BSCLIB for Windows

AutoSync Version Installation Guide

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<u>Technical Support</u>

Serengeti Systems provides technical support for as long as you use BSCLIB at no additional cost to you. Support is available via the Internet from our web site or via e-mail, or by telephone.

- Visit the Serengeti Web Page (http://www.serengeti.com) and click on Technical Support to access our online technical database. You'll find answers to many of the most commonly asked questions at your fingertips.

- For fast response to your technical support issue, sum up your question or problem in writing and submit this via e-mail to Support@Serengeti.com. We'll respond to you by e-mail or a telephone call (if appropriate) as quickly as we can.

- If you cannot find the answers you're searching for online or you do not have e-mail access, you may call us at (512) 345-2211 and ask for technical support during our normal business hours of 9AM to 5PM Central Time Monday through Friday.

<u>IMPORTANT</u>

Requests for License Manager authorizations are not accepted by telephone. These requests must be submitted via fax or e-mail. See the section entitled **LICENSE – Serengeti License Manager** for more information.

BSCLIB for Windows

BSCLIB operates under Microsoft Windows 95, Windows 98, or Windows NT Workstation or Server.

This installation guide applies to the version of BSCLIB that uses an AutoSync 2 compatible modem. This guide is designed to step you through the installation process and to describe the key components of BSCLIB. You may also wish to refer to the "readme.1st" file for more information.

BSCLIB is supplied in two forms. If you are a software developer you initially receive the BSCLIB Software Developers Kit (SDK) to create an application program that utilizes BSCLIB to connect with a BSC communications network. Please refer to the <u>BSCLIB Programmer's Guide</u> for information on how to write programs for the BSCLIB API. If you are an end-user or distributor of such an application, you receive the BSCLIB Run-Time package that permits the application to be used on another PC.

<u>Software Installation</u>

Follow the steps below to install BSCLIB for Windows.

- When installing to a Windows NT system, you must have Administrator privileges to install BSCLIB.

- Insert the first BSCLIB diskette into a diskette drive.

- Click **Add/Remove Programs** from the Control Panel and follow the instructions on the screen.

- Setup displays a welcome dialog and then displays the License Agreement. Read this agreement carefully before continuing.

- Setup asks you for your Name, Company Name, and Serial Number. Enter this information and click **Next**.

- Setup allows you to change the default installation directory and Program Folder for BSCLIB. Typically, the default directory is acceptable.

- Choose the COM port used by the AutoSync modem. The installation dialog is shown below.
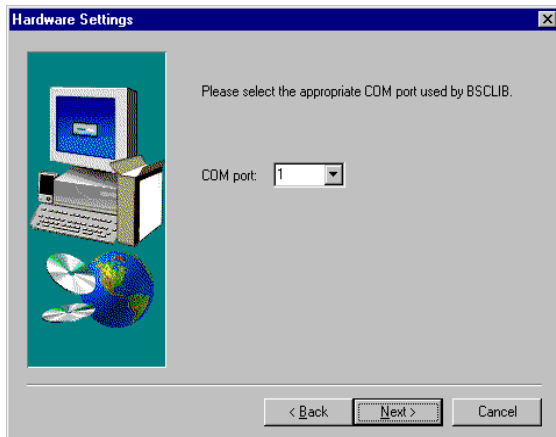
- Under Windows 95/98, you will need to reboot the machine after the installation before using BSCLIB.

- In order to run a BSCLIB application, you must authorize it by running License Manager. There are two types of authorization: First Run Authorization, which may be done immediately to authorize BSCLIB for seven days of use and Full Authorization, which fully authorizes BSCLIB on the system on which it was installed. The authorization process is described in more detail in the **LICENSE – Serengeti License Manager** section below.

Software Removal

- You must first remove license authorization by running License Manager and clicking the Remove License Authorization button. Information about the removal of the license is written to a file named "removal.txt" which you will need to refer to if you need to reauthorize BSCLIB at a later time.

- To remove the BSCLIB software, click on the **Uninstall BSCLIB** icon in
  the BSCLIB program folder or click on **Add/Remove Programs** in the
  Control Panel and follow the instructions on the screen. All programs
  and files that were originally installed on your machine are removed.
  Any files residing in the installation directory created after installation
  are not removed.

LICENSE – Serengeti License Manager

The AutoSync Version of BSCLIB utilizes the Serengeti License Manager
license control system. BSCLIB must be authorized before it can be used.
The following sections describe each of the operations License Manager can
perform. The main License Manager screen is shown below:
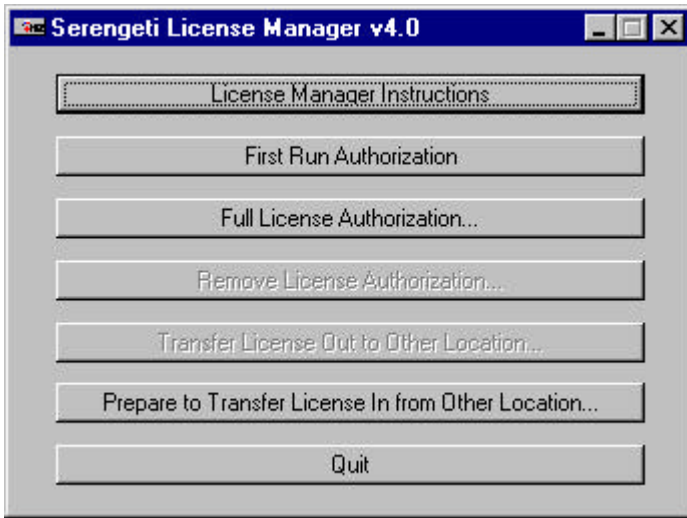
 Once BSCLIB is installed, the license control system operates transparently
"behind the scenes" and you will be unaware of its presence. However, you
should be aware that the following operations would result in the loss of
license authorization:

- copying BSCLIB and running it from another machine
- backing up and restoring BSCLIB to a different or repartitioned hard
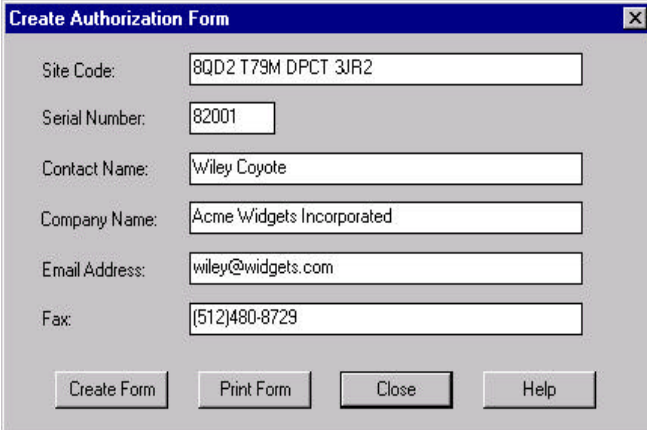 drive

License Manager Instructions

Click this button to display the License Manager Help text file in Notepad. This file is stored on the machine as "LICMHELP.TXT".

First Run Authorization...

You can immediately authorize BSCLIB for seven (7) days by clicking this button of License Manager. The application will run normally for this period of time, permitting you sufficient time to obtain a Site Key in order to fully authorize the application. A First Run Authorization can only be performed once on any given workstation − uninstalling and reinstalling does not result in additional First Run Authorizations.

Full License Authorization...

BSCLIB must be fully authorized before it can be used beyond the initial seven-day First Run Authorization period. Full authorization is accomplished by providing Serengeti Systems with the License Request Form. To create the form click on **Full Authorization**. Then click on **Create Form**. The following dialog is then displayed:

Create Authorization Form	☒
Site Code:	8QD2 T79M DPCT 3JR2
Serial Number:	82001
Contact Name:	Wiley Coyote
Company Name:	Acme Widgets Incorporated
Email Address:	wiley@widgets.com
Fax:	(512)480-8729

Create Form   Print Form   Close   Help

Fill out the information requested and then click on **Create Form** to save the form as the file "REGISTER.TXT" or click on **Print Form** to print the form to the default printer. You can send the form to Serengeti Systems via fax or e-mail at:

Fax: (512)480-8729
E-mail: Register@Serengeti.com

Authorization is not available via telephone. Serengeti Systems will respond with your Site Key within one business day.

After obtaining your Site Key, you can fully authorize the application by entering your serial number and Site Key in the Full License Authorization dialog and then clicking **Authorize**.
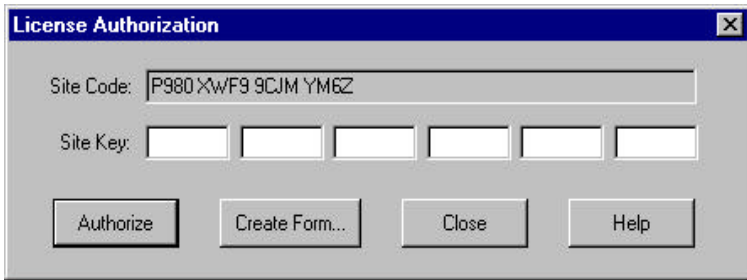
Once authorized, the application may be used without restriction on the workstation on which it was installed.

Once authorized you may find it necessary to use License Manager again to transfer the application's license to a different workstation either via diskette or network connection, or to remove authorization permanently.

Remove License Authorization...

License Manager may be used to completely disable BSCLIB by clicking on this button which removes either a first run or full license authorization. During the removal process, License Manager records the product serial number, Removal Code, and new Site Code in a file named "REMOVAL.TXT". Once authorization is removed, BSCLIB cannot be run until a fresh Site Key is issued and the license is completely re-authorized. (First Run Authorization cannot be reused.)

To obtain a new Site Key, follow the steps given in the Full License Authorization section above. When reauthorizing a license that has been removed, it is necessary to provide us with the Removal Code.

Prepare to Transfer License In from Other Location
Transfer License Out to Other Location...

Should it become necessary to relocate the application to a completely different location, the license may be transferred via diskette or network connection using License Manager. Such a transfer is a multi-step process. To perform a license transfer, follow these steps:

1. Install the product on the target machine. Then, run License Manager and click the **Prepare to Transfer License In from Other Location…** button. This involves choosing a directory that will be used to transfer the necessary licensing files from the source machine to the target machine. You may use a network directory that is accessible to both machines, or instead, you may use a floppy disk that you move from one machine to the other when needed.

2. Click the **Transfer License Out to Other Location...** button on the source machine. Here, you will indicate the directory that you used in the previous step. If you are using a floppy, you must move the floppy from the target machine to the source machine.

3. Now finish the transfer process on the target machine. If you are using a floppy, you must first move the floppy from the source machine back to the target machine.

If You Are Not a Software Developer

If you are an end-user, not the developer, of a BSCLIB application, you need not read further from this point. The following technical information is intended primarily for programmers charged with developing BSCLIB application programs.

BSCLIB Software Development Kit

The BSCLIB Software Development Kit (SDK) is shipped to software developers only. The SDK includes a single Run-Time license for use on your development system.

AS STATED IN THE BSCLIB LICENSE AGREEMENT, A UNIQUELY SERIALIZED COPY OF BSCLIB, LICENSED TO YOU BY SERENGETI SYSTEMS, MUST ACCOMPANY EACH COPY OF YOUR BSCLIB APPLICATION THAT IS DISTRIBUTED.

The BSCLIB SDK files are installed into "\Program Files\Bsclib" directory and the "BSCLIB SDK" Program Group by default. After installation is complete, the following files will reside on your machine:

README.1ST	Updated information on BSCLIB
WINTEST.EXE	Sample BSCLIB application
WINTEST.INI	Configuration file for WINTEST.EXE
ERRDEFS.TXT	Error description file for WINTEST.EXE
EMUBSC.EXE	Background BSC protocol emulation
ABSCDRVR.EXE	AutoSync 2 driver
RMLIB.DLL	Record manager dynamic link library
KILLBSC.EXE	Program to terminate EMUBSC process
LICENSE.EXE	Serengeti License Manager
REGISTER.TXT	License registration file
LICMHELP.TXT	License Manager help file
WINTEST	Directory for WINTEST project files:
CONFIG.C	Source module for WINTEST.EXE
DIALOGS.H	Source module for WINTEST.EXE
EXTDEFS.H	Source module for WINTEST.EXE
INITFUNC.C	Source module for WINTEST.EXE
LOOKERR.C	Source module for WINTEST.EXE
MENUCTRL.C	Source module for WINTEST.EXE
MTEST.C	Source for multi-point example program
MTEST.MDP	Project file for multi-point program
RCVFILE.C	Source module for WINTEST.EXE
RESOURCE.H	Source module for WINTEST.EXE
SDEFS.H	Source module for WINTEST.EXE
SNDFILE.C	Source module for WINTEST.EXE

TRACESUB.C	Source module for WINTEST.EXE
WINDEFS.H	Source module for WINTEST.EXE
WINTEST.C	Source module for WINTEST.EXE
WINTEST.DEF	Definition file for WINTEST.EXE
WINTEST.H	Source module for WINTEST.EXE
WINTEST.ICO	Icon definition file for WINTEST.EXE
WINTEST.INI	Configuration file for WINTEST.EXE
WINTEST.MDP	Project file for WINTEST.EXE
WINTEST.RC	Resource file for WINTEST.EXE

BSCLIB Run-Time

The BSCLIB Run-Time is shipped to end-users or distributors of BSCLIB application programs. A separate and unique BSCLIB Run-Time license is required for each instance of an application that uses any part of BSCLIB. The Run-Time files are installed into the "\Program Files\Bsclib" directory and the "BSCLIB RT" Program Group by default. After installation is complete, the following files will reside on your machine:

README.1ST	Updated information on BSCLIB
EMUBSC.EXE	Background BSC protocol emulation
ABSCDRVR.EXE	AutoSync 2 driver
RMLIB.DLL	Record manager dynamic link library
KILLBSC.EXE	Program to terminate the EMUBSC process
LICENSE.EXE	Serengeti License Manager
REGISTER.TXT	License registration file
LICMHELP.TXT	License Manager help file

Registry Entries

Software developers may be interested in the information that is added to the Windows Registry as a result of installing BSCLIB. Experienced users can directly add or modify the device entry in the Registry to avoid a complete reinstallation of BSCLIB if there is a change in the BSCLIB configuration.

<u>IMPORTANT</u>

Using Registry Editor incorrectly can cause serious, system-wide problems that may require you to reinstall Windows to correct them. Serengeti Systems cannot guarantee that any problems resulting from the use of Registry Editor can be solved. Use this tool at your own risk.

The structure of the Registry entries related for the AutoSync 2 Version of BSCLIB is shown below:

```
+ HKEY_LOCAL_MACHINE
   + SOFTWARE
      + Serengeti Systems
         + abscdrvr
            + Parameters
               - HwPort1 : REG_DWORD : port
               - HwType1 : REG_DWORD : type
               - SerialNumber : REG_SZ : serial number
```

HwPort1 : *port*   **Hardware port address**

The "Hardware port address" entry specifies the asynchronous COM port where a Hayes Optima modem may be found.

HwType1 : *type*   **Hardware type**

The "Hardware type" is set to 11.

Registry Example

For example, the Registry information allowing BSCLIB to utilize COM2 would be:

```
+ HKEY_LOCAL_MACHINE
     + SOFTWARE
        + Serengeti Systems
           + abscdrvr
              + Parameters
```

             - HwPort1 : REG_DWORD : 2
             - HwType1 : REG_DWORD : 11
             - SerialNumber : REG_SZ : 82A345

EMUBSC – BSC Protocol Handler Program

The **Emubsc** process is the background BSC protocol handler that is normally loaded automatically when a BSCLIB application issues an INSTALL command. When loaded in this way, **Emubsc** runs as an icon only.

Under certain conditions when directed by Serengeti Technical Support, you may be instructed to load **Emubsc** directly by clicking on its icon. It would typically be loaded using the following syntax:

      emubsc -d -v

The **-d** and **-v** switches and other **Emubsc** switches are described below:

-d   **Debug mode**

The **-d** switch activates the debug option that writes internal debug information to a file named "emubsc.1".

-m *size*   **Maximum size of "emubsc.1" file**

By default when **Emubsc** is writing to "emubsc.1" the file is not allowed to become larger than approximately 100K bytes. The **-m** switch permits you to change the maximum size of "emubsc.1" – for example, **-m50** establishes the maximum file size to be 50K bytes.

-t   **Block response time-out**

The **-t** switch is provided to change an internal time-out used when waiting for a reply to a transmitted data block. The BSC protocol defines that this time-out is three seconds, but the **-t** switch enables you to change this time-out if necessary within your environment. For example, **-t5** changes the block response time-out to five seconds.

-v   **Run in window**

The **-v** switch should only be used in conjunction with the **-d** switch and causes debug messages to be visible in a window as they are written to disk.

KILLBSC – Remove BSC Protocol Handler Program

This utility is used to terminate **Emubsc**. It should not be necessary to use this utility during normal operation. The optional command line switches for **Killbsc** are described below.

-f   **Forced kill**

The **-f** switch may be used to force the termination of **Emubsc** when it is not in the idle state.

-s   **Silent mode**

The **-s** switch enables the silent mode that suppresses all output to the process window.

RMLIB.DLL – Record Manager Dynamic Link Library

The RMLIB.DLL is your application's gateway to the functionality of BSCLIB. Any language that can link to Windows NT dynamic library files (DLL's) can be used to develop BSCLIB applications. This DLL supports both single and multi-threaded applications.

ABSCDRVR -- AutoSync 2 Driver

The **Abscdrvr** process is the background communications interface to Hayes AutoSync capable modems. It is loaded automatically by **Emubsc** when a BSCLIB application issues an INSTALL command. **Abscdrvr** always runs as an icon only.

WINTEST – Example Point-to-Point BSCLIB Application

A fully functional example program, **Wintest**, and its complete C source code are provided with the BSCLIB Software Development Kit. This menu-driven program exercises most of the features of BSCLIB.

The project file "wintest.mdp" may be used to compile and link the program using Microsoft Visual C/C++ version 4.0 or later. It demonstrates the correct compiler and linker options to use when developing a program that uses BSCLIB.

The resulting program is useful as both a demonstration and test program for BSCLIB in a point-to-point or contention mode BSC environment. You can exercise virtually all of BSCLIB's functions from menus within the program. All inputs to the BSCLIB API are displayed before each call to the library. The BSCLIB result codes are displayed immediately after a call returns. This is a valuable learning aid for new BSCLIB programmers.

Studying the source code for this example program is the best way to learn how to write a program that uses BSCLIB. The source file includes two high level functions (SNDFILE.C and RCVFILE.C) that utilize several BSCLIB function calls to demonstrate how to send and receive files between BSCLIB and a remote BSC system. These high level functions can be copied directly into your own application to reduce your development time.

MTEST – Example Multi-Point BSCLIB Application

The C source code and project file for **Mtest**, a multi-point BSCLIB application is provided with the BSCLIB Software Development Kit. This console application exercises most of the features of BSCLIB.

The project file "mtest.mdp" may be used to create the executable program using Microsoft Visual C/C++ version 4.0 or later. It demonstrates the correct compiler and linker options to use when developing a console program that uses BSCLIB. The resulting program is useful as both a demonstration and test program for BSCLIB in a multi-point or poll/select BSC environment.

<u>Notes</u>

Notes