is located. This is an input field. The path is accepted only if the corresponding .DAT file is the specified directory.

If at least one table is selected, it is possible to send it to the Formula terminal by pressing the <Send> button. When pressing the <Send> button, the following dialog box appears, from which it is possible to select the specific terminal to which the selected table data should be sent.



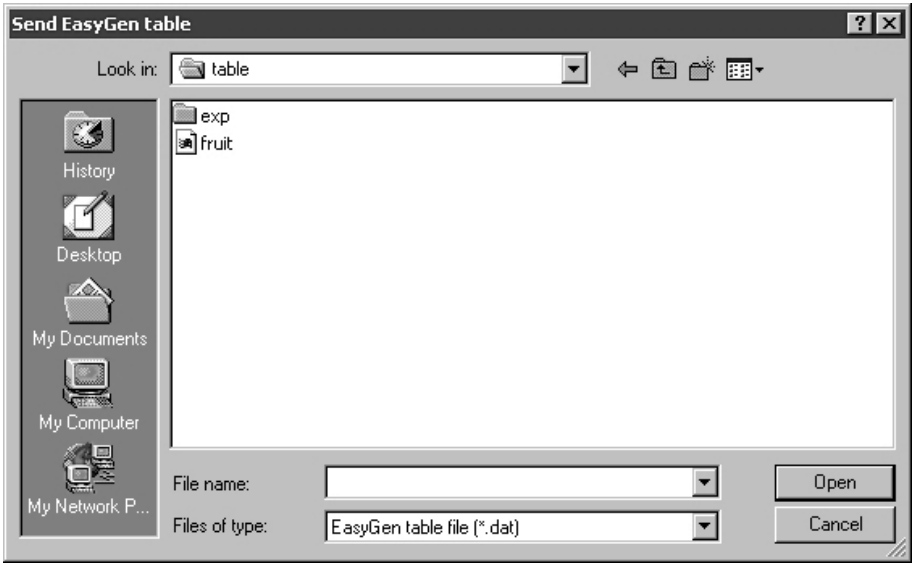
The operation may take several minutes, depending on the length of the tables sent. At its conclusion, a message appears to indicate the end of the operation.

If, on the other hand, you want to save changes and close the dialog box without sending them to the terminal, press the <Stop> button.
The <Cancel> button allows to close the dialog box ignoring the changes.

❑ **Send table…**

As in the case above, it is possible to directly select a data file (.DAT) to be sent to the Formula terminal.

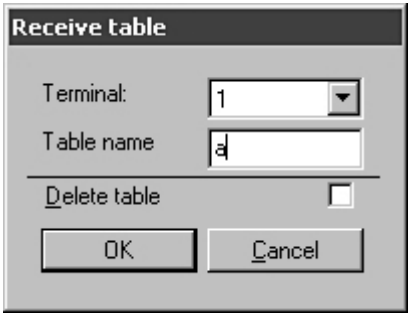
It is not necessary to specify the relative application (.APP or .POW file) if it is present in the same directory as the .DAT file. If, on the other hand, the application is in a different directory, the system requests the .APP or .POW file selection by means of the usual file selection dialog box.



After file selection, a dialog box appears for terminal selection (the terminal must be present in the system!), just as in the case described in the previous paragraph.

❑ **Receive table…**

This selection downloads data from a EasyGen™ table contained in a Formula terminal memory into a .DAT file on the PC.
The following template appears:



Terminal: the ID number of the terminal (among those present in the system) from which the download is to be made

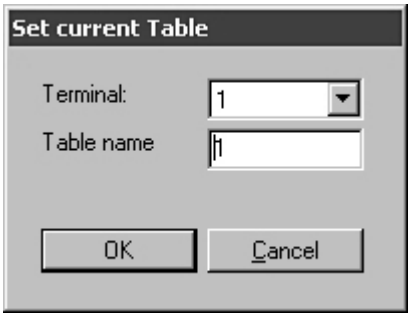
Table name: The name of the table in the Formula terminal memory

Delete table: If the table must be deleted from the Formula terminal memory once the download is finished (default = NO Deletion).

When the <OK> button is pressed, the name and location of the .DAT file where the downloaded data is to be saved is requested. It should be noted that it is possible to save the data in a file with a name other than the EasyGen™ table identifier.
The operation may take several minutes, depending on the length of the table being sent. At its conclusion, a message appears to indicate the end of the operation.

❑ **Set current table…**

With this command, you can specify the current EasyGen™ table for a Formula terminal. This table can then be uploaded from the terminal using the Data Collection window by pressing the <Start> button.
You can also set the current EasyGen™ table using the function keys on the terminal.
See par. 4.3 for uploading EasyGen™ table options.



When the <OK> button is pressed and the table isn't in the terminal you have a "Table not found" message. On the other hand, when no terminal is connected to the host computer the "Unable to connect with device" error will be displayed.

CAUTION

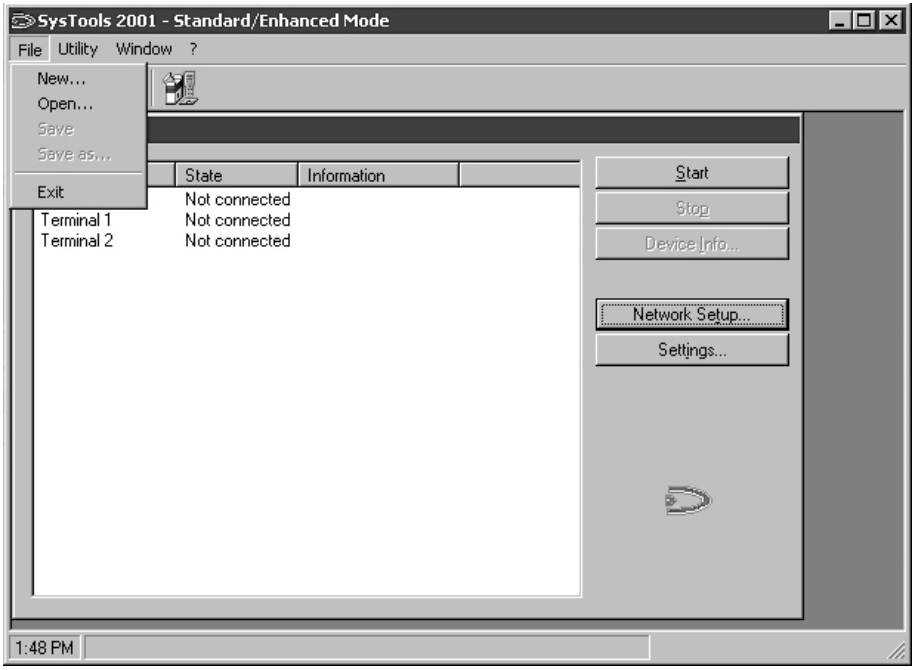
The Formula terminal must be previously declared to the system through the Setup function otherwise an error will be signaled.

The loading time obviously depends on the length of the table, and it may take several minutes to complete.

3.2.2 Standard/Enhanced Mode

The File menu options can only be used with the Enhanced application and not with the Standard one since only the Enhanced application allows you to define table configurations for the data records to be acquired.

The Standard application allows you to receive barcodes, the quantity, date and time and to start RS-232 and RS-485 connection.



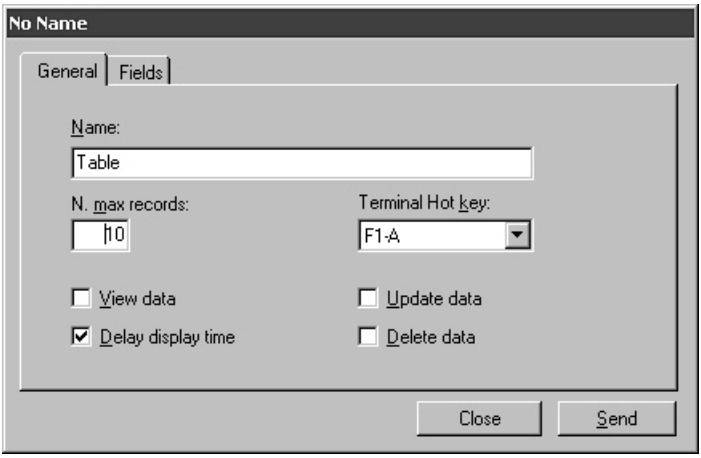
❑ **New…**

Allows you to create a new table configuration (.PRG file) for Formula terminals using the Enhanced application program included within Utility Tools.

❑ **Open…**

Allows you to locate a previously defined table configuration.

When the command **New..**. is selected or a pre-existing table configuration is opened by the command **Open...** the following dialog box will appear.



The General folder allows you to define the table configuration file as follows:

Name The filename must be no more than 10 characters long.

N.max records The maximum number of records permitted is 999.
In order to avoid the memory overflow, you should apply the following mathematical operation:

$$\frac{\text{TOTAL MEMORY-32768 bytes}}{\text{33 X (number of fields in the record layout)}}$$

ATTENTION

Assume that every field of an Enhanced Mode record will always take 33 bytes (even if the barcode read is smaller than 33 digits).

EXAMPLE

For a terminal with 128 Kbyte memory size, a table configuration (.PRG file) is defined declaring 5 fields for each record. To calculate the maximum number of records employing the entire memory:

$$\frac{131072 - 32768 \text{ bytes}}{33 \text{ X } 5} = 595$$

The maximum number of records is 595.
Using this example, if another table configuration file is defined (also having 5 fields per record), then each table could contain 297 records.
If a number of records smaller than the maximum value is declared, there will be a part of memory free.

Terminal Hot key Enables the recognition of up to 8 different table configurations identified by letters from A to H. They are accessible on the same terminal by using its function keys.

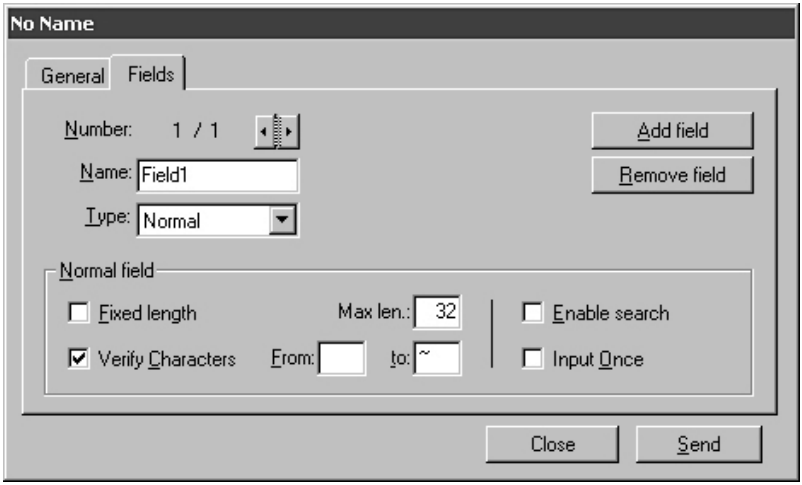
View Data If enabled, the terminal activates the arrow buttons to scroll through the data present in the terminal memory.

Delay display time If enabled, this delays the display of received data to the terminal screen by using the appropriate bar codes in the "Menu & Commands Booklet".

Update data If enabled, this allows data present in the terminal memory to be altered by using the appropriate bar codes in the "Menu & Commands Booklet".

Delete data If enabled, this allows data present in the terminal memory to be cancelled by using the appropriate bar codes in the "Menu & Commands Booklet".

The Fields folder (see below) allows you to define the specifications of every field making up the record transmitted from the terminals. This record should be no more than 256 characters long.



Number number given to current field and total field number.

buttons allow you to scroll the list of fields forward and back.

Add field
Remove field

Enable you to update the list of fields.

Name The name of each field must be no more than 10 characters long.

Type Allows you to choose what data should be inserted into the field.
Normal: generally used for fields containing data (codes, prices, goods location…);

Time: the time configured on the terminal is inserted;

Date: the date configured on the terminal is inserted;

Fixed: once defined it is always repeated exactly in every file. It's possible to change this field only deleting and recreating the file.

FIXED
STORE

NORMAL	NORMAL
1625897	PENCIL
1526897	PEN
1541127	RUBBER

In the "Normal field" box you can select:

Enable search If selected, this enables the search for a field, using the appropriate bar codes in the Menu & Commands Booklet.

Input Once If selected, this defines one field that is inserted in the data file only if the user asks for it scanning the RESTART RECORD bar code (see "Menu & command booklet").

FIXED
STORE

ONCE INPUT	NORMAL	NORMAL
INPUT1	1625897	PENCIL
	1526897	PEN
	1541127	RUBBER
ONCE INPUT		
INPUT2	1121212	RUBBER

Fixed Length If selected, this enables a check on the amount of data received and ensures that it is not greater than the Size of the field.

Max len. Defines the maximum length of the field.

Verify Characters If this is selected, it enables a check on the type of characters the received data is composed of, also checking that these characters are within the defined limits (0 to 9 for numerical digits and A to Z for alphabetical characters).

Send — Allows you to send the file created in this dialog box to the terminal

Close — Allows you to exit the dialog box and save the changed values.

ATTENTION

Before sending the file, ensure the terminal has already been configured and that the Enhanced Mode application program has been loaded.

ATTENTION

Sending a new table configuration, automatically cancels data present in the terminal memory

❑ **Save…**

Is enabled when you save a new table configuration, or alterations to a pre-existing one, onto the hard disk.

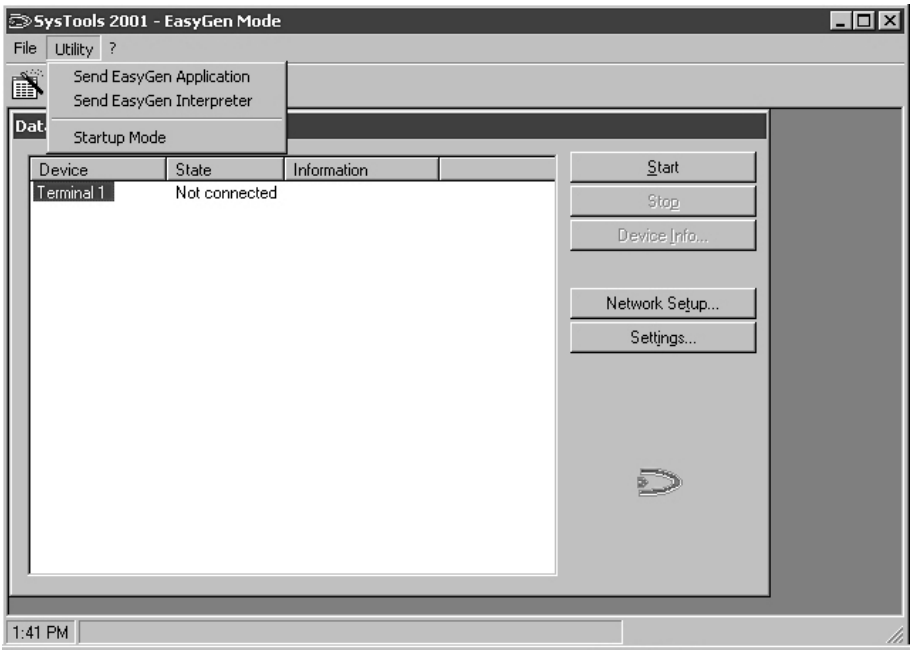
❑ **Save as...**

Is enabled when you save a pre-existing table configuration onto the hard disk under a different name.

3.3 MENU UTILITY

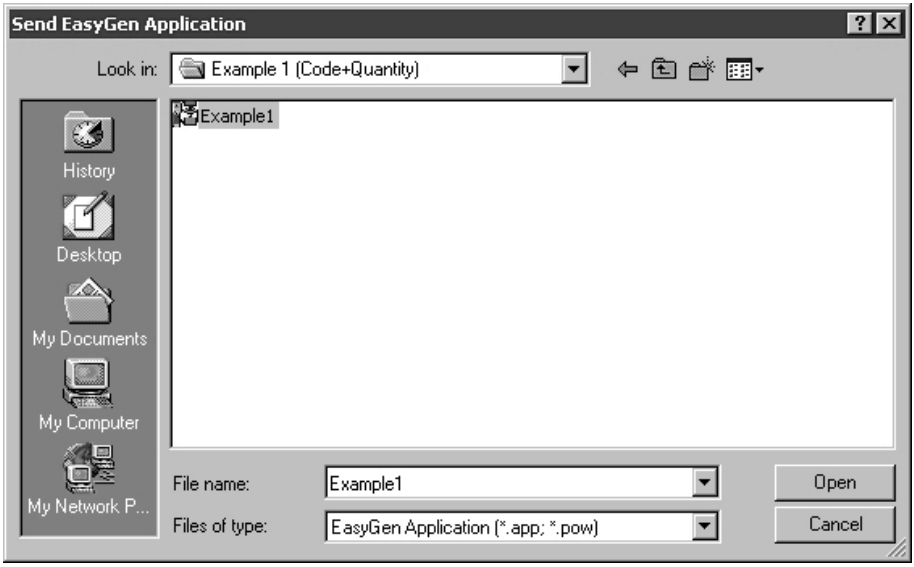
3.3.1 EasyGen™ Mode

To initialize the terminals to be used with EasyGen™ applications it is necessary to send the EasyGen™ interpreter program. Then it is possible to send the EasyGen™ application. Two specific options are available in the menu **Utility**:



❑ Send EasyGen™ Application…

This allows an application (a file with an .APP or .POW extension) to be loaded onto the terminal.
When the **Send EasyGen™ Application** command is selected the following dialog box appears.



Look in — the file containing the application program can be searched for in the current directory. It is also possible to search throughout the hard disk and even the network.

File name — name of the file containing the application program to be loaded onto the terminal.

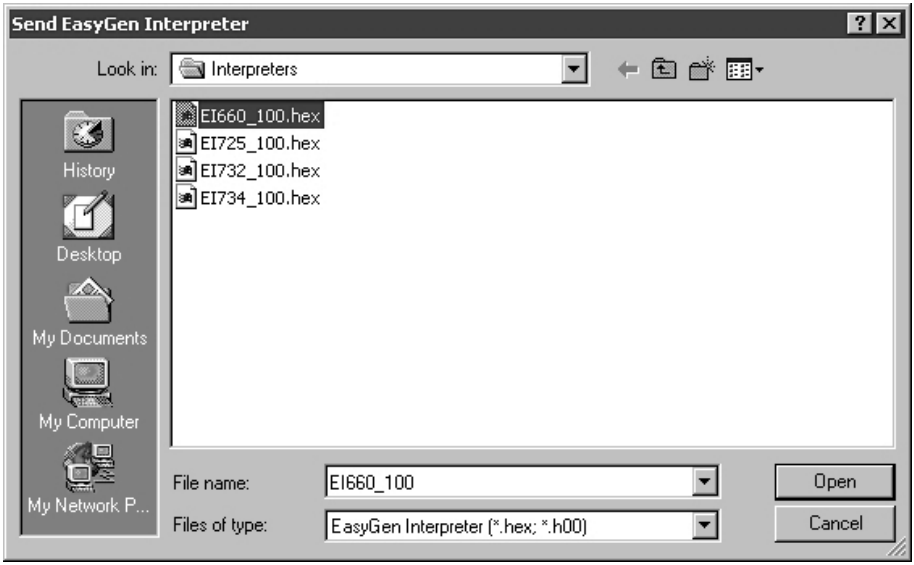
Files of type — the filename can have an .APP or .POW extension

Open — allows you to install the application onto the terminal.

Cancel — allows you to quit the OPEN dialog box and return to the main display page.

❑ Send EasyGen™ Interpreter

This allows an interpreter program (a file with a .HEX or H00 extension) to be loaded onto the terminal.
When the **Send EasyGen™ Interpreter** command is selected the following dialog box appears.



Look in — The file containing the application program can be searched for in the current directory. It is also possible to search throughout the hard disk and even the network.

File name — Name of the file containing the application program to be loaded onto the terminal.

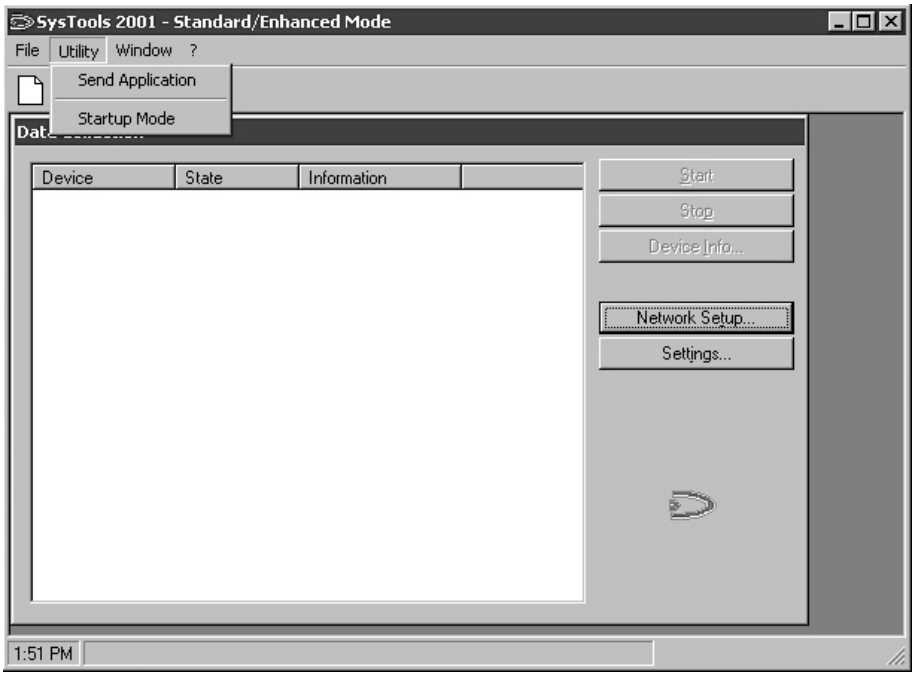
Files of type — The filename has a .HEX extension or a .H00 extension. The latter refers to the files of terminals with extended memory (i. e.: H01, H02, etc.) which are automatically set by choosing one of them.

Open — allows you to install the interpreter onto the terminal.

Cancel — allows you to quit the OPEN dialog box and return to the main display page.

3.3.2 Standard/Enhanced Mode

Standard and Enhanced mode allows just one option to initiate the terminals to be used with their respective applications.

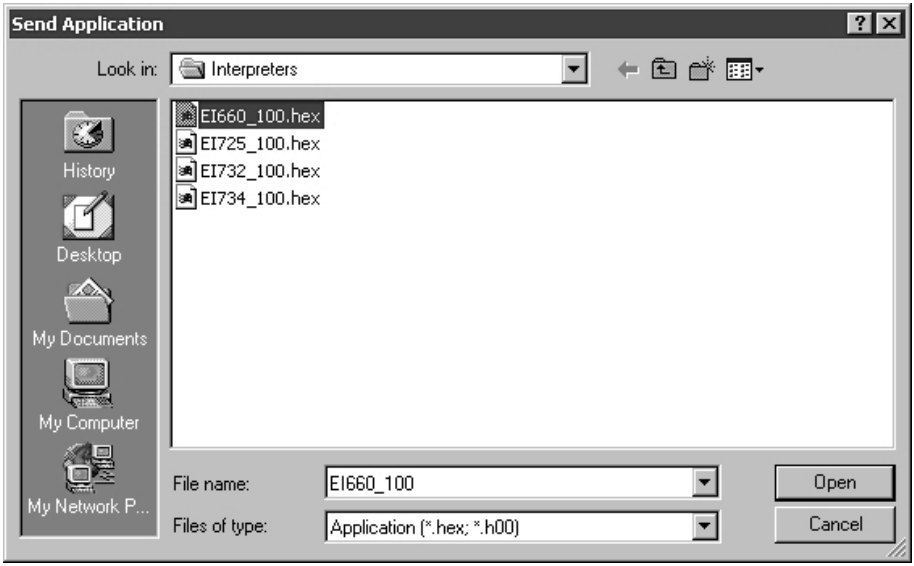


ATTENTION

Before proceeding with this phase, ensure that the terminal to be initialized is the only one accessible in the network and has been configured with the default values.

❑ Send Application

This allows an application (a file with a .HEX or H00 extension) to be loaded onto the terminal.
When the **Send Application** command is selected the following dialog box appears.



Look in — the file containing the application program can be searched for in the current directory. It is also possible to search throughout the hard disk and even the network.

File name — name of the file containing the application program to be loaded onto the terminal.

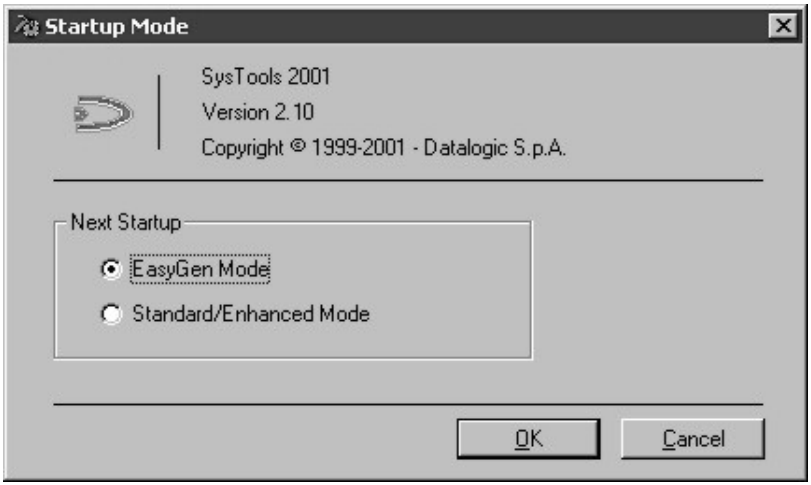
Files of type — the filename can have a .HEX extension or a .H00 extension. The latter refers to the files of terminals with extended memory (i. e.: H01, H02, etc.) which are automatically set by choosing one of them.

Open — allows you to install the application onto the terminal.

Cancel — allows you to quit the OPEN dialog box and return to the main display page.

3.3.3 Startup Mode

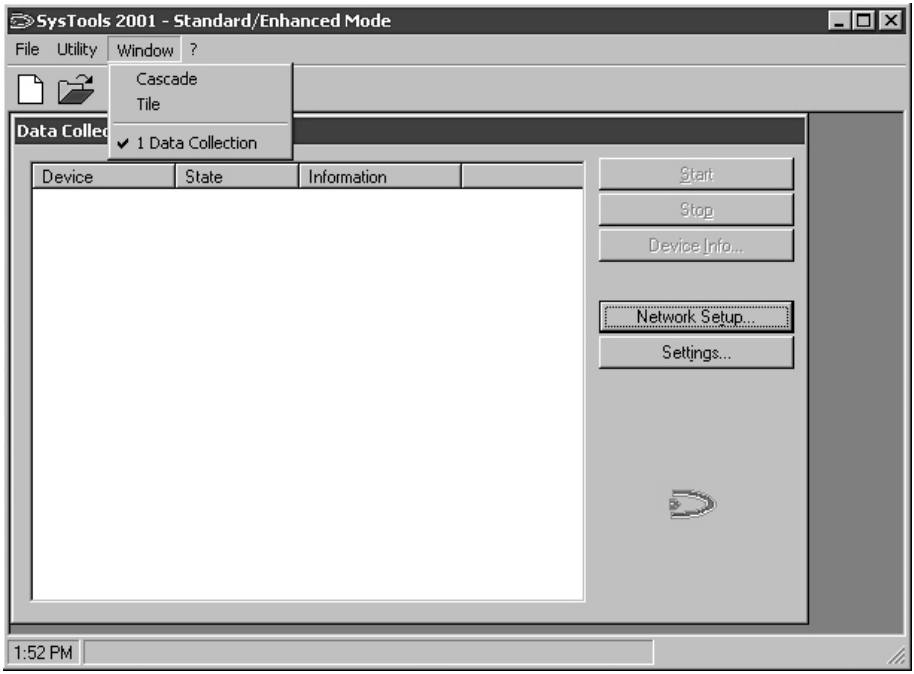
This allows you to choose one of the two types of communication environments (EasyGen™ Mode or Standard/Enhanced Mode):



Once the type of communication is selected, it is necessary to restart the program to enable it.

3.4 MENU WINDOW

This menu is only available in **Standard/Enhanced Mode**.



Allows you to select different arrangements for multiple windows displayed on the screen.

- **Cascade**

Displays the windows in standard dimensions, one on top of the other, but arranged so that each heading is visible.

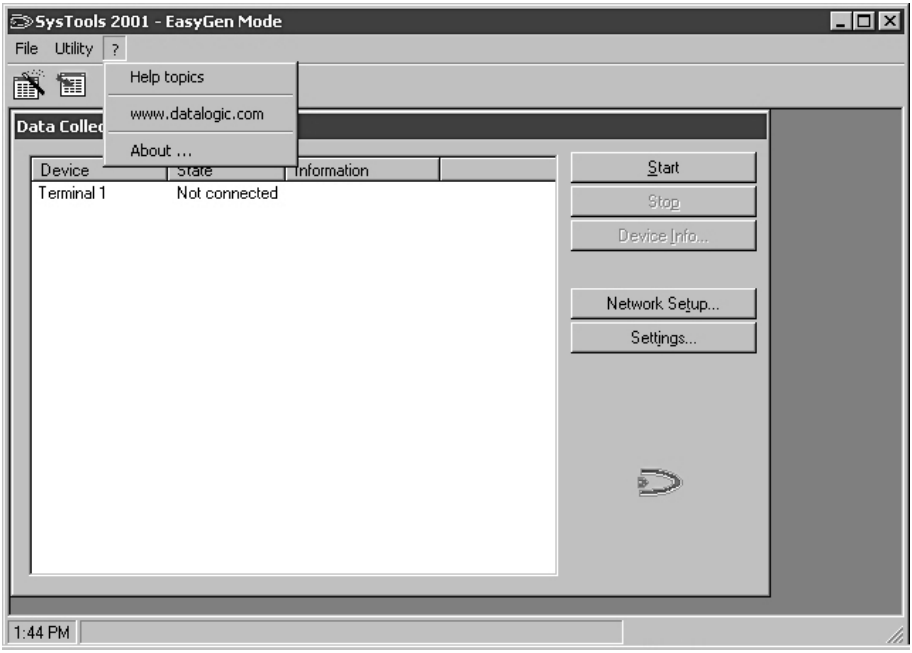
- **Tile**

Automatically reshapes the open windows so that they take up all available space without overlapping.

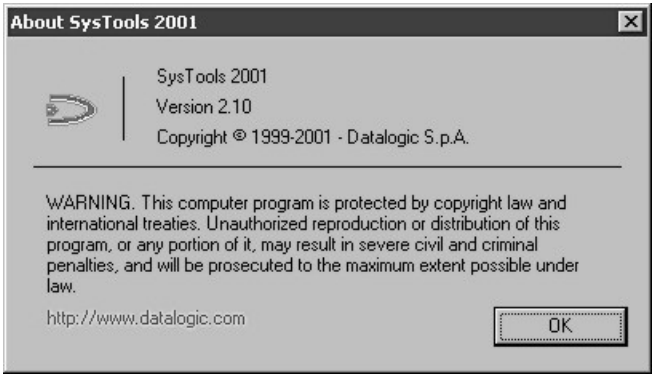
- **1 Data Collection**

The lower part of the menu lists all the windows open.

3.5 MENU HELP



Allows you to display the program help file and to be connected to the Datalogic web site. It also provides information about the software.

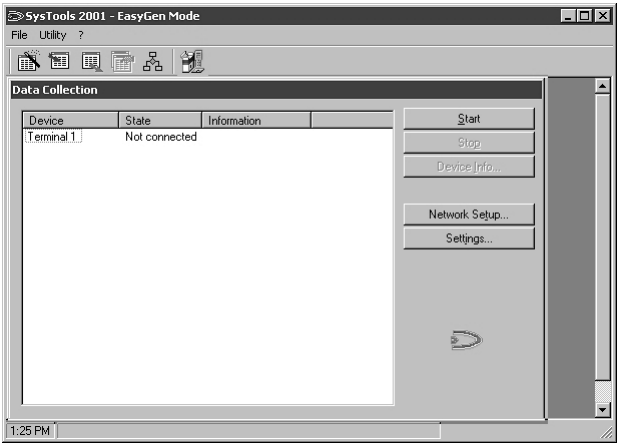


4 USE AND OPERATION

4.1 USING THE DATA COLLECTION WINDOW

When running SysTools™2001, once it has been configured and connected to the terminal(s), the program displays the status of each individual device in the Data Collection window defining the Device, State and Information.

For Standard/Enhanced Mode, terminals and/or satellites for RF communications can be defined.



By selecting a column heading (Device, State, Information) the list is alphabetically reordered.

- **Device**

Indicates the device name.

- **State**

Indicates the operating status between device and the host computer.
Possible messages are:

Connected	indicates that the satellite is connected and operating, or that the terminal is inserted in the cradle.
Not connected	indicates that the satellite is either disconnected from the network or cut off from the power source, or that the terminal is not inserted in its own cradle.
Busy	indicates that the device and the host computer are exchanging data.
Error	indicates a malfunction. Check the device's physical connections and retry. If the error message persists, contact the Datalogic technical assistance service or the supplier.

- **Information**

Indicates the specific type of terminal or satellite configured and the version of the firmware.

Start	begins transmission with all the devices on which polling has been enabled (downloading of data onto the host computer). To activate the polling of one device, see par. 4.2.1 under "Terminal Properties" and "Satellite Properties".
Stop	allows you to end transmission between host computer and devices, which has been previously started by pressing the Start button.
Device Info...	supplies information on the configuration values for the terminals selected as well as permitting the date and time to be programmed.

allows you to configure the transmission parameters (see par. 4.2).

allows you to select the options for data collection (see par. 4.3)

4.2 NETWORK SETUP

SysTools™2001 is able to manage up to 99 terminals and 99 satellites simultaneously since they have different identifying number systems (Station Addresses).

This identifying number can be assigned by programming through serial connection by SysTools™2001 itself (On-Line configuration), or by scanning the appropriate bar codes in the “Menu & Commands Booklet” (Off-Line configuration).

By following these specifications the program allows definition of different transmission parameters for each device needing to communicate with the host computer.

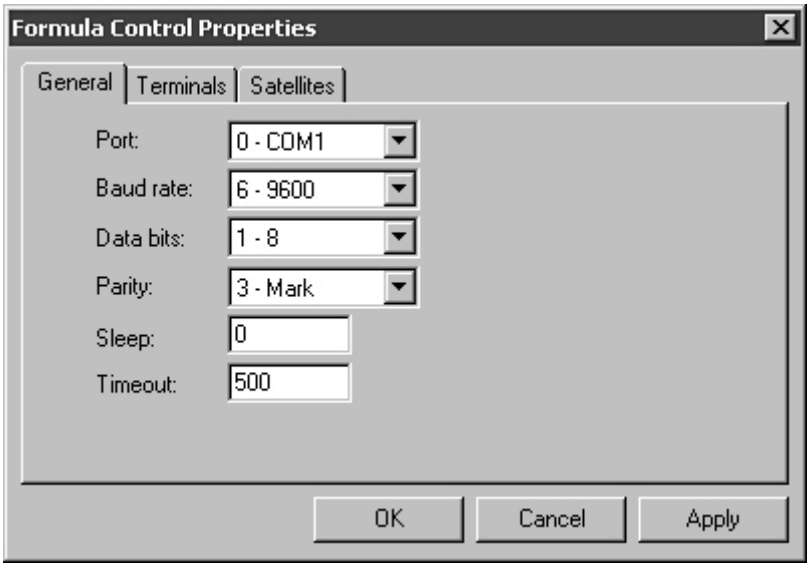
The configuration process is started by pressing the Network Setup… button in the Data Collection window.

4.2.1 On-Line Configuration

NOTE

Before starting the configuration, the Formula terminal must be initialized to the default parameters (scan the RETURN TO DEFAULT PARAMETERS barcode) and must be inserted in the cradle.

The configuration process is started by pressing the **Network Setup...**button in the Data Collection window.



The window **Formula Control Properties** presents three folders:

General Properties: allows you to define the transmission parameters between host computer and devices that must be used in the next communications.

Terminals Properties: allows you to define the networked terminals and their transmission mode.

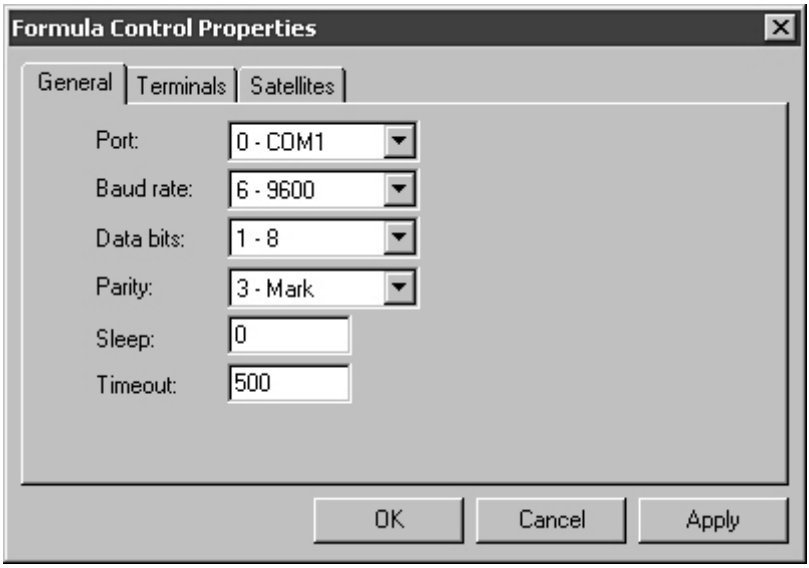
Satellites Properties: allows you to define the networked satellites and their transmission mode, but it is only available in **Standard/Enhanced mode**.

OK — Allows you to save the properties selected in the file Formula3.cfg and quit the open dialog box.

Cancel — Allows you to quit the open dialog box without saving the properties selected.

Apply — Allows you to save the properties selected in the file Formula3.cfg without quitting the open dialog box.

GENERAL PROPERTIES



Allows to configure the general parameters for the communication between the host computer and the devices.

❑ **Port**
Host serial port used to connect the terminals.

❑ **Baud Rate**
Transmission speed between host computer and terminals.

❑ **Data bits**
Number of bits making up the transmitted data.

❑ **Parity**
Type of control parity.

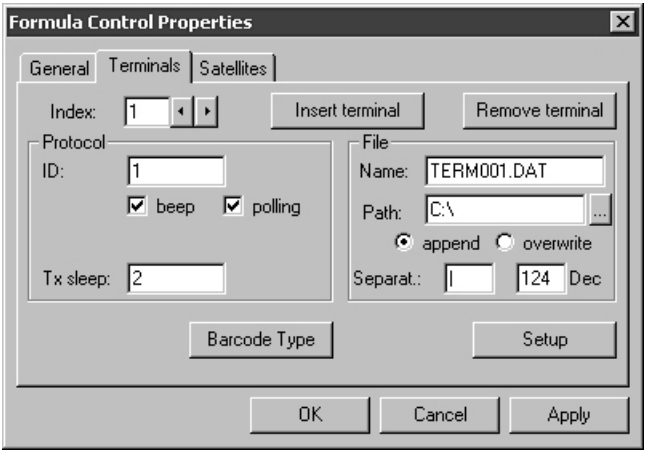
❑ **Sleep**
The waiting time (expressed in milliseconds) for communication between one terminal and the next.
A value of 0 ensures the fastest polling but slows down other programs considerably. You are therefore advised to insert a Sleep time of several hundredths of a millisecond.

❑ **Timeout**
This is the maximum waiting time for a reply from terminals or satellites, expressed in milliseconds.
The default value is 500 ms. Depending on the specifications of the equipment in use, this value can be reduced to speed communication.

ATTENTION

When satellites are also being used, the choice of Baud Rate and Timeout is restricted to the values they can support. These are stated in the relevant documentation.

TERMINALS PROPERTIES



Allows you to define the networked terminals and their transmission mode.

❑ **Index**
Shows the terminal that the displayed data refer to.

buttons allow you to scroll the list of the networked terminals.

Insert terminal
Remove terminal

Enable you to update the list of programmed terminals.

❑ **Protocol**

ID Identifying number (from 1 to 99) given to each terminal.

beep Allows you to enable or disable the beep within the terminal.

polling Allows you to enable or disable the downloading of data from the terminal.

Tx sleep Allows you to define, in milliseconds, the transmission delay between host computer and terminal.
Generally, the suggested value should not be altered.

❑ **File**

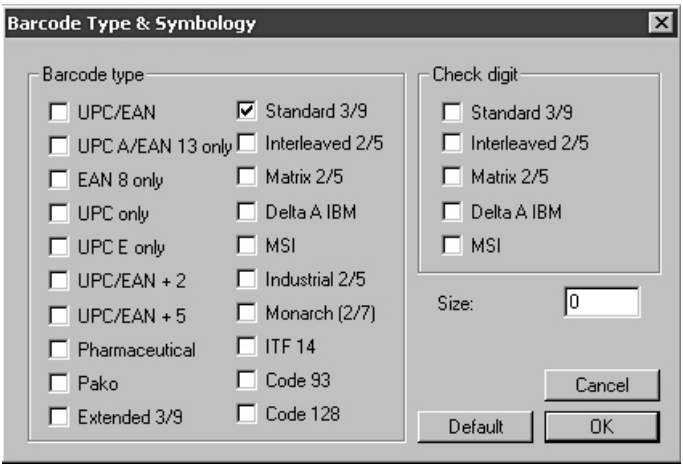
It allows to define the way to save the data received from each terminal.

Name	enables you to define the filename.
Path	enables you to define the folder where the file will be saved.
append	allows you to add new data to the file without having to remove the data already saved.
overwrite	allows you to add new data to the file, replacing the data already saved.
Separat. (available only in Standard and Enhanced mode)	allows you to choose the character that will be used to separate the different fields of each record saved to a file. It is possible to insert the character directly or through its corresponding ASCII codification.

❑ Barcode Type

This option is only available in **Standard/Enhanced mode**.

If this button is selected, the following dialog box will appear.



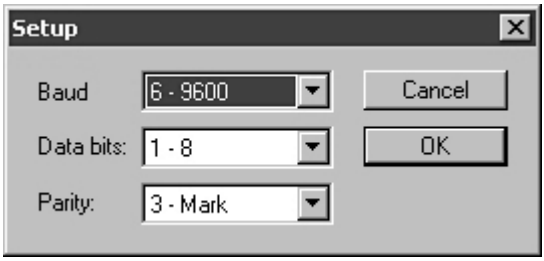
The **Barcode Type & Symbology** window allows you to define:

Barcode type	types of codes used for receiving data.
Check digit	only available for some types of code. It checks the correct reading of the code's constituent characters.
Size	limits the readable codes to their fixed dimensions. This limit is cancelled by the 0 value, thus allowing the reading of any code whose length comes within the maximum value of 32 characters.
Cancel	allows you to return to the Terminals Properties window without saving the options selected.
OK	Saves the selected parameters and returns you to the Terminals Properties dialog box.
Default	Reverts the parameters of this window to the default values.

❑ Setup

This option is only available in **Standard/Enhanced mode**.

This button allows the terminal initial Setup.
Once the terminal configuration is set in the "Terminals" folder, this button allows to send it to the relative terminal. Together with this configuration the transmission parameters are configured again in the terminal by referring to the "General" folder values.
The displayed dialog box allows to confirm or not (for special use) the transmission parameters.

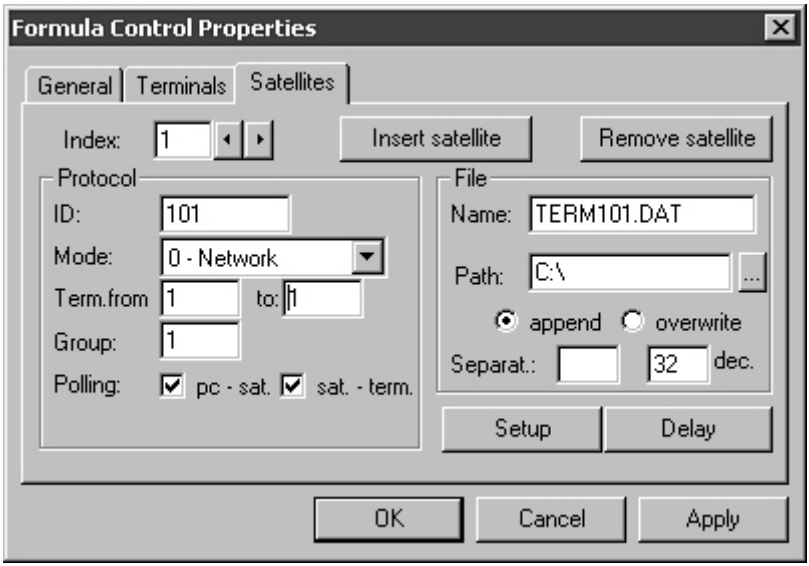


ATTENTION

To program a correct initial Setup, ensure that the terminal has been previously set to the default values. This Setup occurs if a Standard or Enhanced application program is sent to the terminal or by reading the "return to default parameters" barcode in the "Menu & Commands booklet". Then, ensure that the terminal is the only one accessible in the network.

SATELLITES PROPERTIES

The following folder is enabled only in **Standard/Enhanced mode**.



It allows to define the networked satellites and their transmission mode.

- **Index**

It shows the satellites that the displayed data refer to .

buttons allow you to scroll the list of the networked satellites.

Insert satellite
Remove satellite

Enable you to update the list of programmed satellites.

❑ **Protocol**

ID Identifying number (from 101 to 199) given to each satellite.

Mode Allows you to define the method of connection to the system:

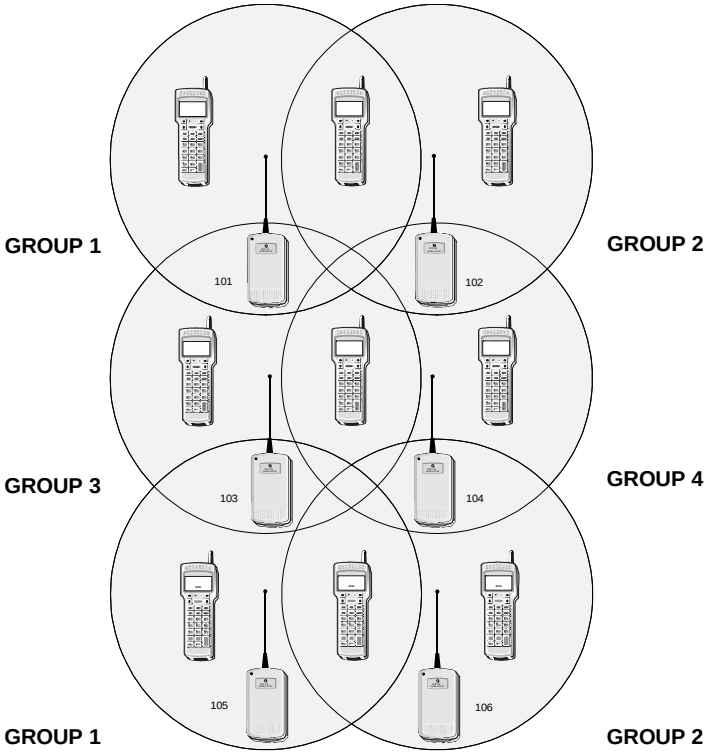
0 - Network =	RS-485 connection with Sysnet network;
1 - Transmit Immediate =	Single RS-232 connection without the support of a transmission protocol;
2 - Test site survey =	Reserved for the testing procedure;
3 - Test echo =	Reserved for the testing procedure
4 - Test RSSI =	Reserved for the testing procedure.

Term. from... to is necessary to indicate the first and last identifying number in the group of terminals managed by each satellite.
If one terminal must transfer data within the coverage range of different satellites, its identifying number should be included in each group.

Group Numerical value from 1 to 6 which allows management of different satellites (communicating with the same terminal) to be distinguished, so that no problems arise in the overlapping coverage zones.
The polling operation requires the system to know which satellites share or not radio overlapping coverage zones. To get this information it is necessary that the satellites are divided into different groups. The satellites of each group must not share overlapping coverage and communicate with the same terminals at the same time.
This procedure allows the different groups to be activated alternatively, so that they never contain two satellites polling the same terminal at the same time. Furthermore, by giving the same group number to satellites communicating with different terminals, the connection can take place simultaneously.

EXAMPLE

The following example shows, in a simplified form, how the Group command can be usefully carried out.



In the example, the coverage range of each satellite intersects that of the other three. To not create transmission problems, different Group numbers are given to adjacent satellites.
As a result, when a data transmission takes place between satellites 101 and 105 (which are not adjacent) and the respective terminals, SysTools™2001 disables transmission between satellites 102, 103, 104 and 106; it then enables transmission from 102 and 105 and disables transmission from the other satellites, and so on.

Polling Allows the satellites polling. To receive data, either the transmission between the host computer and the satellite (**pc - sat**.) or between the satellite and terminals (**sat. - term**.) must be initiated.

❑ **File**

It allows to define the way to save the data received through each satellite.

CAUTION

When the same satellite receives different data, it is not possible to identify the terminal they have been sent from.

Name enables you to define the text filename.

Path enables you to define the folder where the file will be saved.

Append allows you to add new data to the file without having to remove the data already saved.

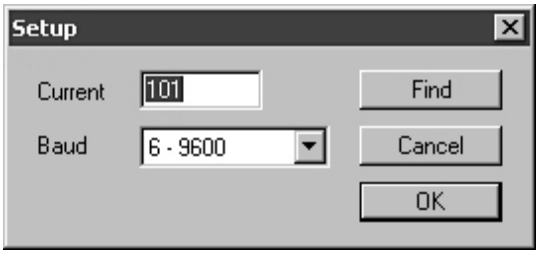
Overwrite allows you to add new data to the file, replacing the data already saved.

Separat. allows you to choose the character which will be used to separate the different fields of each record saved to a file. It is possible to insert the character directly or through its corresponding ASCII codification.

❑ Setup

It enables the properties defined in the Satellites Properties file to be sent to the terminal.

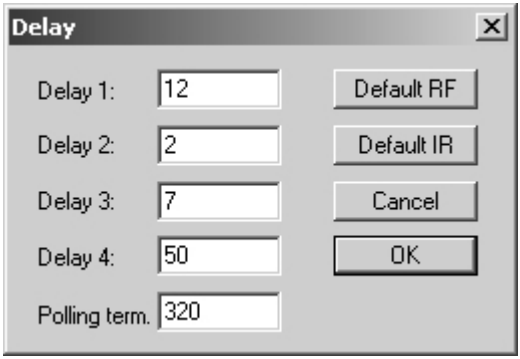
When this button is selected the following dialog box will appear, requiring you to insert the confirm the transmission parameters defined in the General Properties file.



Find If the same properties have to be given to several satellites, this button initiates a sequential search for an identifying number from 101 to 199. The current properties will automatically be attributed to the identifier which searched. Due to the long time required to complete this operation it is advised to use this function only when the satellite address is unknown.

❑ Delay

When this button is selected, the following dialog box will appear.



This window lists the hardware parameters pre-set by the radio frequency satellite (**Default RF**) and by the infrared satellite (**Default IR**).

ATTENTION

The values of these parameters can only be altered on special instruction from Datalogic or the distributor.

4.2.2 Off-Line Configuration

An alternative method of configuring the terminals is by reading barcodes in the “Menu & Command Booklet” or in the “STANDARD MODE & ENHANCED MODE” manual of the specific terminal.

The following example provides configuration for a F734 terminal if you are using SysTools™2001. You should read the following barcodes in sequence. Only the STATION ADDRESS, BAUD RATE, PARITY and DATA BITS parameters can be changed.

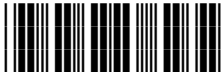
EXAMPLE

RETURN TO DEFAULT PARAMETER

SET-UP IN/OUT

STATION ADDRESS

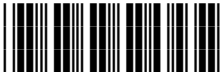
0



1

START OF BLOCK

STX



END OF BLOCK

CR

END OF TEXT

ETX

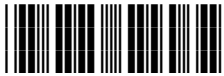
CHECKSUM 256

RS-485

CAUTION

Verify that the following parameters of this example are correct for your application. They must correspond to those defined in the General folder of the "Formula Control Properties" window.

BAUD RATE 9600



EVEN PARITY

DATA BITS 7

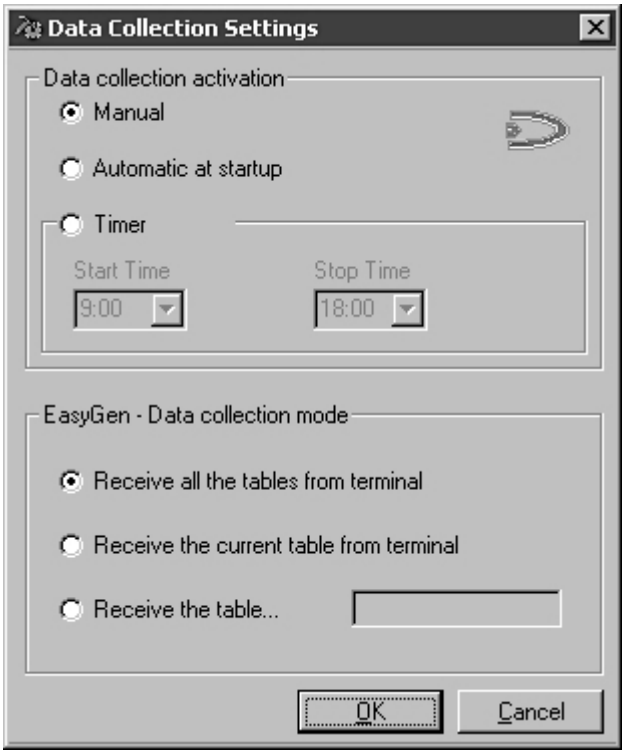
SET-UP IN/OUT

Once procedure is loaded, you must depress the associated function key before starting to work.

4.3 OPTIONS

❑ Data Collection Settings

This allows you to choose the method of data collection.



Manual: allows data collection to take place using the start and stop buttons in the Data Collection window.

Automatic at startup: enables data collection immediately when SysTools™2001 is started.

Timer: allows data collection to be scheduled according to the hours selected for start and stop time.

For EasyGen™ Mode, the data table(s) to receive from the terminal can be predefined.

Receive all the tables from the terminal: collects all the data tables specified in the EasyGen™ application running on the terminal.

Receive the current table from terminal: collects the active data table from the terminal without reference to its name. This selection activates the Set Current Table icon on the Toolbar and relative option in the File menu. In this way SysTools™2001 can set the current table for a specific terminal for uploading its data to the PC

Receive the table…: allows a specifically named data table to be uploaded to the PC.

Formula®

5 TROUBLESHOOTING

PROBLEM	CAUSE	REMEDY
Terminal doesn't initialize.	Incorrect connection of the system components.	Check the physical connections of the system.
	The terminal is not in bootstrap mode, i. e. it already has a program loaded in memory.	Free the terminal memory by PROTECT RESET BUTTON.
	Polling is active	Press STOP button in the data collection dialog box.
Terminal programming failure.	The terminal has not been initialized with Enhanced Mode.	Initialize the terminal with the Enhanced Mode program.
	Terminal memory is insufficient for all the records.	Reduce the size of the program.
	The program exceeds the limit of 255 bytes per record.	Check and modify the program.

PROBLEM	CAUSE	REMEDY
The Start command of the Data Collection window fails and the message "`Unable to open communication Error`" appears.	The serial port is used by another program.	Quit the program that is using the same serial port.
	A serial port has been selected which is not present.	Re-set to the right serial port.
	System error.	Restart the system.
On opening a .PRG file, the message "`Unable to open file or file is not valid`" appears.	SysTools™2001 cannot read the file .PRG (wrong file) from the disk, or the program is not valid.	If available, use a backup copy of the file.
On saving a .PRG file, the message "`Unable to save file`" appears.	Disk full.	Free up enough disk space for the file you want to save.
	Write-protected disk.	Slide the write protection tab to the write enabled position.
On requesting information on a device, the message "`Unable to connect with device`" or similar appears.	Device not connected.	Check the device connection.
	Terminal not correctly lying in its cradle.	Correct the terminal position and try again.
	You are connecting with terminals and you have also satellites in the system.	Use setup to remove satellites from the system.