About HS-Install

HS-Install is a tool for developing software installation programs.   It provides a quick and easy way for Windows developers to create simple, functional setup programs. You simply follow the easy steps to create a standard Windows 95 interface-style setup wizard.

HS-Install was developed for Windows 95, although it can generate an install program for Windows 3.1x.

You as the developer must use Windows 95,   Windows NT 3.51, or Win32s (ver 1.3 or higher) as your development environment.

HS-Install was designed to be a complete, yet easy to use installation package.

Special Features include:

- Selective installation of components for a multi-component application
- Use of your logo, bitmaps, and billboards during installation
- Wizards to guide the design and setup process
- Creation of multiple directories on different drives
- Full updating of the Windows Registry
- The ability to launch help files, text files, and any other application at any time during or after the installation
- Ability to intelligently update or modify system files, AUTOEXEC.BAT and CONFIG.SYS, private and system INI files
- Complete integrated uninstall capabilities
- Reference counting for shared files
- Microsoft Compress compatible file compression
- No run time licenses or per use fees

The complete generated setup package can be as small as 80K depending on your chosen options.   This small overhead leaves more space on the installation floppy disks for your files, and reduces the number of diskettes needed for distribution.

A Tool to help you

Hs-Install was designed to be easy to use without sacrificing the power demanded by advanced developers.

Wizards are provided to simplify common tasks. Tasks completed with a wizard may always be changed or removed with other methods.   This allows the advanced user to truly customize their Install project.

HS-Install provides templates so you can specify default settings when creating new projects.

Complete context-sensitive help is provided along the way. Simply press F1 or the help button.

HS-Install uses Windows 95 style user interface to visually present information.

A complete tutorial is provided to get you up and running quickly.

Registration

In order to use HS-Install you must register your copy with Harrisoft Inc. The current registration fee is $49.95 + shipping and handling.

When payment is received you will receive a registered copy, and will be entitled to 90 days of Technical support.

To order by MasterCard, Visa, American Express, or Discover, call the Public (software) Library at 1-800-2424-PsL or 713-524-6394

or send your order by FAX to 1-713-524-6398 or
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Internet mail to 71355.470@compuserve.com.

The PsL product number is 14449.

You can also mail credit card orders to PsL at PO Box 35705, Houston, TX 77235-5705.
Please be sure to include your credit card number and expiration date on all credit card orders.
Harrisoft Inc. cannot be reached at the numbers above.

These numbers are for PsL, a credit card order taking service only.
Any questions about the status of the shipment of the order, refunds, registration options, product details, technical support, volume discounts, dealer pricing, site licenses, non-credit card orders, etc., must be directed to

Harrisoft Inc.

Email - support@harrisoft.mv.com
WWW - http://www.dnh.mv.net/ipusers/harrisoft

PO Box 132
Kittery ME, 03904-0132

Ordering by check: To order by check send the order form and a check to

Harrisoft Inc.
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Kittery ME, 03904-0132

To print the order form, click on Print Topic in the File pull-down menu. Alternately, you can print the ASCII text file ORDER.TXT. Payments must be in US dollars drawn on a US bank.

Installation and Setup

System Requirements

HS-Install requires the following
Windows 95, Windows NT 3.51, or Win32s ver 1.3 or higher.

Note:
You as the developer must use Windows 95,   Windows NT 3.51, or Win 32s (ver 1.3 or higher) as your development environment.

HS-Install can generate a native 32-bit (Windows 95)or a 16-bit (Windows 3.1x) setup program.

If you are currently running Windows 3.1x, make sure you have Win32s ver 1.3 or higher installed.

After you have verified that you are running a 32-bit operating system, run SETUP.EXE. The Setup Program installs HS-Install on your system in the directory you specify.

Files installed by HS-Install:

HSI.EXE	HS-Install executable
HSI.HLP	HS-Install help file
HSI.CNT	Help contents file
SETUP16.EXE	16-bit setup program
SETUP32.EXE	32-bit setup program version
HSUN32.EXE	32-bit uninstall program
HSUN16.EXE	16-bit uninstall program
REMOVE.PIF	PIF file for the 16-bit uninstall program
DEFAULT.HSI	default installation template
FILE_ID.DIZ	A brief description of HS-Install
README.TXT	any last minute information

Note: CTL3D32.DLL is placed in your Windows\System directory.

Uninstalling HS-Install

The installation program creates a program folder which contains a trash can icon labeled Uninstall HS-Install.   Double click this icon to remove HS-Install from your system.

Windows 95 Tip
You may uninstall HS-Install from the Add/Remove programs icon in the Control Panel.

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MISCELLANEOUS

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Working with HS-Install Projects

As you work in HS-Install your work is saved in an HS-Install project file with an extension of HSI.   Any number of projects may be saved, closed, opened, edited, and saved again.

To quickly start a new project
Double click the Project Wizard icon and follow the simple steps.

To save changes to a project
On the File menu, click Save.

To open an existing project

1. On the file menu, click Open.
2. In the Look In box, click the drive that contains the project you want to open.
3. Below the Look In box, click the folder that contains the project you want to open.
4. Click the project's name, or type it in the File Name box.

Tips
To save an existing project with a new name, click Save As, and then type a new name in the File Name box.

To open a project you opened recently, click its name at the bottom of the File menu. You can also double click any HSI file from Explorer or File Manager.

If HS-Install is already running, drag any HSI file to HS-Install.

Main Screen

The main screen contains icons which represent the components of your installation program.   Double click an icon, or select an icon and press enter to edit a component.

Project Wizard – A Wizard to get you started.

Application – Enter general information about your application, such as its name, the default installation directory, and background information.

Messages – Enter the text for the messages your user will see as the installation progresses.

Files - Specify the program files, dynamic link libraries, bitmaps, and other files to be installed.

Conditional Install - Allow your users to choose a Typical, Minimal or Custom install, so they can tailor the installation to their needs.

System - Specify any changes that the install program will make to the user's system, including the creation of program folders on the user's desktop, and the modification of system files.

Ending Commands - What do you want the install program to do when it is finished?   You can run your newly installed application or any other program, or you may wish to restart Windows, so any system changes will take effect.

Build Disks –This will generate your installation program, copy and compress all your files, and create the installation diskettes.

Test – Executes your setup program.   Use this to see exactly what your end user will see as your product is being installed.   This is not a demonstration, it is your actual install program.

Building a Sample Installation Program

As our example program, we'll be installing software to access a fictional on-line service, Harrisoft On-line.   Our program consists of the following files:

The main program and its help files
Modem setup files and access numbers
Menus and pictures to access the service
Demos of products from third party vendors that have a presence on the service

This is a bit more involved than what we can do with the Project Wizard.   For this exercise, instead of using the Project Wizard to build the basic project and then returning to the steps we need to change, we are going to follow all the steps manually.

Step 1

To start with step 1, double click on the **Program** icon.

On the **Main** tab, we type in **Harrisoft On-line** as the title and **C:\HOL** as the default directory.

For a **Background** we want to place the text **Harrisoft On-line** and make it look three dimensional.

To accomplish this, open Paint and type in Harrisoft On-line in a 28 point bold and italic Arial font.

Save the bitmap and Alt-Tab back to HS-Install.

Click the browse button and find the **Bitmap file** you just created.

Click the button labeled **3D (For text bitmaps only.)**.   (You have just created a text bitmap.)

Move to the Wizard bitmap tab.

The default for **Wizard Bitmap** is acceptable.   We leave it alone.

Because this fictitious example is free, we don't need to use the **Security** feature of HS-Install.

Click on the **Disks** tab.

We want something a little more professional for the disk labels.

Click on the **Edit** button.

Type in **Harrisoft On-line Disk 1 of 2**.

Click **OK** and then on **Add**.

Type in **Harrisoft On-line Disk 2 of 2**.

Click **OK**.

Step one is done; click on the **OK** button at the bottom of the window.

Step 2

Step 2 controls the **Messages** the user sees during the installation.

The **First Screen** is the first message that the user will see after running SETUP.EXE.   Typically, you'd use this to make a quick introduction of your program.

To edit this message, double click on the text **First Screen**.

You can change all or none of these messages.   However, if you are using the unmodified DEFAULT.HSI as your template, you'll want to change the first three messages and replace the <> symbols with your application name.

If you want to change the **Cancel** message, you probably want to end it in a question such as Are you sure? since the cancel message box contains a Yes and a No button.   If the user clicks Yes, the installation will terminate.

Step 3

The next step lists the **Files** that will be installed on the user's computer.   In addition to the files, this step also allows you to insert splash screens, commands to delete files, and commands to execute.

To make our lives easier, we've placed all of the source files under one directory.   The subdirectories are as follows.

Main directory	C:\HOL
The main program and help files	BIN
Modem setup files and access numbers	MODEM
Menus and pictures to access the service	MENUS
Demos of products from third party vendors that have a presence on the service	DEMOS

Click on the **File Manager** button.

In the File Manager, we find C:\HOL, click on it, drag it on to the HS-Install window, and release the mouse button.

HS-Install recognizes that you've dropped a directory and asks you if you want to set defaults for all the files in each of the directories.   This makes for very rapid installation development because you can set the file attributes for files on a per directory basis.   (In addition, if you had selected multiple files from different directories, you'd be prompted with the same screen.)

Because C:\HOL is empty, the first directory that HSI prompts you for is **C:\HOL\BIN.**

When asked if you wish to set defaults for this directory click on **Yes**.

Select **Copy File** from the popup menu.

You'll now see a settings window.   Because we've dropped a directory, the **Source File** and **Destination Directory** are preset and correct.   We don't care which disk these go on, so we leave **Source Disk** as **Automatic**.   We do, however, want to place these files in a subdirectory on the install disks.   This makes it easier for the end user to find SETUP.EXE, because they don’t have to search through all your files.

Type in **BIN** in the **Directory of the floppy** disk box.

Repeat this for MODEMS and MENUS.   Use MODEMS and MENUS respectively for the floppy directories.

Up to this point, we have not made any groups.   All of the files that we've installed are essential to the program's operation.   However, with the DEMOS directory we want to give the user the option not to install them.

When prompted for the settings for the DEMOS directory, type in DEMOS as the floppy directory.

Click on the **Group** button.

When the **File Groups** window appears, click on **Add**.

Type in **Demos** for the **Group Name** and **Demonstration software** for the **Group Description**.

Once you've finished, click on the **OK** button at the bottom of the screen.

Step 4

You should now be back at the main HSI window.

Double click on **Conditional Install**.

Because we've already created all the groups we need for this install, you can skip over the **Groups for setup options** tab.

Go to the **Typical install** tab.

We only need two options for this example. Either the user wants the demos or they don't. We are going to use the Typical install option for the full install and the Minimal option not to include the demonstration software. We are not going to use the Custom install.

Clear the checkbox labeled **I do not want a typical button**.

Type in **Full install** in the **Description for typical button**.

Click on the checkbox next to the **Demos** group in the **Groups to install** list.

Click on the **Minimal Install** tab.

Clear the **I do not want a minimal** checkbox

and type in **Minimal install - Demonstrations are not installed on your system**.

Do not select anything from the **Groups** list.

Click on the **OK** button at the bottom of the screen.

Step 5

The next step is to choose which, if any, system files (SYSTEM.INI, WIN.INI, private .INI files, AUTOEXEC.BAT, CONFIG.SYS, or the registry) your application needs to modify, and the name of the group or folder in which your program should be placed.

Double click on the **System** icon.

You are placed on the **Desktop folders** tab. If you are accustomed to Program Manager rather than Explorer, you would call these program groups. (Don't confuse this with the **Conditional Install** groups.) This is where the icon for your program is placed.

In the **Description** field, type **Harrisoft On-line**.

In the **Folder** field, type **Harrisoft On-line**.

(This is the Program Manager group name.) As you type folder names, they will be added to the drop-down box.

In the **Command** box, just click on the drop-down box and select **?D\HOL.EXE**.

All of the executable files you selected to install appear in this list. You are, however, free to enter any command.

Specify **?D** as the **Working Directory**.

You'll notice that all of the directories that your application creates are already present in the list.

The **Icon File** is the name of the file that contains the icon to use for this entry in the folder. For executables, just specify the name of the executable. In this case, type or select from the list ?D**HOL.EXE**. Usually the **Icon Number** is 0. Unless there are multiple icons as part of the executable or you are using an icon DLL, leave it as 0.

What icon file should be used for "readme" type files?

You don't need to specify any. For .TXT and .WRI files, Windows uses the icons of Notepad and Write or Wordpad, respectively.

You'll notice two checkboxes under the **Folder Items** list. We want to give the user the ability to install the program in to a different group from that which we have specified.

To do this, we check the field labeled **Allow user to change folder name.** We do not want them to stop the creation of this group, though. Clearing the **Confirm creation of folder**, will accomplish this.

Next, we need to create a few registry keys. Our fictional program uses one file type with the extension of .HOL. We want Windows to automatically launch HOL.EXE when someone double clicks on a .HOL file. To accomplish this, there are several registry keys that we need to add.

Click on the **Registration Editor** tab.

Click on the **Wizard** Button.

Select **Register a path**

Click Next.

Select ?D\HOL.EXE from the list, and click Finish

HS-Install just added the key
HKEY_LOCAL_MACHINE\SOFTWARE\MicrosoftWindows\CurrentVersion\AppPaths\HOL.EXE

Now if someone types HOL.EXE at any command prompt Windows will find HOL.EXE and execute it.

Click on the **Wizard** Button.

Select Register a file type

Click Next.

Enter .HOL as the **file extension**

Enter Harrisoft On-line for the **description**.

Select ?D\HOL.EXE from the list and click Finish
HS-Install just added 3 keys

HKEY_CLASSES_ROOT\.HOL
HKEY_CLASSES_ROOT\Harrisoft On-line
HKEY_LOCAL_MACHINE\SOFTWARE\Classes\.HOL

Now, when someone clicks on a file with the extension of .HOL, it will automatically launch our program.

We are done with the registry editor.

Move on to the **INI Files** tab.

Our example program Harrisoft On-line needs to know from which drive it was originally installed. We are going to have the setup program write this information in a private INI file.

To do this, click on **Add,** and fill in the following values.

File name	**?D\HOL.INI**
Section	**[Install]**
Key	**SourceDir**
String	**?S**

Note: For 32-bit programs, it is highly recommended that you don't waste disk space with private INI files. You should use the registry to store these values.

A an example of such a key might be:

HKEY_LOCAL_MACHINE\SOFTWARE\Harrisoft\Harrisoft On-line\Install\SourceDir
with a value of ?S

We do not need to make any changes to the AUTOEXEC.BAT or CONFIG.SYS. The modifications to these files are handled with a wizard and are not difficult to grasp. You should not have any problems following these wizards.

Note: Modifications to the AUTOEXEC.BAT and CONFIG.SYS are the only changes that will not be undone should the user uninstall the program.

Step 6

You are now on to the next to the last step - **Ending Commands**. In this step, you can specify any programs that should be run when the install program terminates. We want to run the Harrisoft On-line access program.

Click on **Add**.

The **Command** list will be filled with all of the executable files that were listed in the **Files** step.

You may type in any command line here, but in our case, all we have to do is select ?D\HOL.EXE.

Select ?D as the **Working directory** and **Normal** from the **Show** list.

In consideration for your users, try to avoid running your programs maximized. Many people find it annoying to have a program take over their entire screen. This is especially true with Windows 95.

If we made changes to the WIN.INI, SYSTEM.INI, AUTOEXEC.BAT, or CONFIG.SYS, we would have wanted to select Reboot computer or Restart Windows.

When you have finished, click on **OK** at the bottom of the window to return to the main HS-Install screen.

Step 7

Save your project at this time. (From the menu choose File|Save.)

Then click on **Build Disks**.

In the field **HS-Install will create disk images on**, you enter the destination directory for the setup program. You can either write to a floppy drive or a hard drive.

Select the **Operating System for the install program**.

The last field here is the **Description** that will appear under the uninstall program in the desktop folder .

Type **Remove Harrisoft On-line**.

Click on **Advanced**.

Unless you are creating the install program exclusively for hard drive or CD-ROM installations, you need to specify the size of the removable disks on which the program will ultimately ship. In most cases, you'll select **1.44 Meg**. If you leave this as automatic, you will wind up with one directory with all the files.

To entirely fill each floppy disk, select **Fill disks by splitting files**.

Since the modem configuration files are rather small, we'd rather not waste time by compressing them. In some cases, compressing small files results in larger *compressed* files.

Click on the spin control under the text **Do not compress files smaller than,** and select 1 kilobyte.

We don't have any files with similar names, so there is no reason to spend time checking for collisions that won't exist. Clear this checkbox if it is set.

The last option is the name of the setup program. In order to qualify for the Windows 95 logo, it needs to be SETUP.EXE. You should leave this alone.

Click on **OK**.

That is it!

Click on **Build** to create your install program.

Once HS-Install has finished, you will either have ready to ship floppy disks or floppy disk images on your hard drive ready to be copied to floppy disks for distribution.

To see your completed install program, click on **Test**.

Feel free to play with all of these settings. Everything that the setup program does can be undone with the uninstall program with the exception of modifications to the AUTOEXEC.BAT and CONFIG.SYS. (These files are backed up, though. You may always restore these back up files.)

Project Wizard - Step 1

The Project Wizard will guide you through the process of creating a new project.   You may edit the project after completing the Project Wizard.

The Wizard lets you specify a title, a default directory, a directory for your files, and a Desktop Folder.   When you choose Finish, the Wizard adds all the files in your directory to the project.

Project Wizard - Step 2

Enter a description for your application.   When you choose Finish, the Wizard replaces all the <> in the current template with this title.

Enter the default directory where you want your application installed.   The user may change this at runtime.

Project Wizard - Step 3

Choose Browse to select the directory where your files are located.   All files in this directory and in any subdirectories will be added to project.   You can later edit these selections from the Files icon.

Project Wizard - Step 4

Enter the name of a desktop folder in which to put all the executable program files. **All** executable files in your project will be added to this program folder. You can later edit or remove these from the System icon.

Project Wizard - Step 5

You have finished the five steps. Click Finish to complete the project. HS-Install will prompt you for some build options, and then for a project name so it can save your project.

Tip
When HS-Install has finished building your disks, click **Test** to execute your setup program.

Main

Program Description - The description for your program. The setup program uses this when displaying information to the user.

Default Directory - The directory where your program will be installed.   The user may change this at the beginning of the installation.

Readme

Readme File - If you want HS-Install to display a readme file, enter the path to the readme file here. Your readme file must be a plain ASCII text file.

If you leave this blank HS-Install will not show any readme file.

Background

Here you control the appearance of the main window in the setup program. You can choose from several options.

3D - A 3D effect is produced by drawing the bitmap twice on a blue background. This effect will only work with bitmaps of text.

Tiled Bitmap - Your bitmap will be tiled to fill the screen.

Use the bitmap to fill the screen - Your bitmap will be stretched to fill the screen.

Dithered blue - Varying shades of blue will fill the screen.

White - The widow will just have a standard background.

Bitmap File - Specify a bitmap to be used with the above styles. This may be left blank.

Preview - View a full sized sample of your bitmap and background.

Tip
Although HS-Install will load and display any bitmap, you must remember that your users might not have the same $700 video card, and 21 inch monitor. It is best to use standard 16 or 256 color bitmaps with simple palettes, and to test them on a low end machine.

If you use 256 color bitmaps for splash screens also, only one of the 256 color bitmaps will display correctly.

To create a different color background
Create a solid color bitmap for your bitmap file, and select **Use the bitmap to fill the screen**.

Wizard Bitmap

The setup program operates as a wizard, like many parts of Widows 95.   The left side of each step contains a bitmap.   You may leave this blank to use the standard computer bitmap; or for a custom look, choose any bitmap you like.

Disks

Here you control the dialog box which is displayed when the user is prompted to change disks.

Disk Change Title - Specify the title for the dialog box.

Disk Message - Create a message instructing the user to insert a new disk.

Labels - When another disk is needed, HS-Install will ask for it by name. So that you do not confuse your user, these labels should match exactly the labels you place on the disks.   These are just disk labels, not disk volume labels.

Sample labels might include:
Disk 1 - Install Disk
Disk 2 - Program Files
Disk 3 - Examples

Disk Labels

Enter the text for the disk label.

Security

HS-Install can implement rudimentary security for the installation. It is not intended to be totally secure, but it is enough for most users.

You may specify a **password** or a password prefix that the user must provide to install the software.

Message asking the user to enter a password. - This will appear above the box allowing the user to enter a password.

If you choose **Exact match** the user must enter the exact password.

If you do not want to specify a new password for each installation uncheck Exact match, and enter a password prefix. The setup program will accept any password, as long as it begins with your prefix.

For example:
Enter 001-4444-779 as the password

You can give each user a unique password:

User1	001-4444-779-001
User2	001-4444-779-002
User3	001-4444-779-003

and the setup program will accept any of the above. During the installation the macro ?P expands to the user’s password, so you can write it to an INI file if you wish.

Messages

There are five user messages that you may customize:

First screen - The first screen that appears. Enter a welcome message, and simply explain what the setup program is installing, and any changes it will make.

Choose Directory - The screen where the user is allowed to change the directory where the application will be installed.

Success - This message is displayed after the program has been installed successfully.

Cancel - If the user tries to cancel the installation, this message is displayed to confirm that they really want to cancel.   It should end with Are you sure?, or something similar.

Failure - This message is displayed if the installation is unsuccessful.

Edit Message

Here you specify the two parts to each message

Title - Specify the title for the box containing the message.

Message - Enter your custom message.

Select Files to be Installed

Specify the files to copy, bitmap splash screens to display, and any commands to execute during the install process.

Items - This lists the items that are part of your installation. They will be installed in the order in which they appear.

Show Path Names - Check this if you wish HS-Install to display the full path names of the listed files.

File Manager - Execute the File Manager or Explorer, so you can add files using drag and drop.

File Date and Time - Click here to set the date or the time of your files as the disk images are created.

Tips
You may change the order by dragging an item up and down with the mouse.

To remove more than one file, check the files you wish to remove and click Remove.

To add a file to the list, click on the Insert button, then from the popup menu choose the action for the file.

Double click on an entry, or click the right mouse button on a an entry to edit an entry.

The easiest way to add files is to use drag and drop from Explorer or File Manager. You can even drag an entire directory tree! If you drag an entire tree HS-Install will allow you to set defaults for each directory and subdirectory.

When you choose Insert a popup menu appears with five different file actions. Choose the appropriate action.

Copy File
Execute Command
Bitmap Splash Screen
Delete File
Hide Splash Screen

Copy File Action

Copies the **Source File** to the **Destination Directory**. The Destination Directory should contain a macro.

Source Disk - Leave this as automatic, and your files will be copied to the disks in order. If this file must be placed on a specific disk, choose that specific disk.

Directory on the floppy disk - HS-Install can create any number of subdirectories on the distribution media. It is easiest for the end user if he or she can look at your first install disk with Explorer and quickly find SETUP.EXE By placing your files in subdirectories you make it much easier to find SETUP.EXE.

Type or select a directory name such as FILES, or DATA, or whatever you like. Do not include a drive specification.

Overwrite

Older Overwrite an existing file if the existing file is older. (This is why it is not a good idea to change the file dates.)
Never Do not overwrite any existing file. If the file does not exist, then the file is simply copied.
Always Any existing file will always be overwritten.
Ask If the file already exists the user will be asked if it may be overwritten.

Compress - Compress the file as it is copied to the installation diskette.

Read-only - Set the file's attributes to read-only (+R).

Increment the file's reference count (for shared files) - Check this box if you wish HS-Install to increment this file's reference count when it is installed.

Group - This only appears during drag drop operations. When you drop an entire directory, or a group of files, Group allows you to specify a group for conditional install.

Execute Command Action

Command - The command line that you wish to execute.   This should contain a macro.

Example: Wordpad ?D\README.TXT

Show - Specify the initial window size and position for the command.

Note:
Only Windows programs and PIF files will accept the initial size and position.

Working Directory - Set the current directory for the command when it is run.

Bitmap Splash Screen Action

Displays the bitmap file on the user's screen.   The bitmap is displayed until another bitmap is shown, or until the Hide Splash Screen choice is executed.

Delete File Action

This file will be deleted from the user’s system if it exists.

Hide Splash Screen Action

The action removes the current bitmap from the user's screen.

File Date and Time

As HS-Install is creating the disk images it can set the date and time of each file.   It is recommended that you do not change file dates, since many install programs use the file date to prevent older files from overwriting newer files.

Most vendors use the file time for version stamping.   For example 2:01 would indicate version 2.01.

Uncheck **Do not set the date** if you wish to set the date, and enter a date for all the files.

Uncheck **Do not set the time** if you wish to set the time, and enter a time for all the files.

Tip
Enter the time in 24 hour format.

Conditional Install

Here you create groups of files from which your user can choose for a multi-component installation.

Standard groups might include:
Help Files
Examples
Templates

Tip
You may set a group for an entire directory when you drag a directory to the files list.

Select Files for Group

Enter the group name and its description, then check the files that you wish to include in the group.

Tips
Files may belong to more than one group.

If you have files that are essential for your program to run, do not make those files part of a group, and they will always be installed.

Typical

If you choose, the setup program will present the user with up to three installation options.

These are usually Typical, Minimal and Custom,   but you are free to choose any names you wish.

Check **I do not want a typical button** if you do not want to give your users this choice.

Description - Enter the description for the button.   Usually Typical, but you could say average user, or whatever you like.

Groups to install - You must first create conditional install groups, such as Examples, Help files, and Templates, then check the groups you wish to install when the user chooses this setup option.

Minimal

If you choose, the setup program will present the user with up to three installation options.

They are usually Typical, Minimal and Custom,   but you are free to choose any names that you wish.

Check **I do not want a minimal button** if you do not want to give your users this choice

Description - Enter the description for the button.   Usually Minimal, but you could say laptop, compact, CD-ROM,   or what ever you like.

Groups to install - You must first create conditional install groups, such as Examples, Help files, and Templates, then check the groups you wish to install when the user chooses this setup option.

Custom

The last choice in a multi component installation is Custom.

Check **I do not want a custom button** if you do not want to give your users this choice. Custom will allow the user to selectively install all groups of files you have created.

Description - Enter the description for the button.   Usually Custom, but you could say advanced, or whatever you like.

Desktop Folders (Program Manager Groups)

Specify the desktop folders to create, and the icons to add to these folders.

Allow user to change folder name - Check this if you wish to allow the user to place the icons in a folder different from the folder you specify.

Confirm creation of folder - Check this if you wish to confirm the creation of desktop folders with the user.   Otherwise the folders will be created automatically without confirmation.

Desktop Folder Item

Description - Enter the text that will appear in the folder under the icon.

Folder - Specify the desktop folder (Program Manager group) in which to place the item.   Either enter a folder name or select one from the list of folders.

Command - Enter the command that will execute when the user double-clicks the icon.   This should contain a macro. For example, it could be:

?D\YOUR_PROGRAM.EXE ?D\DATA\DATA.DBF

Working Directory - Specify the working directory for the command.   If left blank it will default to the directory in which the command is located.

Icon File - Specify which file contains the icon you wish to display on the user’s desktop.   Leave it blank for Windows programs.   This is only needed for DOS programs that do not have icons.

If you specify an EXE or DLL different from the command, that EXE or DLL must be installed on the user's system. The EXE or DLL should refer to an EXE or DLL on the user’s system.

Icon Number - Windows uses the first icon in the EXE by default.   If you wish to use an icon other than the first one, enter the number of the icon, starting with 0.

Note:
If you place a non-executable file in a group, Windows will show the icon of the registered file type.   For Example: README.TXT will show the NOTEPAD icon.

Modifying System Files

Your setup program can modify the user's CONFIG.SYS, AUTOEXEC.BAT, WIN.INI, and SYSTEM.INI, although your installed application should not rely on these files.

In the **Win32** SDK documentation Microsoft specifically states that:

Windows no longer requires AUTOEXEC.BAT and CONFIG.SYS files. Ensure that your application also does not require these files. Because the system now supports loading device drivers when the application starts, they no longer need to be loaded through CONFIG.SYS when starting the system. Similarly, because the registry allows you to register your application paths, your application does not require path information in AUTOEXEC.BAT.

In addition, do not make entries in WIN.INI. Storing information in this file can make it difficult to update or move your application. Instead, use the registry. The registry provides conventions for defining the location for most application and user settings. If you have additional information that you do not want to put in the registry, you may create your own .INI file in your application's System directory.

Note:
The above paragraphs apply to 32-bit programs.   16-bit programs may still have to modify system files.

What is the Registry?

The registry in Windows 95 is a tree structured database used to store system and application information. You should use the registry to store your information and settings, instead of using WIN.INI, SYSTEM.INI, CONFIG.SYS or AUTOEXEC.BAT.

HS-Install automatically registers the uninstall program so that your program can be removed with the Add/Remove programs in the Windows 95 Control Panel.

Your installation program should add information about your application to the registry. In particular, it should always add the following entries:

HKEY_LOCAL_MACHINE\SOFTWARE\CompanyName\ProductName\Version
Store information pertaining to this particular copy of the application here.

HKEY_CURRENT_USER\SOFTWARE
Store user preferences on a per-user basis here. This is information that application vendors previously stored in the WIN.INI file. For example, Word for Windows might store the fact that a user wants the autosave feature turned off here.

Your installation program should always add per-application paths to the registry for your application. If your program registers a path, Windows sets the PATH environment to be the registered path when it starts your application. Your program sets the path in the **HKEY_LOCAL_MACHINE** root under the **\SOFTWARE\Microsoft\Windows\CurrentVersion\AppPaths** key.

Fortunately HS-Install provides a Wizard to help you add these common keys.

Your program must create a new key having the same name as your application's executable file. Under this new key, it creates the **Path** value name and assigns it a path using the same format as expected by the PATH environment variable.

The following example shows application-specific paths for Excel.Exe.

```
HKEY_LOCAL_MACHINE
  SOFTWARE\Microsoft\Windows\CurrentVersion\AppPaths\Excel.Exe
        Default=D:\Program Files\MS Office\Excel\Excel.exe
        Path= D:\Program Files\MS Office\Excel\Excel.exe;D:\Program Files\Common Files\MS          Office;
```

In the preceding example, the **Default** value specifies the full path to the corresponding executable file. This value is typically used by Windows in the Start Run command. If the user types the name of your application but Windows fails to find it in the current path, Windows uses this value to locate and start your application.

Editing the Registry

HS-Install provides an editor similar to Regedit which allows you to add registry keys and values.

To add the most common keys
Click the Wizard button, and simply follow the steps.

To add a key

1. Open the registry list to the place where you want to add the new key.
2. Use your right mouse button to click on the place where you want to add the new key.
3. Click New, and then click Key. The new key appears with a temporary name.
4. Type a name for the new key, and then press ENTER.

To add a value

Open the registry list to the place you want to add the new value.

1. Use your right mouse button to click the place you want to add the new value.
2. Click New, and then click the type of value you want to add: string, or DWORD.
3. The new value appears with a temporary name.
4. Type a name for the new value, and then press ENTER.

To edit a value

1. Double-click the value you want to change.
2. In the Value Data box, type the new data for the value.

To delete a key or value

1. Find the key or value you want to delete. You do not need to open it.
2. Use your right mouse button to click the key or value, and then click Delete.

You cannot delete the predefined keys.

To rename a key or value

1. Find the key or value you want to rename. You do not need to open it.
2. Use your right mouse button to click the key or value you want to rename, and then click Rename.
3. Type the new name, and then press ENTER.

Notes:

Windows 3.1x can only use the default value for each key. Any other entries will create subkeys.

For Binary values you can use Regedit to export a key to a REG file.   Then during the install execute REGEDIT   /s YOURKEY.REG

Registry Wizard

The Registry Wizard is here to guide you through the process of creating the most common registry keys under Windows 95 and Windows NT 3.51.

Select the type of key to create and click Next.

Registry Wizard - Register path

This value is typically used by Windows in the Start Run command. If the user types the name of your application but Windows fails to find it in the current path, Windows uses this value to locate and start your application.

You no longer need to add your application to the PATH statement in the AUTOEXEC.BAT.

Choose the executable you wish to set the path for, and click Finish.

Registry Wizard - Extension and Description

Here you can register a file type, and its description.

Windows uses this to launch your application if a user double clicks on a file in Explorer.

Enter the extension you wish to register, such as .DOC.

Enter the description, such as Word Document.

Select the executable you are installing that uses this file type.

Then click Finish, and the Wizard will add all necessary keys.

Edit Registry String Entry

Enter the name for the value, and its corresponding data.

Edit Registry DWORD Entry

Enter the name for the value, and its corresponding data.

Editing and Creating INI Files

HS-Install can create, modify and add to any INI file.

Click Add to add an entry to an INI file.

Edit INI entries

Each entry in an INI file consists of the following.

```
[SECTION]
                    KEY=KEYVALUE
```

File name The name of the INI file.   You will need to use a macro here.

Section The section of the INI file , such as   [386 Enhanced]

Key Entry under the section

Key value The data for the key

for WIN.INI select ?W\WIN.INI

for SYSTEM.INI select ?Y\SYSTEM.INI

AUTOEXEC.BAT

HS-Install can make any changes to your user’s AUTOEXEC.BAT.

To make a change click Add, and then follow the Wizard.

Auotexec Wizard

HS-Install provides easy options for adding entries to AUTOEXEC.BAT.

Check the type of modification you wish to make, and click Next.

Auotexec - Path

Choose one of the program files in your installation.   Your setup program will then add this program file to the user’s path statement.

Autoexec - Add Line

Enter any text that you wish to add to the user’s AUTOEXEC.BAT.   Any macros will be replaced before the line is added.

CONFIG.SYS

HS-Install can make any changes to the user's CONFIG.SYS

To make a change click Add, and the Wizard will guide you.

Config.sys Wizard

Check the type of change you wish to make to the user’s CONFIG.SYS, then click Next.

Config.sys - Set Values

Enter the data to set the pre-defined values in the users CONFIG.SYS, then click Finish.

Config.sys - Add Line

Enter any text that you want added to the user's CONFIG.SYS. Any macros will be replaced before the line is added.

Ending Commands

Commands - The most common use for this is to execute the program that was just installed, or to show the user a README file. You may execute any number of commands after the install program has terminated.

Restart Windows - Windows will be restarted after installation is complete. This is usually used if your program makes changes to system files.

Reboot Computer - The computer will be rebooted after installation is complete. This is usually used if your program makes changes to AUTOEXEC.BAT or CONFIG.SYS.

To add a command
Click Add and select the command you wish to add.

Tip
You can change the order of items in the list by dragging them with the mouse.

Execute Command at end

Command - Any executable program.   This should contain a macro.

Show - Specify the initial window size and position of the command.

Note:
Only Windows programs and PIF files will accept the initial size and position

Working Directory - Set the current directory for when the program is run.

Build options

Enter the path where you would like HS-Install to build the disk images.   You can enter a floppy drive such as A:, or a directory on your hard disk. HS-Install will create the directory if it does not exist. Use the browse button to choose a location.

Operating System - Choose your target operating system.   This is the operating system which your users are running.

Note:
A 16-bit setup program will run on all supported versions of Windows(16-bit or 32-bit).The 32-bit setup program will only run on the 32-bit versions.

Description for the uninstall program - Enter the text that will appear under the Uninstall icon in the desktop folder.   If you leave this blank, HS-Install will not generate an uninstall program.

Advanced - More advanced build options.

Advanced Build Options

Disk Size - Only use this if you need to specify a media size when making images on a hard disk. You do not need this option unless you are making images on a hard disk. Leave it as automatic, unless you are making images on your hard disk.

If you do want to make images on your hard disk, choose the size of your final distribution media. HS-Install will make subdirectories Disk1 Disk2, etc., that will be the exact size you choose, so you can later copy them to floppy disks.

Fill disks by splitting files - Check this and HS-Install will fill each floppy disk to capacity by splitting the last file on each disk.

Do not compress files that are smaller than - Compressing small files may not save disk space, and it slows down the setup program. Select a size, and HS-Install will not compress files that are smaller than the size you select.

Try to check for name collisions before making disks - Since it is impossible to know the size to which a file will compress, HS-Install does not know on which disks to place your files until it actually starts the process. When it finds a collision, you must take action to correct it. Check this box if you want HS-Install to show all **possible** collisions before making the disks.

Setup Name - Enter the name for your setup program. SETUP.EXE is the standard which Microsoft requires for their Windows 95 logo. You may choose any name you wish.

Macros

Any text that you enter into HS-Install may contain a macro. Once the user specifies the installation directory the macros are replaced with their actual values. Do not hard code in directories, such as C:\TEST. If you do, and the user changes the install directory to D:\NEWDIR, then your install program will not work properly. Instead you should use the macros.

HS-Install Macros are

?D	the default directory
?W	the Windows directory
?Y	the Windows system directory
?S	the source directory
?P	the user's password
?F	on Windows 95 the Program Files directory otherwise C:

You can use these macros in directory names, file names, labels, messages, etc.

?D\EXAMPLES will expand to be:
C:\HSI\EXAMPLES

assuming that C:\HSI is the directory where HS-Install is installed.

Formatting a Floppy Disk

HS-Install will erase a floppy disk with your confirmation, but it cannot format a floppy disk. If your disks are not formatted, you may either:

1. Format them before making disks with Explorer or File Manager.
2. When HS-Install asks for a new disk, Alt-Tab to the File Manager or Explorer, and format the disk. Then Alt-Tab back to HS-Install and continue.

Windows 95 and NT tips:
DMF is a new disk format that allows 1.72 megabytes on a standard HD 3.5 disk. Windows 95 and Windows NT recognize this new format without any special drivers. If you are sure that your users are using Windows 95 or Windows NT 3.51, then you may reduce the number of floppy disks needed by using DMF format.

Windows 95 and NT do not give you the option to format DMF disks. However, there is a shareware program called Winimage which will format them. It is available on CompuServe and over the Internet. Search for version 2.20 or higher.

Windows 3.1x does not support DMF without special device drivers.

HS-Install fully supports DMF format disks.

To install a file in the root directory

Specify \ as the destination directory.

To create a higher level directory

Instead of specifying ?D\ in the directory name, use \ for the root, and then the directory name such as FILES. So you would type in \FILES.

Using splash screens to impress your users

While the install program is running, most users are a captive audience. Why not take this time to do a little advertising? Microsoft, Symantec, and Borland do, and so should you. When you are installing most large products, every few minutes a new splash screen appears outlining new features, giving hints, or asking the user to register the product. With HS-Install this is simple.

To add a splash screen
In the files list, click Insert, and then choose Splash Screen. Select any bitmap with the Browse button.

To create a splash screen
You can use any bitmap editor to create a splash screen. Examples include Microsoft Paint, Appstudio, Resource Workshop, and Corel Draw.

Running DOS programs

HS-Install can execute any type of program during or after the installation process.   With Windows programs you can specify that the program is to run maximized, minimized, or normal. A   DOS program normally ignores these parameters.

To control properties for a DOS program
You must use PifEdit to create a PIF with the same name as the DOS program.
Have the install program copy the PIF to the same directory as the DOS program, and then execute the PIF from HS-Install.

Note:
PifEdit doesn't ship with Windows 95.   To create a PIF, you need to create a shortcut on your desktop for each DOS EXE, BAT, or COM. .   This automatically creates a PIF which is located in the Window\Desktop folder. You can rename this PIF to whatever you like.

The Setup Program

Your custom setup program consists of either a copy of SETUP16.EXE or SETUP32.EXE, and the corresponding INF file. The binary INF file contains all the information specific for your program.   If you try to edit the INF file, you will have to rebuild your setup program.

Your complete setup package includes:
SETUP.EXE
SETUP.INF

Additionally for the uninstall program
HSUN32.EXE or HSUN16.EXE

For the 16-bit uninstall program a PIF file is necessary
REMOVE.PIF

If you choose to update AUTOEXEC.BAT or CONFIG.SYS a DLL is needed
EDITSYS.DLL

The Uninstall Program

The uninstall program uses the same INF file as the setup program to reverse the setup process.

Before removing any shared file, HS-Uninstall will confirm that the file should be deleted.

Changes made to AUTOEXEC.BAT and CONFIG.SYS cannot be undone, although changes to the registry and to INI files are undone if possible.   (These files are backed up, though, and   you may always restore these back up files.)

HS-Uninstall will also ask the user if he of she wishes to remove the install directory and all of its subdirectories.

If you choose to create an uninstall program, HS-Install adds a trash can icon to your first program folder.   Your users can double click this icon to remove your program from their systems.

Windows 95 Tip
Users may also uninstall your program from the Add/Remove programs icon in the Control Panel.

Settings and Templates

How do you set defaults for an install program, so that you don't have to re-create all your messages and settings every time you start a new project?   The answer is a template.

A template is used as a model for creating projects.   When you create a new project, HS-Install uses the current template as the basis for the new project. Templates are only used during the creation stage of a new project.

A template is nothing more than a project without any files.

The default template is DEFAULT.HSI.   You can modify DEFAULT.HSI with HS-Install, just like any other project, or you can create and specify a new template.

To create and use a new template

1. Create a project, edit all the settings you wish to change, and save it.
2. From the settings menu select your new project as the template.

Ask about reference counts on shared files - Check this and HS-Install will try to warn you if you are installing a shared file without incrementing its reference count.

File Compression

File compression is a process that reduces the size of a file by minimizing redundant data.

HS-Install uses compression technology compatible with Microsoft Compress. Files are typically compressed in an installation program to reduce the number of distribution diskettes.

If all the files you are installing will fit on one diskette uncompressed, then it is better that they not be compressed because of the time it takes to expand them.   It is also easier for the user to install individual files if they do not have to manually expand them.

You may set a minimum file size for compression so HS-Install will not compress files smaller than the size specified.   This will save time and possibly disk space. Set this option when you choose **Build Disks**.

When HS-Install compresses files the last letter of the extension is changed to an underscore.   This can cause name collisions if you have many files with similar names and extensions.

DATA.DBF -> DATA.DB_
DATA.DBT -> DATA.DB_

If this happens HS-Install will notice, and then allow you to correct it.

To correct the collision:
1. Specify a different subdirectory on the floppy disk for one file.
2. Specify that one of the files is not to be compressed.
3. Specify that one of the files should be placed on a different disk.

Splitting Files

To completely fill each disk, HS-Install is able to split the last file on each disk.   The split file is then continued on the next disk.   HS-Install changes the extension of this continued file to ~01, ~02, ~03, etc.   During the installation process the file is re-assembled and then installed as normal.

These files may be put back together manually with the DOS copy command.

For example:
Disk 1
PAINT.EXE
HSI.EXE

Disk 2
HSI.~01
WORDPAD.EXE

In this example, HSI.EXE was split across Disk 1 and Disk 2.   If you concatenate HSI.EXE and HSI.~01, then the result is the original HSI.EXE

Split files can be concatenated with the copy command

```
copy /b HSI.EXE + HSI~01   C:\FILES\HSI.EXE
```

where the /b is for binary.

Disk Images

We use the term images because when you have selected a hard drive as the target, HS-Install makes a complete copy, or image, of what will be placed on each floppy disk.

HS-Install will generate the install program on floppy disks, but this will slow down your development process.   Instead you can tell HS-Install to generate the images on your hard disk.

If you specify a disk size then HS-Install will create a subdirectory on your hard disk for each floppy disk. These may then be copied onto floppy disks and distributed. Each image will exactly fill a floppy disk.

Known problems in Windows 95

We have found a few problems in Windows 95 that may affect your installation.. These have been reported to Microsoft, but remain unresolved.

For 32-bit installations only:
The Windows API function VerInstallFile used for installing files does not work with long file names in Windows 95, although it does work in Windows NT 3.51. In Windows 95 it fails when passed a long file name.

The best advice is to avoid using long file names in your installation.

For 16-bit installations only:
If you choose to make a 16-bit setup program, and you execute a 32-bit program during the install process, the setup program will hang.

This does not happen with Windows 3.1, 3.11, Win32s or Windows NT. If you must execute another program from a 16-bit setup program, make sure the program that you execute is also a 16-bit program.

To make sure you are executing a 16-bit program
Install the program to execute with the copy action before executing it.
Do no assume that notepad is a 16-bit program.

Long File Names

Both HS-Install and the 32-bit setup program fully support Windows 95/ NT long file names.   Names may be up to 255 characters long. If any of your users use Win32s, do not use long file names in your installation.

Please see the topic Known Problems in Windows 95 before using long file names.

Win32s

Win32s is a set of DLLs and a VxD which allow Win32-based applications such as HS-Install to run on top of Windows 3.1 or Windows for Workgroups.

If you do not own Windows 95 or Windows NT then to develop with HS-Install you must install Win32s. Again, as a developer you need a 32-bit operating system. The users of your install program do not.

HS-Install will generate a 16-bit or a 32-bit install program. The 32-bit version requires Win32s or Windows 95 /NT. The 16-bit version does not require Win32s.

How do I get Win 32s?
Microsoft has it available at ftp.microsoft.com. It is also shipped with most 32-bit compilers, and many application development systems. You must use version 1.3 or higher.

Some Guidelines for a well-behaved install program.

Microsoft is trying to standardize software installation. They have published a document entitled ***Windows 95 Application Setup Guidelines for Independent Software Vendors***. This article is included in the SDK documentation. It may help you when you are creating your install program.

This article describes a standard set of guidelines for installing applications on the Microsoft Windows 95 operating system. The purpose of these guidelines is to encourage all application developers to support the same general method of installation for all applications. The prime benefit is to users, many of whom have said they prefer a consistent installation method so that they do not need to learn a different method with each new software purchase. These guidelines also benefit the application developer by helping to standardize the organization and management of application files, thereby making initial installations, updates, and application removals easier.

Some of their recommendations include:

Store private initialization (.INI) files in the application directory if the application is running locally.

Do not copy files to \WINDOWS or \SYSTEM directories. If you include fonts with your application, you should put the fonts in the Fonts folder.

Name your installation program SETUP.EXE.

Do not write to WIN.INI, SYSTEM.INI, AUTOEXEC.BAT or CONFIG.SYS.

Your installation program should keep track of shared DLLs. When installing an application that uses shared DLLs, it should increment the use counter for the DLL in the registry. When removing an application, it should decrement the use counter. If the result is zero, the user should be given the option of deleting the DLL. The user should be warned that other applications may actually use this DLL and will not work if it is missing.

HS-Install can provide all these

Technical Support

Harrisoft is run by software developers dedicated to our customers.

If you should have any problems you may reach Harrisoft via:

Email - support@harrisoft.mv.com
WWW - http://www.dnh.mv.net/ipusers/harrisoft

US Mail -
Harrisoft Inc.
PO Box 132
Kittery ME 03904-0132

As always your comments and suggestions are welcome and encouraged.

Wizard

A wizard is a series of presentations or pages, displayed in a secondary window, that helps the user through a task.

Shared file

The file you were editing appears to be a shared file. Click Yes if you wish HS-Install to use referencing counting on this file.

Don’t display this message again. Check this, and HS-Install will not ask you again for files that appear to be shared. This option can be turned on or off in the settings dialog box.

Reference counting

Microsoft has a new scheme for dealing with shared files. (Files that are used by more than one application, such as VBRUN300.DLL.) Setup programs that install these shared files can create a counter in the registry. Every new application that is installed and uses this file increments the counter. When programs are uninstalled they decrement this counter, and if there are no more references to this shared file, then they provide the option to delete the shared file.

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