Brains for gains

Version # 1.2.1
Jan. 2005 issue

Are You There

User guide

SECS PACK

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Modification History

Version	Date	Revision Description
1.0	September 11,2000	First version
1.1	February 14, 2001	Documentation Correction
1.1.1	October 28, 2002	Added chapter for SECS Pack related installation
1.2.0	September 25, 2004	Documentation Update
1.2.1	January 19, 2005	Version increment

Table of Contents

System requirements

Hardware:
PC Pentium 133Mhz or above.
64MB RAM recommended.
AreYouThere 1.2 Freeware will use 1MB of your hard drive.

Software:
AreYouThere 1.2 Freeware has been developed for Windows NT systems. However, it also works under Windows 95/98, 2000, XP, 2003 server operating systems.

Installation

Installation from Are You There Pack installation program

Simply follow the instructions given by the InstallShield setup program.

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The SECSPack installation program will install on your computer the following files:

- **AreYouThere 1.2 User Guide.pdf** — User Manual
- **AreYouThere.exe** — The AreYouThere Executable file
- **AreYouThere.ini** — Default Start Configuration file
- **DefaultLibrary.sil** — Standard library of SECS messages
- **Readme.txt** — Information about licence, installation and uninstallation

You can also manually extract the above files to any folder if AYT is delivered by zip file.

Tips: - If you install AreYouThere 1.2 Freeware as an administrator, you will have the AreYouThere shortcuts in the Start Menu even if you log as a simple user. On the opposite, you will not have those shortcuts when you log on as an administrator if the install has been done as a simple user.
- If you install AreYouThere 1.2 Freeware as an administrator, then you will not be able to desinstall it as a simple user.

The **Uninstallation** of AreYouThere 1.2 is easily reachable through the “Add/Remove Programs” applet in the Control Panel of Windows, if installed with the SECS Pack installation program. Otherwise you can uninstall it manually, simply by deleting the files.

Installation from SECS Pack installation program

Files will be copied in "C:\program files\Si Automation\Tools\Are You There" folder.
A shortcut will be available in your "Start" menu.

Using Are you there 1.2

Introduction

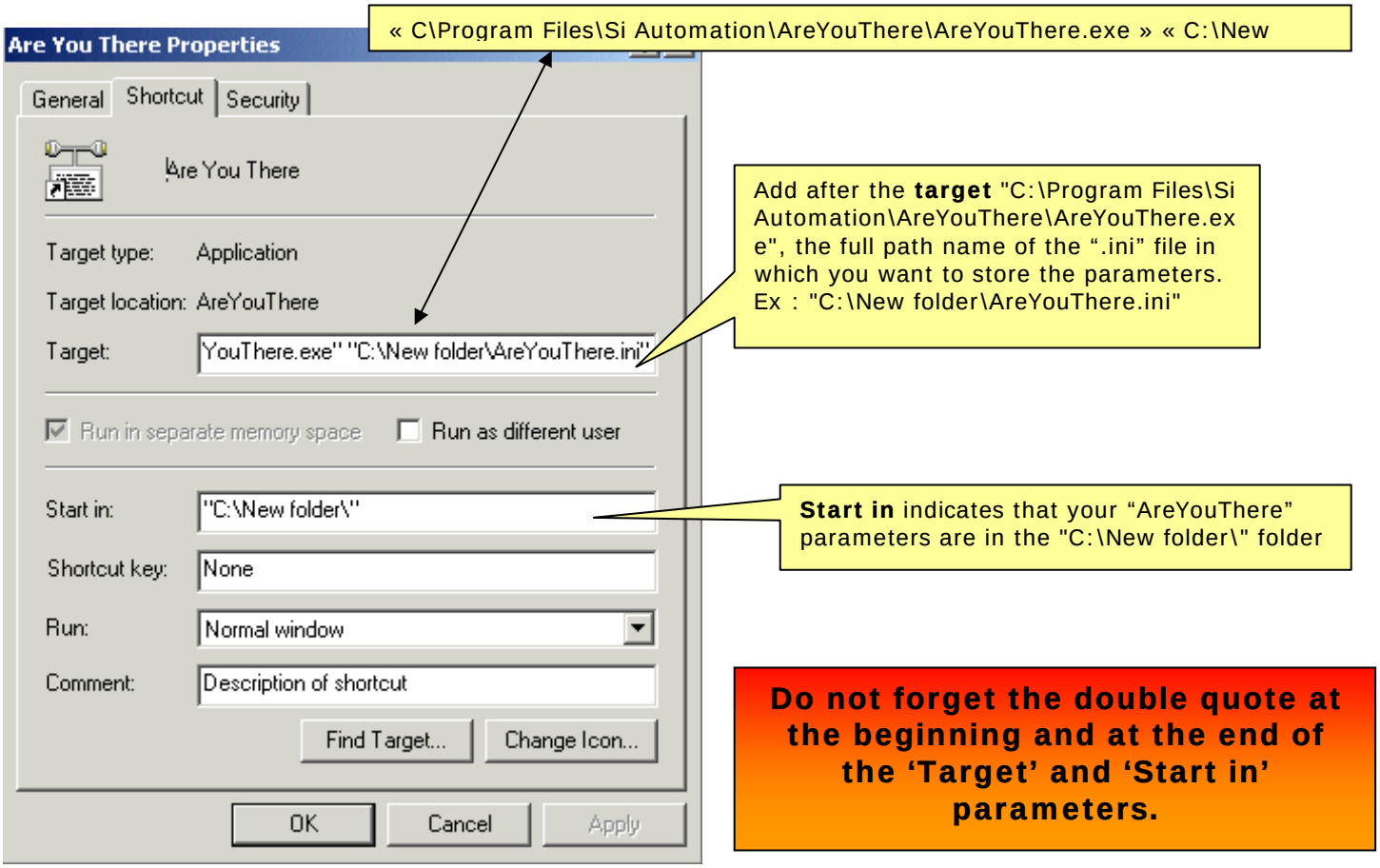
Are You There is an easy to configure and to use software to send and receive SECS messages to and from a SEMI (http://www.semi.org) SECS E4-0699 and E5-1000 or HSMS E37-0298 compliant entity. It may be very useful to characterize or simulate equipment.
Are You There should be installed only once on your computer. The application use its first parameter as a configuration file (INI) where it stores miscellaneous information such as the windows positions, the current library in use, the SECS Port configuration. In order to have different configuration on your computer, you can create different shortcuts, with different configuration file names. If the configuration file does not exist, *Are You There* creates it.
If the parameter is missing, *Are You There* uses AreYouThere.ini as default configuration file.
Are You There works without any specific ocx, dll, or registry entry. Only the executable file is sufficient, for the simplest and default application starting (no library).

Shortcuts to run Are you there

It is possible to have several setups to run *Are You There*. In this case, it is not necessary to copy the "AreYouThere.exe" file in a different folder and execute it from the new location. A simple shortcut to "AreYouThere.exe" with an "ini" filename as parameter is enough. A description example follows:

- Create a new folder on your computer. Ex: "C:\New folder".
- Create a shortcut (right mouse button/create shortcut) to "AreYouThere.exe" and move it in "C:\New folder".
- Copy the "AreYouThere.ini" and "DefaultLibrary.sil" files in "C:\New folder".
- Edit the properties of the shortcut (right mouse button/properties) and set the "target"and "start in" information as follows:

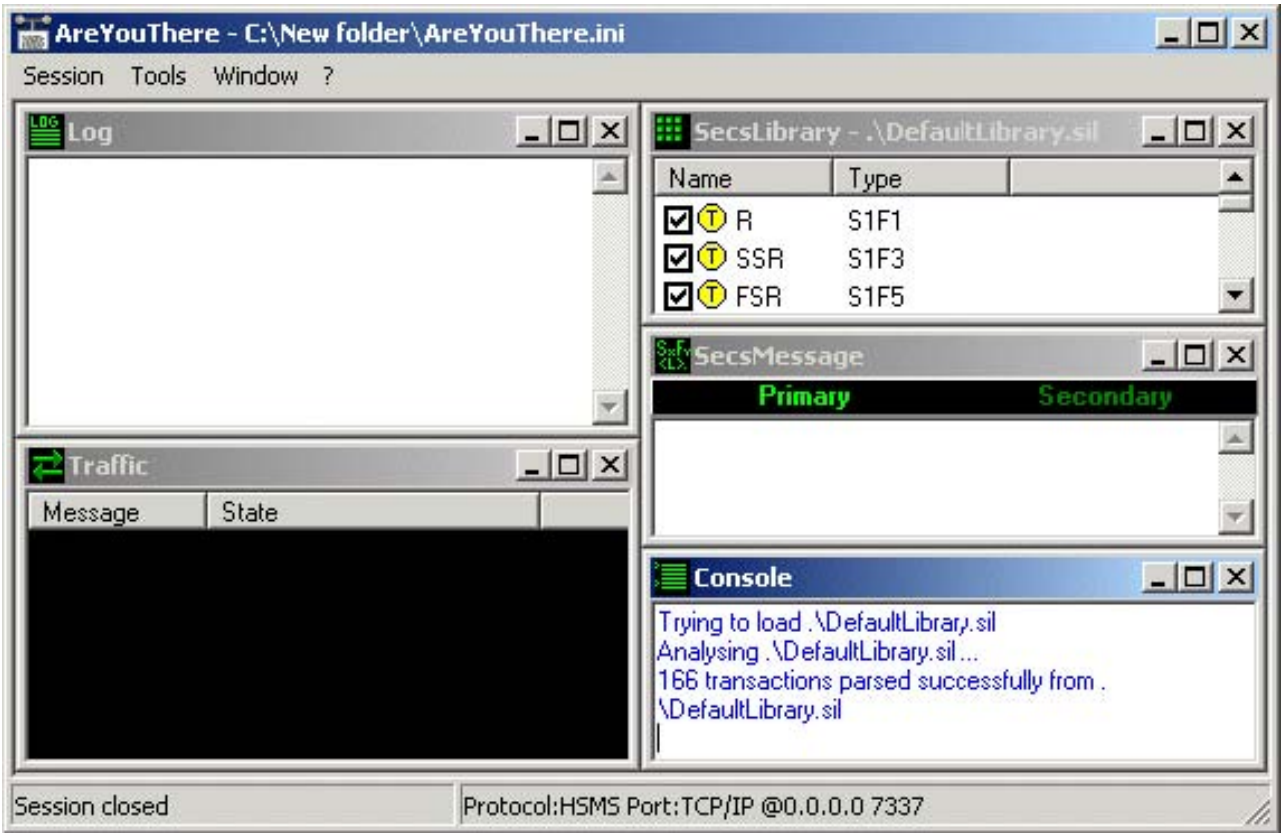
Note: the Security Applet might not appear if you are not logged on as an administrator.



Starting with Are You There...

When you open *Are you there*, 5 windows appear in the main one:

- SECS library window
- Log window
- SECS Message window
- Traffic window
- Console window



You can easily open or close the windows and retile them as you want.

Main Window Menus

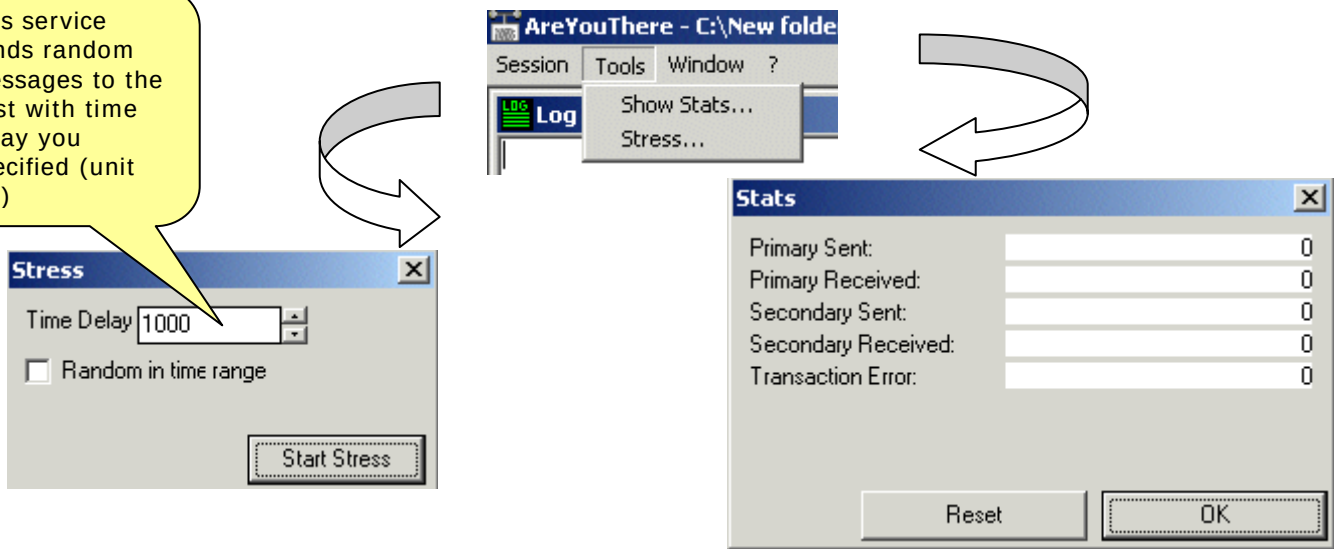
Window menu

Use it to cascade, tile vertically or horizontally the different windows.

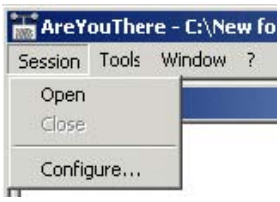
Tools menu

- Show Stats
- Stress

This service sends random messages to the host with time delay you specified (unit ms)



Session menu



"**Open**" To open a session.
"**Close**" To close a session

"**Configure**": You can see six configuration folders on this window:
- o Common Folder
- o SECSII Folder
- o SECS I Folder
- o HSMS Folder
- o TCP/IP Folder
- o Serial Link Folder

The current configuration is saved when you leave the application.

Tips - you can open or close a session by double left click on the left bottom corner (Session closed, opened)

Tips - you can configure a session by double left click on the right bottom corner (Session configure)

This service sends random messages to the host with time delay you specified (unit ms).

Configuration Window

Common folder

Communication Port Type: Choose the physical port

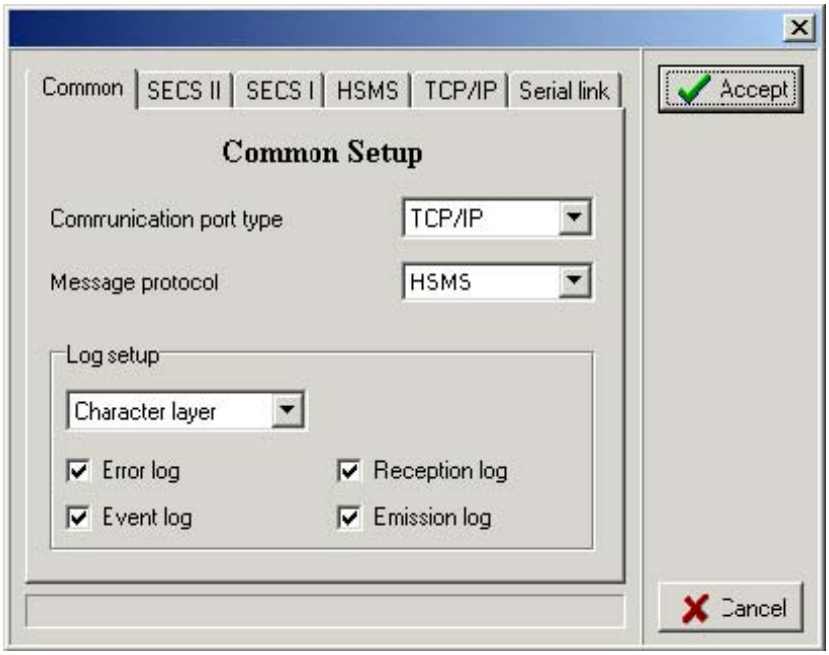
- TCP/IP if you are using your network to communicate with your device.
- Serial Link if you are using RS232 link.

Message Protocol: Choose the protocol for the transactions

- SECS1
- HSMS
- SECS1 over Telnet, *if you are using a Terminal Server that cannot be set up to disable the Telnet Layer.*

Log setup: Choose the level of visibility for your logs

- Character layer
- SECSI/HSMS layer
- SECSII layer



SECSII folder

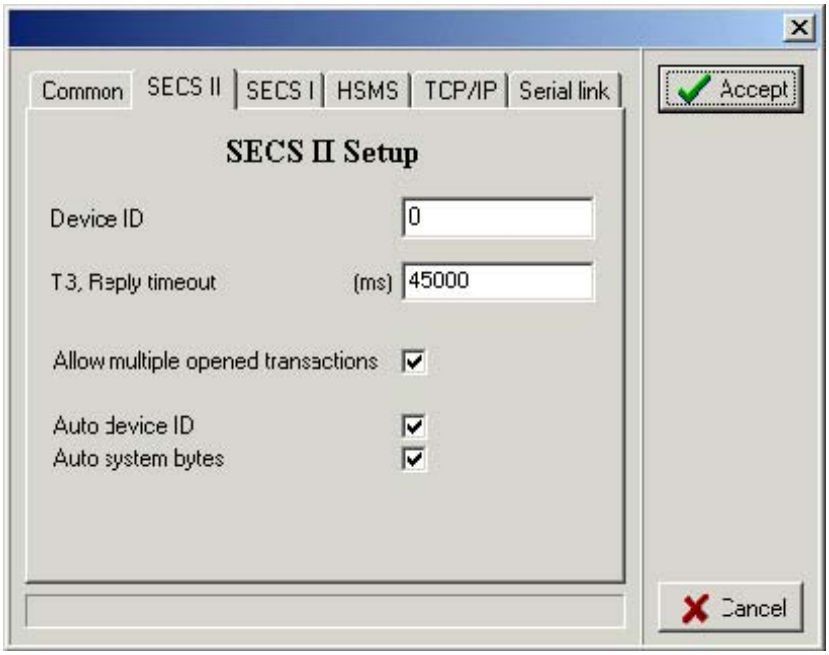
Device ID: Enter the device ID of your equipment (range 0-32767).

Timeout T3: This timeout detects a lack of reply message (unit ms).

Allow multiple opened transactions: You or the equipment can send multiple messages. By using this option, the answer of the second message can arrive before the answer of your first message. So, whatever the order of the replied messages, *Are you there* will be able to recognize and affects correctly the secondary to the good primary message.

Auto Device ID: Whatever the device ID you choose, *Are you there* will accept all the messages coming from another device.

Auto system bytes: The system bytes option is used to recognize a message and its reply. So, it must be distinct from those of all other opened transactions. This option allows the user not to matter about the system bytes (the system bytes will be incremented automatically).



SECS I folder

T1 timeout: detects an interruption between characters.

T2 timeout: detects a lack of protocol answer.

T3 timeout: detects a lack of reply message.

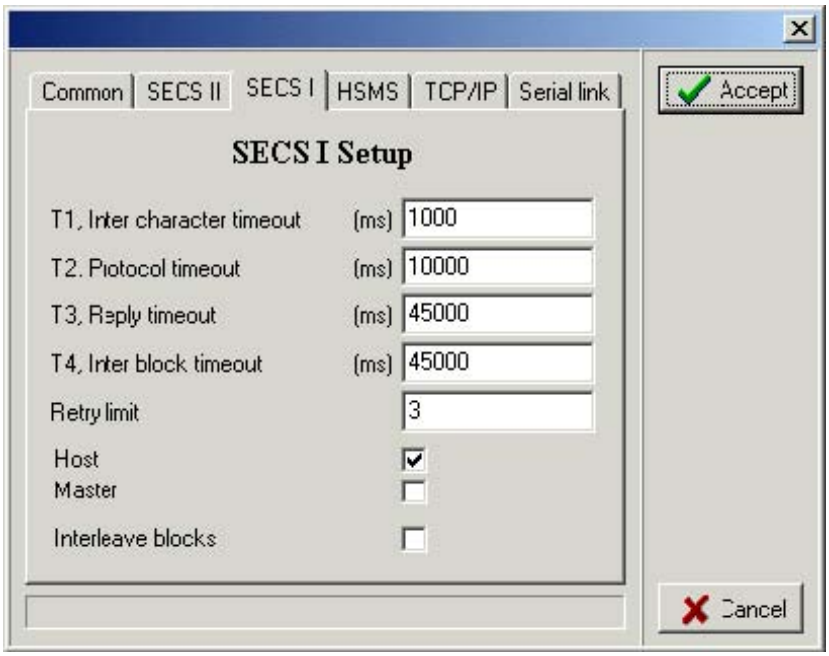
T4 timeout: detects an interruption in a multi block message.

Retry limit: set the maximum number of attempts to send a message.

Host: Indicates whether AreYouThere acts as Host or Equipment. When the box is checked (Host) the R-bit in the SECS messages sent is set to 0, else (Equipment) the R-bit is set to to 1.

Master: when both host and equipment try to send at the same time, the host (designated as slave) enters in the receive mode and the equipment (designated as master) can send. This convention resolves communication contentions.

Interleave Blocks: if used, when several multiblock messages are sent, *Are you there* will send the first block of the first message, then the first block of the second message,…, then the second block of the first message, then the second block of the second message, and so on. This option allows sending short messages even if a long one is currently in progress. (The short message will not be depending on the termination of the long one)



HSMS folder

T3 timeout: detects a lack of reply message.

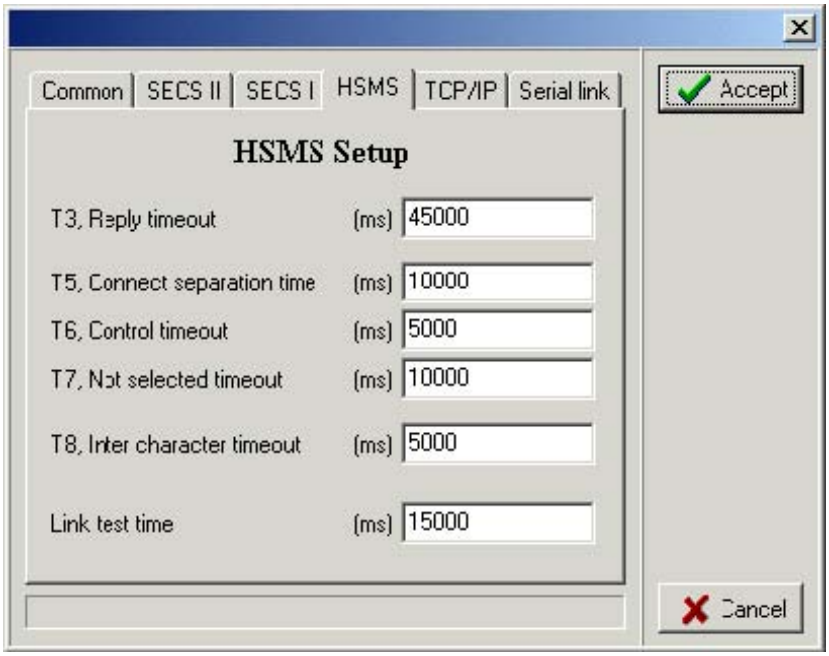
T5 timeout: the connection separation timeout specifies the elapsed time between successive attempts to connect to a given remote entity.

T6 timeout: the control transaction timeout specifies the time for a transaction to remain open before considering it as a communication failure.

T7 timeout: The not selected timeout specifies the time a TCP/IP connection can remain in NOT SELECTED state before considering it as a communication failure.

T8 timeout: the network intercharacter timeout specifies the maximum time allowed between successive bytes of a single HSMS message.

Link test time: Delay between two checks of the HSMS link.



TCP/IP folder

Local IP address: Each physical TCP/IP connection for a given local area network has a unique IP address you must specify.

Local port: port number of the local connection

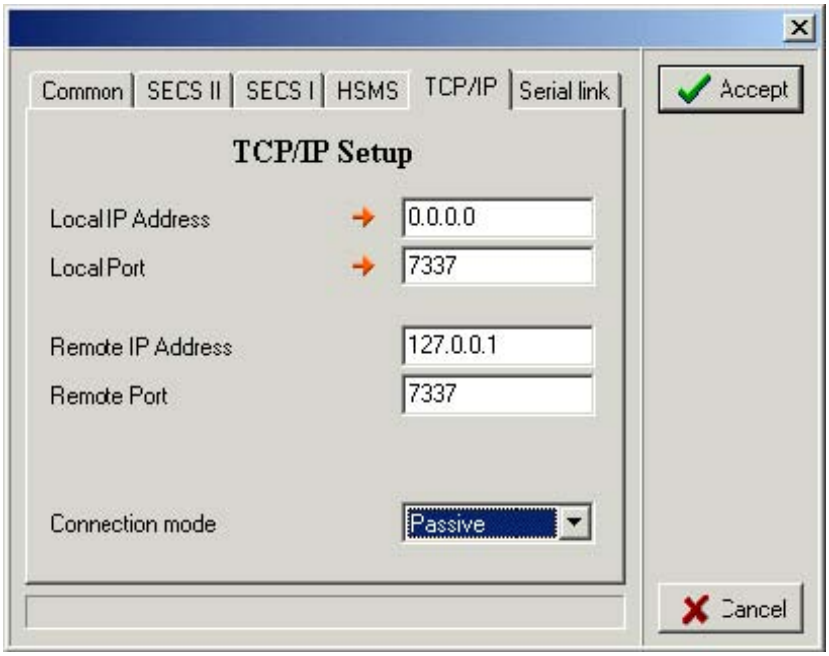
Remote IP address: same definition as the local one but for the remote entity.

Remote port: same definition as the local one but for the remote entity.

Connection mode:

The passive mode is used when the local entity is listening for (and accepts) a connect procedure initiated by a remote entity. (So you must specify the local IP address and port, and don't care about the remote one)

The active mode is used when the connect procedure is initiated by the local entity. (So you must specify the remote IP address and port. Regarding the local IP address, you must specify 0.0.0.0 or one IP address used by your computer if you have more than one network card)

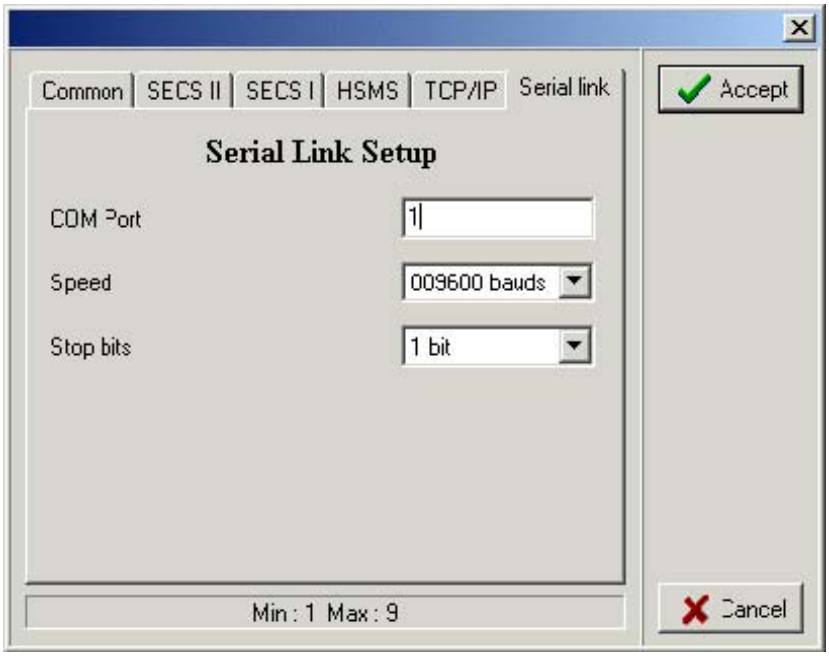


Serial Link folder

COM port: the serial port used for the connection between the host and equipment.

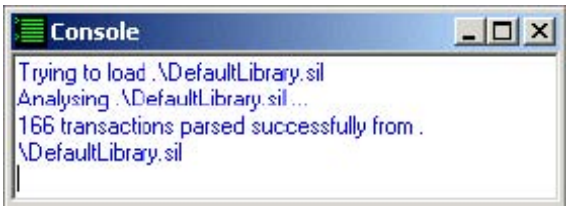
Speed: the speed of the serial communication, usually 9600 bauds.

Stop bits: Number of stop bits for the serial link, usually 1, and up to 2.



Main Windows

Console window



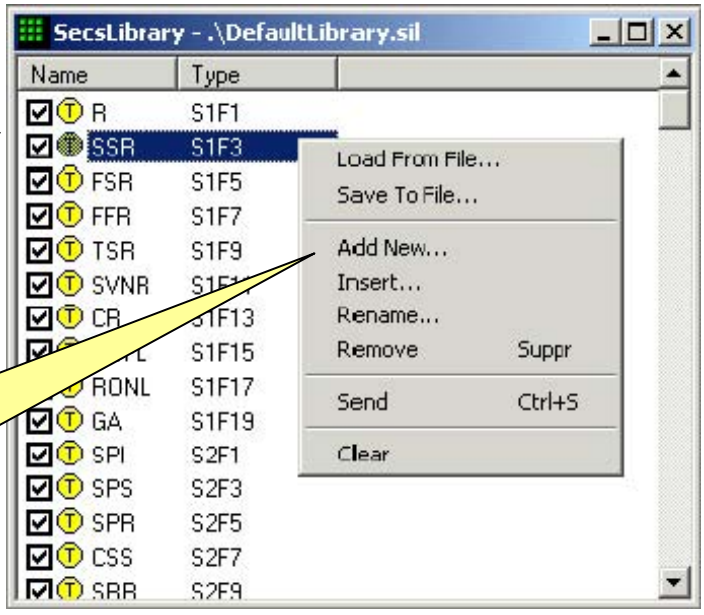
This window is used to get some information about loading new library files, parsed messages, or enters some information (during the creation of new transactions, for example).

SECS Library and Message windows

The SECS library window contains the list of all the SECS messages you want to define and to use.

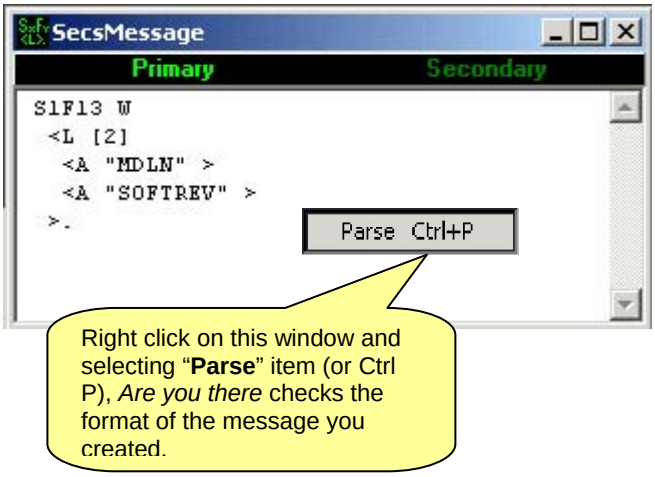
The checkbox placed close to each message is used to enable or disable automatic replies to incoming primary messages.

Right click on the library window; a menu appears where you can:
- Open a library file
- Save a library file
- Add new, insert, rename or delete transactions
- Send message
- Clear the library



Left click on one particular message; the detail will appear in the **SECS message window**. You can have a look on the primary part or the secondary part of the stream function (the primary or secondary item will be lightened by clicking “primary” or “secondary” on the SECS message window).

It’s possible to **modify a primary or a secondary message** directly using the SECS message window. You can type the SML (SECS Message Language) notation of the selected message.



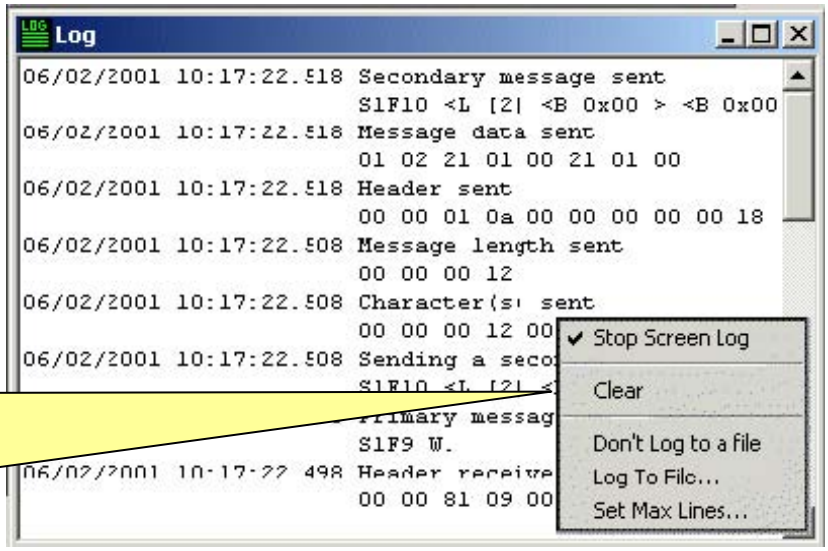
NB - Note that ASCII representation is between ". Ex: <A "MDLN">. The AreYouThere sml notation does not support comments.

If you don’t want *Are You There* to answer automatically to a primary message, you can unselect this message (in the SECS library window) and reply by yourself. To do that, drag the chosen library message from the SECS library window, and drop it onto the received primary message in the Traffic window. The cursor should change to "Assign". The assignment works only if the library transaction has the same string and function than the chosen traffic transaction. Then right click on the primary message (in the traffic window) and choose "Reply": the secondary message will be sent at this moment.

The library file can be easily created and modified with a text editor, then loaded with *Are You There*. The application will check the format of all the messages by opening the file.

Log window

This window shows all the transactions exchanged with the host (message received or sent), with date and time of the transactions.

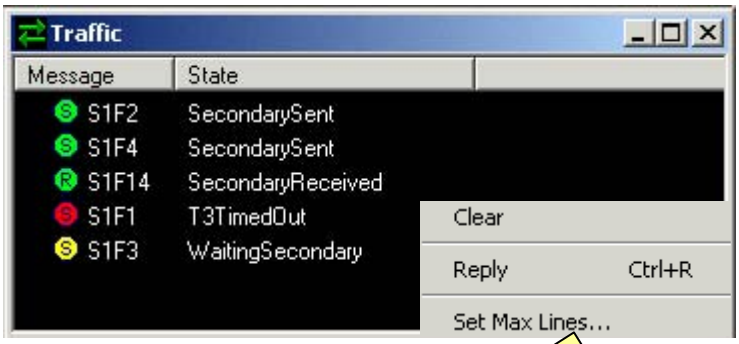


We will see how to configure the level of information later (character, SECS1/HSMS, or SECS2 layer)

Traffic window

This window shows you the SECS transactions and the result of the transactions (yellow item for opened, red item for failed or green item for successful transaction).
Left click on a transaction on this window makes the details appears on the SECS message window. (primary or secondary message as well)

You can also drag transactions from this window to the library window, this automatically create a new library transaction identical to the original one.



Right click on this window; a menu appears where you can:
- o Clear trafffic log
- o Reply to an incoming primary message
- o Set max lines (maximum number of lines on the traffic log)

Technical Support

Telephone: 33 (0)4 67 03 37 00

Fax: 33 (0)4 67 03 37 20

Email: **support@siautomation.com**

Si Automation Technical Support is available Monday through Friday 9 a.m. to 6 p.m. GMT via phone, fax or electronic mail.

When you contact Si Automation Technical Support, you should specify the following information:

- The version number of SECS pack tool you are using.
- The operating system and version you are using.
- The type of hardware you are using.
- The programming language and version you are using.
- A description of the problem and the exact sequence of events to reproduce it.
- How you tried to solve the problem.

Appendix A – SML syntax

This appendix gives the SML syntax accepted by the ImportSml method of the swSecsMessage object in BNF notation.

The Extended Backus-Naur Formalism (BNF) notation makes use of several special symbols. These are listed below.

<>	Enclose term names
|	Separates alternatives (exclusive OR)
[]	Term enclosed is optional (not used or used once)
{}	Term enclosed is used zero or more times
()	Enclose groups of alternative terms

SML syntax table

<openItem>	::=	**"<"**
<closeItem>	::=	**">"**
<openBracket>	::=	**"["**
<closeBracket>	::=	**"]"**
<doubleQuote>	::=	**"""**
<whitespaces>	::=	**" "** {**" "**}
<character>	::=	Any character of ASCII code in the range (32..255) except the double quote character
<digit>	::=	**"0"|"1"|"2"|"3"|"4"|"5"|"6"|"7"|"8"|"9"**
<hexDigit>	::=	**"A"|"B"|"C"|"D"|"E"|"F"|"a"|"b"|"c"|"d"|"e"|"f"| "0"|"1"|"2"|"3"|"4"|"5"|"6"|"7"|"8"|"9"**
<boolean>	::=	**"True"|"T"|"Y"|"1"|"False"|"F"|"N"|"0"**
<hexPrefix>	::=	**"0x"**
<unsignedDecimal>	::=	<digit> {<digit>}
<unsignedHex>	::=	<hexPrefix> < hexDigit > {< hexDigit >}
<unsignedInteger>	::=	<unsignedHex>|<unsignedDecimal>
<integer>	::=	[**"+"|"-"**] <unsignedInteger>
<exponent>	::=	**"E"|"e"** [**"+"|"-"**] <unsignedDecimal>
<float>	::=	[**"+"|"-"**] {<digit>} [**"."** <digit> {<digit>}] [<exponent>]
<asciiCode>	::=	<unsignedInteger>
<string>	::=	<doubleQuote> <character> {<character>} <doubleQuote>
<text>	::=	<string>|<asciiCode>
<itemSize>	::=	<openBracket> <unsignedDecimal> <closeBracket>
<stringItem>	::=	<openItem> **"A"|"J"** [<itemSize>] {<whitespaces> <text>} <closeItem>
<booleanItem>	::=	<openItem> **"Boolean"** [<itemSize>] {<whitespaces> <boolean>} <closeItem>
<unsignedIntegerItem>	::=	<openItem> **"B"|"U1"|"U2"|"U4"|"U8"** [<itemSize>] {<whitespace> <unsignedInteger>} <closeItem>
<integerItem>	::=	<openItem> **"I1"|"I2"|"I4"|"I8"** [<itemSize>] {<whitespaces> <Integer>} <closeItem>
<floatItem>	::=	<openItem> **"F4"|"F8"** [<itemSize>] {<whitespaces> <float>} <closeItem>
<dataItem>	::=	<stringItem>|<booleanItem>|<unsignedIntegerItem>|<integerItem>|<floatItem>
<listItem>	::=	<openItem> **"L"** [<itemSize>] {<whitespaces> (<dataItem>|<listItem>)} <closeItem>
<item>	::=	<dataItem>|<listItem>
<messageHeader>	::=	**"S"** <unsignedDecimal> **"F"** <unsignedDecimal> [<whitespace> **"W"**]
<message>	::=	<messageHeader> {<whitespaces> <item>} **"."**

Remarks

- Note that the <itemSize> token is ignored. The item size is determined by its value.
- Hexadecimal value must always be preceded by “0x”.
- End-of-line characters (carriage return and line feed) are insignificant and are treated as white spaces, with the following exception. A comment line may be given starting with a "*" character, followed by any number of characters, and ending with an end-of-line character. Tab characters are also treated as white spaces.

Sample SML messages

```
S1F1 W.


S1F2
<L
  <A[4] "MDLN">     * Equipment Model Type
  <A[7] "SOFTREV">  * Software Revision Code
>.


S2F15
<L
  <L
    <U2 102>
    <A "ASCII item with" 13 0x0A "CR and LF characters.">
  >
  <L
    <U2 103>
    <F8 1.20358e-4 >
  >
  <L
    <U2 104>
    <I4 586987>
  >
  <L
    <U2 105>
    <U4 0x0001ABF4>
  >
  <L
    <U2 106>
    <B 0x27 0xFF 0x00 0x1C>
  >
>.
```