Customizer Plus™

Reference Manual
Mac OS and Windows Versions

Customizer Plus
Version 6.0 for Mac™ OS and Windows®

IMPORTANT LICENSE INFORMATION

Use of this Software is subject to the ACI Product Line License Agreement, which is provided in electronic form with the Software. Please read the ACI Product Line License Agreement carefully before completely installing or using the Software.

Contents

Table of contents

Chapter 4   Customizing 4D Applications 23

Chapter 5   Customizing a Preferences File 45

Chapter 6   Customizing a Database 47

Preface

Customizer Plus Version 6 is an application that enables you to set general parameters of 4D Version 6 applications and their environments—plug-ins, development tools, network components, tools, and database. The use of Customizer Plus is not mandatory, it provides solutions for developers who may want to manipulate specific aspects of their work environment.

About this Manual

This manual introduces Customizer Plus and describes how to customize files and applications of 4D environment.

Cross-Platform Considerations

This manual explains the use of Customizer Plus on both the Windows and Mac OS (Macintosh and Power Macintosh) platforms. Although the concepts and functionality of both versions of Customizer Plus are nearly identical, the manual addresses any differences where necessary. Such differences may include the graphical user interface and keyboard commands.

The screen shots in this manual illustrate Customizer Plus in the Windows 95 environment. The two versions of the same screen are only presented if there are any major differences between them.

Chapter Descriptions

This manual is divided into the following chapters:

- Chapter 1, "About Customizer Plus," provides an overview of the application.
- Chapter 2, "Customization Strategy," explains how to customize files and applications of the 4th Dimension environment.

- Chapter 3, "Using Customizer Plus," describes basic operations that will allow you to customize files.

- Chapter 4, "Customizing 4th Dimension Applications, describes the parameter groups involved in customizing a 4D application.

- Chapter 5, "Customizing a Preferences File," describes the parameter groups involved in customizing Preferences file settings.

- Chapter 6, "Customizing a Database," describes the parameter groups involved in customizing a database structure file.

- Chapter 7, "Customizing Plug-in Files," describes the parameter groups involved in customizing Plug-in files on the Macintosh.

- Chapter 8, "Customizing Network Components," describes the parameter groups involved in customizing network components installed by 4D Server and 4D Client.

Conventions

This manual uses certain conventions to help you understand the material.

The following explanatory notes are used:

Note Text emphasized like this provides annotations and shortcuts that will help you use 4th Dimension more productively.

4D Server Throughout the manual, 4th Dimension and 4D Server/4D Client are referred to simply as 4th Dimension. Differences between the operation of the two products are explained in 4D Server notes, which provide information about using 4D Server/4D Client. This information is provided only when the operation of 4D Server/4D Client differs from that of 4th Dimension.

Notes like this alert you to important pieces of information and alert you to situations where data might be lost.

1 About Customizer Plus

Customizer Plus Version 6 is an application that enables you to set general parameters of 4D Version 6 applications and their environments—plug-ins, development tools, network components, tools, and database. Customizer Plus runs on the same platforms and operating system versions as do 4D applications.

The use of Customizer Plus is not mandatory—it provides solutions for developers who may want to manipulate specific aspects of their work environment.

From a developer standpoint, it is possible to optimize memory management, restrict the use of a data file to a specific structure file, adapt an application to the characteristics of the operating system on which it is executed, and localize 4D applications in order to run it on, for example, Arabic or Japanese operating systems.

Developers can provide Customizer Plus to their customers, who will then be able to optimize the use of their database, whether it is compiled or interpreted, in relation to their software and hardware environment.

Users will appreciate the ability to customize interface elements such as window locations and dimensions, keyboard shortcuts, and the form appearance.

Applications and Files

Customizer Plus allows you to customize a number of applications and files:

Applications

- 4th Dimension

- 4D First

- 4D Engine

- 4D interpreted Runtime

- 4D Runtime Classic

- multi-user applications such as 4D Server and 4D Client

- Plug-ins located in the MAC4DX and WIN4DX folders, such as 4D Write, 4D Draw, 4D Calc, 4D Backup, etc.

- Applications that belong to 4th Dimension environment, such as 4D Compiler, 4D Insider, etc.

Files

- Preference files of 4D applications

- 4D database structure files (interpreted or compiled)

- 4D First database structure files

- Compiled databases integrated in a 4D Engine

- 4D database data files

- 4D First database data files

- Network component files (ADSP.opt, TCP.opt, IPX.opt, etc.)

- External routines files (Mac OS only)

Note Parameters that can be customized in 4D environment applications (4D Compiler, 4D Insider, plug-ins, and so on) are described in their respective manuals.

2 Customization Strategy

Customizer Plus enables you to customize files and applications of the 4D environment. Some parameters can be set in a structure file, in an application file, or in preferences files.

Some customizable files and applications are used jointly. For example, when using a 4D database, you simultaneously use a structure file, a data file, a 4D application and its preferences file.

You will also notice that some parameters can be customized in a structure file, in a 4D application and in the application preferences file. For instance:

■ Parameter groups such as Keys, Window (screen), and Preferences can be set in a structure file or in an application file.

■ Main memory for Microsoft Windows can be set in the following parameter groups: 4D applications preferences, Structure file preferences and Main memory of the 4D applications preferences file.

When the same parameter group exists in several applications or files that are being used jointly, only one of their settings is taken into account.

The order of priority is:

1. Preferences file

2. Structure file

3. 4D application

Note For some parameters that can be customized in database structure files, the setting will only be taken into account when the structure is integrated in a 4D Engine (Stack size and Windows Main memory).

General Example: Keys Parameter Group

► To apply the Keys parameter group settings to all the databases located on your machine:

Set all the 4D applications used on this machine and leave the structure files parameters unchanged.

► To apply the Keys parameter group settings to specific databases:

Apply the settings to the structure files of these databases.

Parameters Customized in the Structure File

Some parameters that can be customized in the structure file are only used for integration to a 4D Engine (stack size and Windows main memory of the Preferences resource).

Isolated case: Windows Main Memory Parameters

Windows main memory parameters, as they are defined in the Preferences parameter group of 4D applications or executable, are only taken into account when the Preferences file of the application is first created. The Preferences file is created at the first use of the 4D application or the executable. This action then defines the values of these parameters, and stores them in the Preferences files.

► To apply the main memory setting to all 4D applications and databases located on your machine:

Set this parameter group in the Preferences files of the applications located on the machine.

► To apply the main memory setting to a specific application to be run on any platform:

Set the structure file or engine file that will be used for the creation of the application.

Note If an EngV6Prf.RSR file is already on the machine on which the application will be executed, its settings will be taken into account. You can either modify its settings using Customizer Plus or delete it. If you delete it the 4D application or executable will create a new Preferences files with the proper settings.

► **To apply the main memory setting to all the databases used with a specific 4D application:**

Only set the Preferences file of this application.

3   Using Customizer Plus

This chapter describes basic operations that will allow you to customize files.

Correct Configuration

Customizer Plus Files

On Windows, the Customizer Plus folder includes mandatory and optional files:

Mandatory Files	Optional Files
custo.exe	Custo.hlp
custo.rsr	Custo.gid
Asifont.fon	
ASINTPPC.DLL	
Asiport.rsr	
QTDP32.dll	

Custo.hlp provides on-line help when available.

Custo.gid is created by the Windows operating system when Customizer Plus on-line help is launched for the first time.

Customizing an Application or a File

On Windows, Customizer Plus can open files or applications as long as the two following rules are respected:

- File "groups" are located in the same folder and have the same prefix. The following table lists the groups:

	Windows	Macintosh
Structure file	DataBase.4DB	Base
Interpreted	DataBase.rsr	
Compiled Structure File	DataBase.4DC	Base (or Base.comp)
	DataBase.rsr	
Executable	DataBase.4DC	Base (or Base.comp)
	DataBase.EXE	
	DataBase.rsr	
Data file	DataBase.4DD	Base.data
	DataBase.4DR[1]	
Application	Appli.EXE	Appli
	Appli.rsr	
Preferences file	xxxV6Prf.RSR	xxxV6Prf
Plug-ins	PlugIns.4DX	PlugIns
	PlugIns.rsr	
Network component	Comp.opt	Comp.opt

1. The .4DR file is not mandatory; it is created by 4D applications and contains information specific to the data file, such as the Wedd signature, the log file pathname or information related to backup operation.

- Preferences files of 4D applications and network components are located in the current *Windows folder\ACI*. On the Macintosh, these files are located in the ACI folder in the Preferences folder of the system folder.

Before starting your customization, it is wise to keep a copy of the groups of files (indicated above). You will then be able to reuse the former settings by copying the backup files.

Running Customizer Plus

▶ To launch Customizer Plus:

■ **Double-click the Customizer Plus icon (custo.exe on Windows),**
or
Select the Customizer Plus icon and then select Open in the File menu.
The Customizer Plus window is displayed.
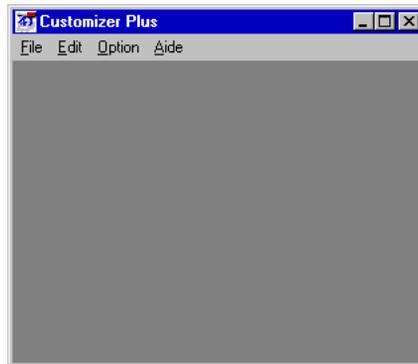
File Menu

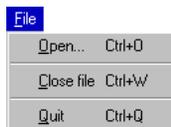The File menu allows you to open the files you want to customize, to close them, and to Quit Customizer Plus.

Opening a File

▶ To open a file

■ **Select Open in the File menu.**

A standard Open File dialog (for your operating system) is displayed.

For example, if you select 4th Dimension and click the Open button, the following window is displayed.

The main window consists of two main parts. The upper part displays the type and the name of the opened file as well as the Choose menu.

The pop-up menu displays the list of plug-ins installed in the application or file opened. When you select an element in this menu, the main window of the element is then displayed.

Note On the Macintosh, if you open an external routine file, this menu displays as many elements as there are installed.

The lower part of the window displays icons that correspond to parameter groups. The number of icons displayed correspond to the file that is currently opened.

Note You can open several files or applications simultaneously; each one is displayed in its dedicated window.

▶ To set or consult a parameter group:

■ **Double-click the parameter group icon.**
Another dialog is then displayed.
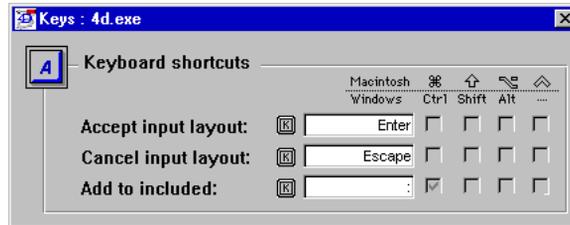
▶ To close the dialog:

■ **Select Close Window in the Edit menu**
or
Click the window's close box.

Closing a File

▶ To close a file

■ **Select Close file in the File menu.**

This menu command closes all the open windows related to the file currently opened in the frontmost window. If modifications were made to the file, an alert is displayed to allow you to save them.
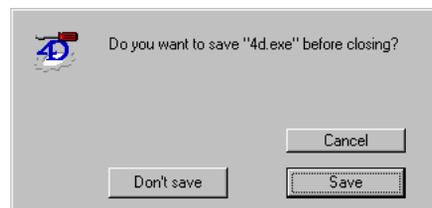
If you click Save, all the modifications applied are globally saved.
If you click Don't save, all the modifications applied are canceled.
If you click Cancel, the Close file command is canceled.

Note Some dialog boxes trigger an immediate modification of the opened file. For example, a specific alert is displayed for the Command language setting in the Translation parameter group.

Quitting the Program

▶ To quit Customizer Plus:

■ **Choose Quit in the File menu**.

Edit Menu

The standard commands in this menu will not be described here.

The Close Window command allows you to close a parameter group window.

Options Menu

Open Related Files

This command is enabled when you open a structure or a data file.

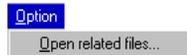This menu command allows you to automatically open the main window of the related files. Related files are the files that are currently used with the file or application opened. Related files are automatically opened when the following conditions are met:

■ When the structure file is opened, the data file is opened if:
  ■ The data file access path stored in the structure file is valid, or
  ■ The data and structure files are located in the same folder and have the same name (except for the extension).

■ When a data file is opened, the structure file will be automatically opened if the data and structure files are located in the same folder and have the same name (except for the extension).

Note On the Macintosh, an proc.ext file is automatically opened if it is located in the same folder as the data and structure files.

About Box

This dialog allows identifies the version of Customizer Plus that you are currently using. You can display it from the Apple menu (on the Macintosh) or the Help menu (on Windows).

Parameter Groups

Parameter groups, such as Keys, Window, and Preferences, are always present together. If you create or delete one of these groups, the two others will be created or deleted as well.

Creating Parameter Groups

An icon that is dimmed indicates that the parameter group does not exist.

► To create a parameter group:

■ **Double-click on its icon**.
A dialog box is displayed to allow you to confirm your action:
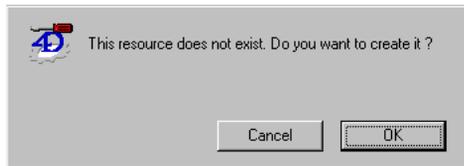
Deleting Parameter Groups

A parameter group that was created can be deleted at any time.

► To delete a parameter group:

■ **Double-click on its icon while pressing the Alt key (Windows) or Option key (Macintosh)**.
The icon is then dimmed and the parameter group is deleted.

Modifying Parameter Groups

► To open the parameter group window:

■ **Double-click on its icon**.
You can then modify the options and settings available for this parameter group. When you are done with your modifications, close the windows. The Save alert will be displayed when you close the file main window or quit Customizer Plus.

Note   If you enter a value that is lower or higher than the authorized value, it will be replaced, respectively, by the minimum or maximum value authorized. If the value entered is higher than the maximum value, it

is replaced on the fly while you enter it. If the value is lower than the minimum value, it is replaced when you deselect the area.

Moving Parameter Groups

It is often possible to copy parameter groups from one file to another.

▶ To copy a group:

1 Open the source and destination files.

2 Select the icon that corresponds to the group you want to copy and drag it to the destination window.

The settings of the source file are then copied in the destination file.

If the parameter group is not created in the destination file, it will be created during the transfer. Moving a parameter group is only allowed when the destination file can have this parameter group set (when the corresponding icon exists, even if dimmed).

If you attempt to copy a parameter group in a destination file that cannot support this type of parameter group, the following alert is displayed:
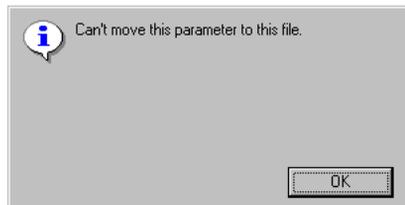
4 Customizing 4D Applications

When customizing a 4D application, the Chooser can have up to nine parameter groups on Windows, and eleven on the Macintosh. They are:

■ **Keys**: Allows you to modify the default keyboard shortcuts to validate, cancel, modify, and add records.

■ **Window**: Controls the location and dimensions of the main window in the Custom Menus and User environments.

■ **Preferences**: Allows you to modify the main process stack size, the appearance of the beach ball, the choice of print job type, and the real precision.

■ **Translation**: Allows you to modify the language used to display the commands and to localize 4th Dimension in relation to the operating system currently used.

■ **Fonts**: Allows you to select the fonts used for printing.

■ **Script Manager**: Allows you to fix some parameters when running 4th Dimension on Script Manager.

■ **Stacks**: Allows you to set the stack sizes for the seven basic processes.

■ **Conversions**: Allows you to adapt 4D application internal ASCII tables to a specific Windows system.

■ **Toolbar**: Allows you to set the toolbar status at the 4D application startup.

■ **Memory**: Allows you to optimize the memory allocation of a 4D application. This parameter group is available only on the Macintosh.

■ **ADSP**: allows you to set data exchange parameters between 4D Clients and 4D Servers that are using ADSP protocol.

Keys

This parameter group is available for single-user 4D, 4D First and 4D Client, structure files, and executables.

Use the Keyboard Shortcuts dialog box to change the keyboard equivalents for accepting a record, canceling a record, and adding a record to a subform in the User or Custom Menus environments. The default settings are shown here.
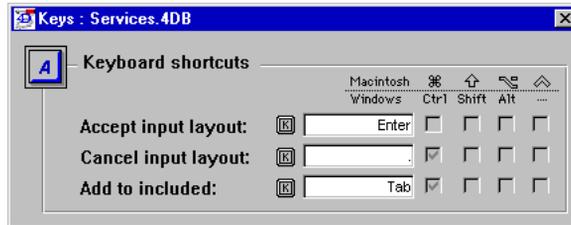
► To change a keyboard equivalent, follow these steps:

1 Click the 🔲 icon.

The Associated Key dialog box appears:

2 Press the new keyboard equivalent and any modifier key.

3 Click the OK button to accept the keyboard equivalent.

To delete the keyboard equivalent, click the Clear button. Or, if you want to cancel your changes to the keyboard equivalent, click the Cancel button.

4 Close the window to accept the new keyboard equivalent.

Note that the number of modifiers is different between Mac OS and Windows platform. Customizer provides the following equivalence:

Note   The Command key on the Macintosh corresponds to the Ctrl key on windows. The Ctrl key of the Macintosh is replaced on Windows by a click on the right button of the mouse.

Window

This parameter group is available for single-user 4D, 4D First and 4D Client, structure files, and executables.

Use the Window Size dialog box to control the type and location of the main window in the User or Custom menus environment. By default, 4th Dimension opens this window using its previous location and size.
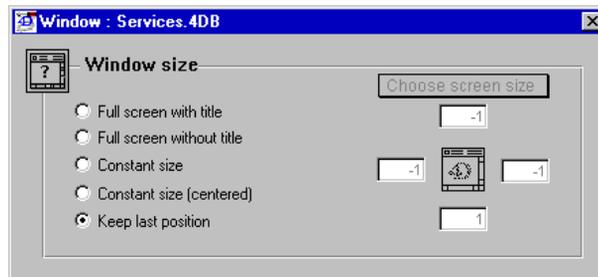
The options available are:

- **Full screen with title**: Opens a window equal to the size of the screen of the computer in use, and includes a title bar.

- **Full screen without title**: Same as above without a title bar (the title bar is hidden behind the menu bar).

- **Constant size**: Keeps the window a constant size no matter what the computer on which the program is used. The size can be set either with the pop-up menu or the coordinate boxes.

- **Constant size (centered)**: Same as above, but centers the window instead of using an absolute placement based on the coordinate values.

■ **Keep last position**: Opens the window using its previous location and size.

The right part of the window lets you enter or select the window coordinates, depending on the display selected.

After you select an element in the Choose screen size pop-up menu, the screen coordinates are automatically filled, and the pop-up menu displays the Choose screen size option again.

If your database includes a toolbar, select an element "with Toolbar", in order to avoid masking the top of the window with the toolbar.
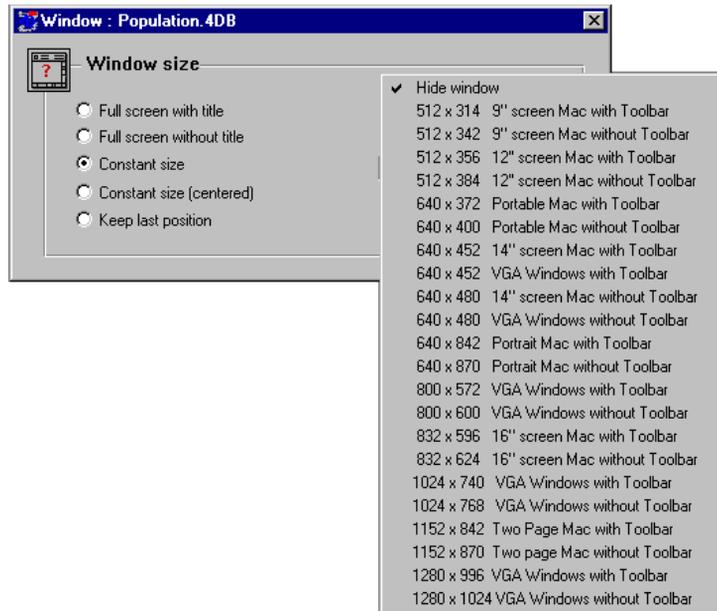
The main window can be hidden in User and Custom Menu Modes (splash screen) by selecting **Hide Window** in the pop-up menu. When hiding the main window, the window management is done through programming.

Preferences

This parameter group is available for structure files, executables and 4D applications.

This parameter group allows you to set parameters such as the stack size, the appearance of the beach ball, the choice of the impression mode, the Windows main memory (for the setting of Preferences files) and the real precision.
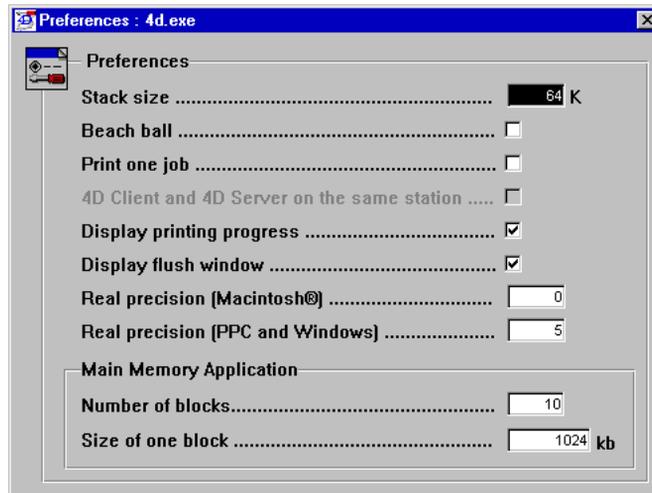
■ Stack Size: Specifies how much memory is allocated to the stack when the program is launched. Increasing this value will increase the number of method or form call levels that can be reached.

Each time you call a method from within a method (subroutine), all passed parameters, local variables, and 4th Dimension commands in the calling method are placed on the stack.

Note Any records that are pushed (then popped) are also placed on the stack.

The number of nested subroutines that can be called is limited only by the available space on the stack. If you receive "Stack is full" errors during method execution, you might consider increasing the stack size. It is recommended that you increment the stack size by 4K at a time.

Note When this parameter is defined in a structure file, it is only taken into account when the structure file is used to create an executable. In this case, this parameter has priority over the same parameter set in the 4D Engine. This parameter's only purpose is the creation of an executable, its setting has no effect on structure file use.

- **Beach Ball**: Specifies if a "spinning beach ball" cursor should be displayed during lengthy operations. The check box is selected by default. If you do not want to display the beach ball, deselect the check box.

- **Print One Job**: By default, when you send a report to a peripheral using the PRINT SELECTION command, 4th Dimension treats each page of the report as a separate print job. To print the entire report as one job, check the Print One Job check box. This option is especially useful when you send a report to a fax machine.

- **Display Printing Progress**: This option allows you to choose whether or not the progress dialog box is displayed during printing.

- **4D Client and 4D Server on the Same Station (4D Client only)**: This option allows you to connect from 4D Client to a 4D Server database running on the same machine. However, note that this configuration will decrease the speed of your system.

Note Windows 3.1.1 does not support this feature.

- **Display Flush Window** (4th Dimension, 4D First and 4D Server only): This option allows you to choose whether or not the Flush window is displayed when the Cache Manager process is executing.

- **Real Precision** (Macintosh), and **Real Precision** (PPC and Windows): These options allow you to set the number of insignificant digits (digits that will not be taken into account when a real number is displayed on the screen), starting from the right. By default, this value is set to 0 for the 68K based version of 4D and to 5 for the Power PC based version.

Display of real numbers on Windows and Macintosh

On computers, floating point arithmetic is more a technology than a mathematical science. You learned in school, for example, that one-third can be written as an infinite number of threes after the decimal point. A computer, on the other hand, does not know this and has to evaluate the expression. In the same way, you know, conceptually, that three times one third is equal to one; on the other hand, a computer

will compute the expression to get the result. Depending on the type of computer you use, one-third will be evaluated as a *limited* number of threes after the decimal point. This number is said to be the precision of the machine.

On 68K based Macintoshes, this number is equal to 19; this means that one-third will be evaluated with 19 significant digits. On Windows, this number is equal to 15; this means that one-third will be displayed with 15 significant digits. If you display the expression 1/3 in the Trace window of 4th Dimension, you will get 0.3333333333333333333 on a 68K based Macintosh and 0.3333333333333333148 on Windows. Note that the last three digits are different because the precision on Windows is less than on 68K based Macintoshes. Yet, if you display the expression (1/3)*3 you get 1 on both machines.

If your floating point arithmetic computations concern the number of square feet of your backyard, you will say "Fine with me!" because you do not care about the digits after the decimal point. On the other hand, if you are filling out an IRS form, you may care about the accuracy of your computer. However, remember that 19 or 15 digits after the decimal point are quite sufficient even if you manage billions of dollars of revenue.

Why does the value 1/3 seem different on 68K Macintosh and Windows?

On 68K based Macintoshes, the operating system stores real numbers on 10 bytes (80 bits), while on Windows, it stores them on 8 bytes (64 bits). This is why real numbers have up to 19 significant digits on 68K based Macintoshes and up to 15 significant digits on Windows.

So, why does the expression (1/3)*3 return 1 on both machines?

A computer can only make approximate computations. Therefore, when comparing or computing numbers, a computer does not treat real numbers as mathematical objects but as approximate values. In the example above, 0.3333... multiplied by 3 gives 0.9999..., whose difference with 1 is so small that the machine considers the result equal to 1, and consequently, returns 1.

The behavior of the real numbers is dual: a distinction has to be made between:
- How they are computed and compared
- How they are displayed on the screen (or printer)

Precision of floating point arithmetic computations with 4th Dimension

Originally, 4th Dimension handled real numbers using the standard 10-byte data type provided by the operating system of 68K-based Macintoshes. Consequently, real values stored in the data file on disk are saved using this format. In order to maintain compatibility between the 68K and Windows versions of 4th Dimension, the 4th Dimension data files still hold the real values using the 10-byte data type. Since floating point arithmetic is performed on Windows using the 8 byte format, 4th Dimension internally converts the values from 10 bytes to 8 bytes, and vice versa. Therefore, if you load a record on Windows, and if the record contains real values that have been saved by a 68K based Macintosh, it is possible to lose some precision (from 19 to 15 significant digits). Yet, if you load a record on a 68K-based Macintosh, and if the record contains real values that have been saved on Windows, there will not be any loss of precision. Basically, if you use a database on both 68K Macintosh and Windows, count on floating point arithmetic with 15 significant digits, not 19.

Using Customizer Plus version 6, you can set the number of digits to be skipped when simplifying the display of real numbers on both 68K and Windows. The default settings are no digits on 68K and five digits on Windows.

In 4th Dimension version 6, the Real precision setting for Windows also applies to the Power Macintosh version.

- **Main memory application for Windows**: The main memory manages the memory allocation of: process stack, all the Structure elements (forms, methods, lists, etc), variables, current selection, temporary selections, sets, plug-ins and transactions.

The amount of the Windows main memory equals the block size multiplied by the number of blocks.

The memory blocks are dynamically allocated to the Windows main memory in relation to 4D's requirements. Consequently you can set a number of memory blocks that will only be used in case of high activity.

This dynamic mechanism allows you to avoid using virtual memory which would degrade drastically performance. It allows you to use simultaneously other Windows applications, leaving free memory for the system

Settings

Number of blocks: This parameter allows you to set the maximal number of blocks 4D will be able to load according to its activity. This value cannot be lower than 2.

Size of one block: This parameter allows you to set the the block size. The default value is 1024 Kb.

Example: the main memory is made of 5 blocks of 1 Mb each. A 2.5 Mb picture variable will need 2 or 3 blocks according the free blocks in the previously loaded blocks.

In 4D (4D, 4D Client, 4D Server...) the main memory can be set in different type of files through different ways. Each application can be customized directly or the settings can be stored in their related Preferences files. This can be done using the Object Properties tab or Customizer Plus.

Note If the main memory is set both in the Preferences file and in the application, the information stored in the Preferences file will override the application settings.

How to customize the main memory in the Preferences file?

4D applications store their preferences in the following Preferences file:

Applications	Macintosh	Windows
4D, 4D Server, 4D Client, 4D Util	4DV6Prf	4DV6Prf.RSR
4D Runtime, 4D Runtime Classic	RunV6Prf	RunV6Prf.RSR
Application merged with 4D Engine	EngV6Prf	EngV6Prf.RSR

These Preferences files are located in your machine system folder (on Macinstosh in yourHardDisk:System folder:Preferences:ACI:.. and on Windows in 'C:\Windows\ACI\…').

You can customize the main memory at the Preferences file level using either the Object Properties tab or Customizer Plus.

If you set the main memory through the Object Properties tab, the settings will be stored either in the Preferences file (if it does contain a memory resource), or in the application itself. You can create a memory resource in the Preferences file using Customizer Plus.

To set the main memory using Customizer Plus, open the Preferences file from the target application (see table above), double-click on the

"Preferences" icon and change the parameters. Even though the application has been already customized with Customizer Plus, the settings stored in the Preferences file override the ones stored in the application itself.

If you customize the main memory in the Preferences file, the changes will be applied to all the applications using this same Preferences file.

How to customize the main memory in the application itself?

To set the main memory in the application itself, it is necessary to:

■ make sure that there are no main memory settings already stored in the Preferences file (you can delete this file),

■ open the application with Customizer Plus, double-click on the "Preferences" icon and set the main memory parameters.

Any changes made after on the main memory settings through the application Object Properties tab or through Customizer Plus, will be stored in the application itself.

If you customize the main memory in the application itself, your settings will be lost with each new version of the product.

How to customize the main memory in the struture itself?

You can set the main memory in the structure file only in the case of a merged database with 4D Engine. The newly merged application will get the main memory settings from the structure file. However if after that the main memory happens to be set in the Preferences file "EngV6Prf" too, these settings will override the application ones.

Translation

This parameter group is available for 4D applications.

Note This parameter group is not available in an executable (structure plus 4D Engine), but can be set in 4D Engine before the integration. The 4D Engine settings will apply to the executable.

Use the Translation dialog box to select the language that will be used for 4th Dimension commands and functions and for 4th Dimension itself. You may choose different languages for each. The language choices are limited to those included in the Customizer file.
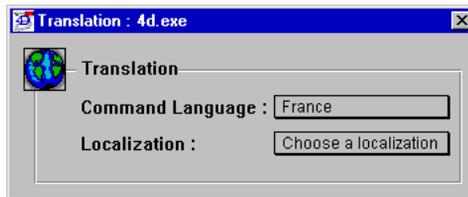
- **Command language**: Determines the language used for 4th Dimension commands and functions in the Method editors and in the Debug window.

- **Localization**: Determines the language used for all aspects of the 4th Dimension application. Choosing a localization language causes Customizer Plus to replace the string resources in your copy of 4th Dimension with a set of string resources using the selected language.

As customizations vary from one country to another, you should always reset Command language and Localization to the Intl values before switching from one country to another.

The Localization pop-up always displays the Choose a Localization value even though you have specified a specific country.

Note The Arabic customization is available in Customizer Plus. However, as it has not been fully validated, ACI cannot guarantee that all the resources are correct.

Fonts

This parameter group is available for 4D, 4D Client and 4D First.
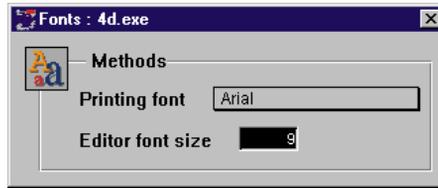
This group specifies the font used when printing methods as well as the font size used in the Method Editor.

■ The "Printing Font" pop-up menu lists all the fonts available on your machine. The first two values are the default system font and the application font, Arial (Windows) or Helvetica (MacOS).

■ In the "Editor Font Size" enterable area, you can enter the font size used in the Method Editor.

Script Manager

This parameter group is available for 4D applications and the executables.

Use the Script Manager dialog box to customize various aspects of 4th Dimension when localizing it for use with different systems and languages.
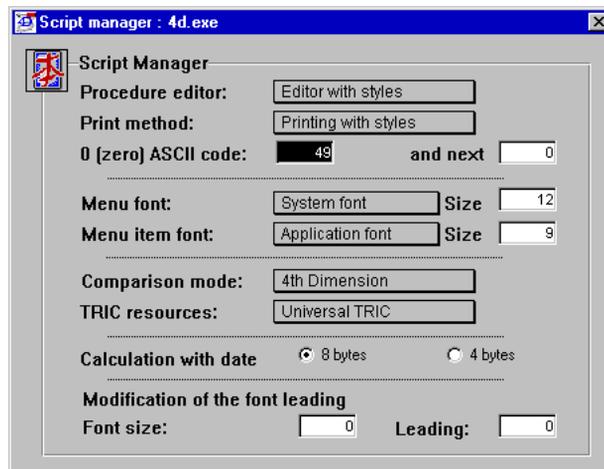
■ **Method editor**: Enables or disables styles in the Method editor. Since styles are not supported by the Script Manager, you must disable styles in the Method editor to allow the use of a non-Roman font. Disabling the use of styles lets you select a different Method editor font in the Fonts dialog box (discussed in the previous section). Enabling styles restores the default font (Geneva).

■ **Print method**: Enables or disables styles when printing procedures. As with the Method editor display font, you must disable styles in order to allow the use of the local scripting font. Disabling the use of styles lets you select a different Method editor printing font in the Fonts dialog box. Enabling styles restores the default printer font (Helvetica).

■ **0 (Zero) ASCII code**: Specifies the ASCII code value of the character representing zero. The default value for the U.S. system is 48. This character can be different for other systems such as Arabic.

■ **Character following zero**: The value of the next byte after zero. This parameter is used only if you are localizing for Arabic or Hebrew systems. In all other cases, set this parameter to 0.

■ **Menu font**: The name and size of the font used for menu titles in the Menu editor. By default, menu titles in the Menu editor are displayed in the system font.

■ **Menu item font**: The name and size of the font used for menu items in the Menu editor. By default, menu items in the Menu editor are displayed in the application font (Geneva 9).

■ **Comparison mode**: Select whether or not accented characters will be considered as separate from non-accented ones in searches or sorts. The settings are shown in the following table:

Setting	Explanation
4th Dimension	Accented characters are different
System	Accented characters are the same
Mixed	Sorting modified for some countries
German	Comparison method used in Germany with special provision for ß-type characters

■ **TRIC resources**: The TRIC resources control how string comparisons are performed. By default, 4th Dimension uses the TRIC resources when comparing strings. If you choose No TRIC, comparisons are performed according to the settings in your operating system. If you choose

No TRIC and later decide to use the TRIC resources, you must re-index your database fields. You can easily re-index fields by running 4D Tools on the database and choosing the Compact Files menu item.

■ **Calculation with dates:** These radio buttons control how date calculations are performed. In the case of Farsi calendars, the calculation uses 4 bytes. In all other cases, 8 bytes are needed.

■ **Modification of the font leading:** These parameters allow you to modify the font leading in relation to the font size for countries that use uppercase letters with accents. It enables the accent to be printed correctly (Å, Ä, Ö).

For the English version, this parameter remains set to 0.

Stacks

This parameter group is available for 4D applications.

This parameter group allows you to modify the stack size for each of the seven processes present in a 4D application.

Note This parameter group cannot be set for an executable (structure + 4D Engine), but can be set in the 4D Engine before the merge. Its options will then be taken into account for the executable.
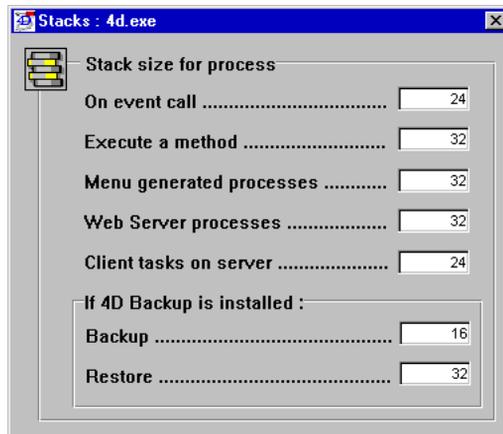
■ **On event call:** Event process.

■ **Execute a method:** Process created when a method is executed and the New process box is selected.

■ **Menu generated process**: Process associated with a menu command.

■ **Web server processes**: Web server management process.

■ **Client tasks on server**: Client processes on the server.
This option is used to define the stack size for a client process on the server. It can also be used to define the stack default size of a stored procedure launched on the server by a client.

■ **If 4D Backup is installed: Backup/Restore**: Process created when using 4th Dimension backup plug-ins (Backup.4dx and Restore.4dx).

Default settings are based on standard use of 4th Dimension. You may adapt them to your specific use. For more information about processes, refer to Chapter 9 of the *4th Dimension Design Reference* manual.

Conversions parameter group

This parameter group is available for 4D applications and the executables.

For compatibility between Macintosh and Windows platforms, 4D applications still use the Macintosh ASCII table internally.

The Conversions parameter group allows you to adapt 4D internal conversion tables (based on an ANSI conversion) to a Windows system that uses another ASCII table (for example, the Greek version of Windows).
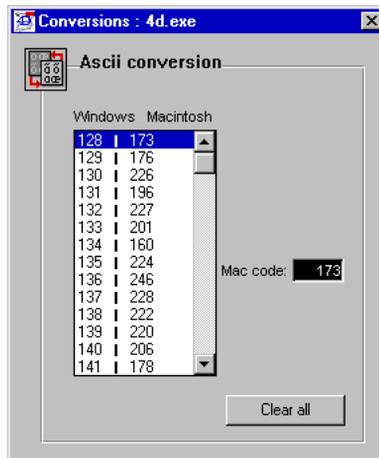
► To change the equivalence of an ASCII code:

Select the line you want to modify.

The current code is then displayed in the entry area—Windows code on the Macintosh, Macintosh code on Windows. After you enter the new equivalence, it will be taken into account when you select a new line.

You can set all the ASCII codes to zero by clicking the Clear all button.

When an ASCII code is set to zero (when you close this parameter group), it will be set to its standard equivalence (128 - 128) if that equivalence is not already used.

Note This parameter group is automatically created or replaced when the Localization parameter of the Translation parameter group is modified.

Toolbar

This parameter group is available for 4D applications and executables, except 4D Server. It allows you to define whether or not the toolbar is displayed at the 4D application startup.
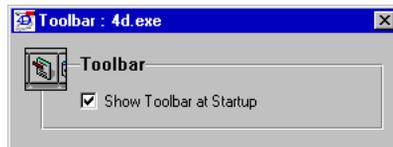

This setting takes effect only at startup. You can also change this setting while the application is running, using the 4D language or the Database Properties dialog in the Design environment.

Memory parameter group

This parameter group is available only on the Macintosh for 4D, 4D First, 4D Server, and the executables.

Memory Resource   Use the Memory Settings dialog box to control critical memory usage parameters of 4th Dimension. Changing these parameters lets you fine tune the performance of 4th Dimension for a variety of memory configurations and database memory needs.
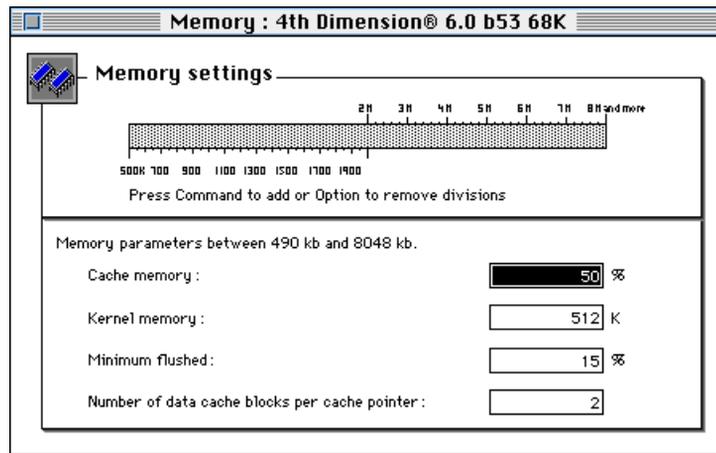
This option is unavailable when the new memory scheme is selected.

Memory Parameters The following is a description of each memory parameter:

■ **Cache memory:** Determines the percentage of memory used for the data cache after the 4th Dimension kernel has been loaded. After the allocation of the kernel and the data cache, the remaining memory is used for loading structure objects (e.g., procedures and layouts) and pictures.

The data cache determines the number of records that can be kept in memory. In general, the larger the cache, the faster database operations such as searching and sorting will be. However, for databases with a large amount of code, complex layouts, or pictures, you should consider a smaller data cache. The minimum cache size is 16 percent and the maximum is 100 percent.

- **Kernel memory:** The maximum amount of memory reserved for use by 4th Dimension's kernel routines. Increasing this can improve performance by reducing kernel segment swapping.

Reducing this parameter below 512K could result in severe performance degradation.

- **Minimum flushed:** This is the minimum amount of data flushed from the data cache when it is full. Decreasing this amount causes more frequent but shorter interruptions to flush its cache. Increasing this amount causes less frequent but longer interruptions. The default value is 22 percent of the data cache.

- **Number of data cache blocks per cache pointer:** Decreasing this number makes memory usage more efficient when a database contains many small records. Increasing this number limits the maximum number of objects the cache can contain, but uses less memory. The recommended settings are between 1 and 3 and the default setting is 2. Only integers may be entered for this parameter.

▶ To alter a memory parameter:

- Select the parameter and enter the new value.

Memory Ranges

By default, the memory parameters function no matter what size memory partition 4th Dimension is using. However, you can establish different parameter settings for different ranges of memory. For example, one set of parameters might be in effect if 4th Dimension is running with 512K to 2 megabytes of memory, and different parameters can be in effect if 4th Dimension is running with more than 2 megabytes.

The memory scale in the top of the Memory Settings dialog box is used both to display and set the memory ranges for each group of parameter settings. By default, there is only one memory range with the memory parameters applying to the entire range as shown here.
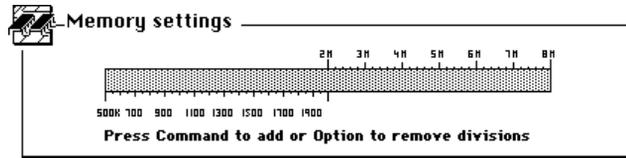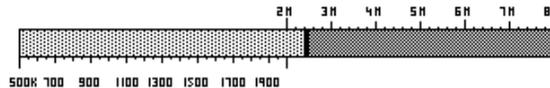

▶ To establish a range:

1 Hold down the ⌘ key and position the mouse pointer over the memory scale.

The mouse pointer arrow changes to a pair of scissors.

2 Click at the location where you want to create the separation.

A line is placed on the scale, separating the memory scale into two ranges.

You can establish additional ranges if you like. The range that has the light gray fill pattern is the selected range. The memory parameters shown in the lower portion of the Memory Settings dialog box apply to the selected range.

▶ To establish new parameters for a memory range:

1 Click to select the memory range in the memory scale.

The fill pattern for this range appears grey, indicating that it is the selected range, and the text "Memory parameters between *low*K and *high*K" indicates the proper memory range.
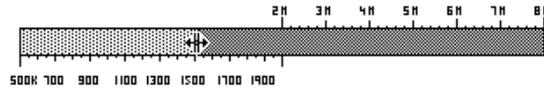
2 Enter the new parameters for this range.

After you have established memory ranges, you can easily adjust the sizes of these ranges.

▶ To adjust range sizes:

1 Position the mouse pointer over the range separation line you wish to adjust.

The mouse pointer changes to a set of drag arrows.

2 Hold down the mouse button and drag the range line to a new location.

When you release the mouse button, the range separation line will be placed in its new location.

▶ To delete a range separation line:

1 Hold down the Option key and position the mouse pointer on top of the range separation line to be removed.

The mouse pointer changes to a small band aid or x.

2 Click the mouse.

The line is removed.

ADSP Resource

The ADSP resource, present only in the Macintosh versions of 4D Client and 4D Server, allows you to set parameters related to the communication between the clients and the server when this communication takes place using ADSP (AppleTalk Data Stream Protocol).
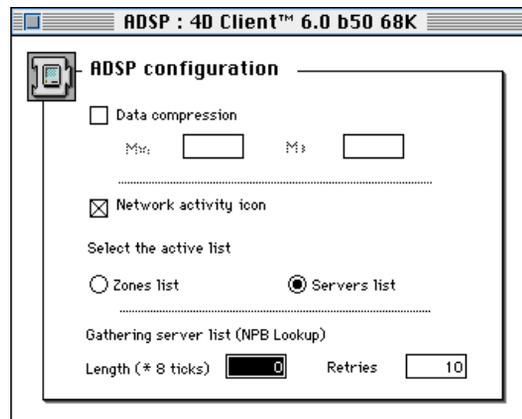
▶ To display the ADSP dialog box:

Double-click the ADSP icon in the Chooser window in Customizer Plus.

ADSP

Data Compression

By default, the data exchanged between the client and the server is compressed if the size of the data is between 128 and 8,192 bytes (8Kb). When the size is less than 128 bytes or greater than 8Kb, no compression is performed.

You can disable the compression by unchecking the Data Compression check box. If you disable this option on the server machine, it affects only the data sent from the server to the client. Conversely, if you disable this option on the client machine, it affects only the data sent from the client to the server.

In addition, you can indicate the range of sizes for which data compression takes place. To do so, enter the Min and the Max values, expressed in bytes. Note that if you increase the Max value, you may need to increase the memory allocated to 4D Server and 4D Client accordingly.

Network Activity Icon (4D Client only)

This option allows you to show or hide the small 4D icon that is displayed in the top left corner of the menu bar when 4D Client is exchanging data with the server.

Select the Active List in Connect Dialog Box (4D Client only)

If you are using 4D Client on a multi-zone network, this option allows you to choose which list—Zones or Data Servers—will be selected by default when the ADSP Connect to Data Server dialog box appears.

Looking for the Servers List (4D Client Only)

You can specify the maximum amount of time that a client will spend looking for the servers in a specific network zone.

When you first launch 4D Client, the ADSP Connect to Data Server dialog box appears, listing the zones in your network. When you select a zone, ADSP searches the network in order to list the servers in that zone. To assemble this server list, ADSP first conducts a rapid search of the network zone. It then conducts a second, slower series of searches.

You can modify the parameters of this second series of searches according to your network's needs. You can specify:

■ Duration of the searches (expressed in units of 8 ticks, with each tick being equal to 1/60 of a second),

■ Number of attempts made within this duration.

By default, ADSP performs one trial for 80 ticks. If you are using a slow network, i.e., a remote connection over ARA (AppleTalk Remote Access), you will probably need to increase the length of a lookup.

5 Customizing a Preferences File

Preferences file settings take priority over equivalent settings applied to 4D applications.

- 4DV6Prf.RSR (4DV6Prf on the Macintosh) takes priority on 4th Dimension programs located on the same machine.

- FirV6Prf.RSR (FirV6Prf on the Macintosh) takes priority on 4D First programs located on the same machine.

- EngV6Prf.RSR (EngV6Prf on the Macintosh) takes priority over executables located on the same machine

Main Memory

The main memory can be set in 4D applications Preferences files under Windows only.

For more information, refer to the section .

Screen Update

This parameter group is available in 4D application preferences files.

This group allows you to modify the screen update method used for 4D screens. The screen update option creates an offscreen bitmap of the screen to allow for a faster redraw and to avoid blinking effect. The amount of memory required by this bitmap depends on the size of your screen (number of pixels) and on the color depth. The formula for the amount of memory required by this area is:

Memory size (Kb) = (Screen width X Height X color depth)/8/1024

Note This option should be considered if your machine has over 16 Mb of RAM.

6 Customizing a Database

When you open a structure file, the Chooser window allows you to customize a specific aspect of your database, using any of seven parameter groups. Each parameter group is represented by an icon.

The parameter groups are:

- **Keys**: Allows you to modify the default keyboard shortcuts to validate, cancel, modify, and add records.

- **Window**: Controls the location and dimensions of the main window in the Custom Menus and User environments.

- **Preferences**: Allows you to modify the main process stack size, the appearance of the beach ball, the choice of the impression mode, and the real precision.

- **WEDD**: Allows you to associate a data file to a structure file.

Note In a data file, WEDD parameter group is not created by default (the icon is dimmed).

- **Compatibility**: Allows you to keep the operating mode of some 4th Dimension commands while using a Version 6 4D application.

■ **Update**: In client/server mode, enables you to trigger the update of the ".res" file when resources have been updated (and /or external routines on the Macintosh) in the structure file.

■ **Properties**: Allows you to modify some of the parameters that can be set in the database properties dialog box (Design environment) of 4th Dimension version 6.

Note In a structure file, the Keys, Window, Preferences, and WEDD parameter groups are not created by default (the icon is dimmed).

Customizing a Structure File

Keys, Window, and Preferences

The settings of the Keys and Window parameter groups in a structure file take priority over 4D applications settings.

The parameter settings of the Preferences group in a structure file do not systematically take priority over the 4D applications settings. Stack size and Windows main memory will only be used for merging with a 4D Engine.

For more information on these parameters, refer to the corresponding sections in the chapter "Customizing 4th Dimension Applications".

WEDD Resource

Use the WEDD (Wedding) resource to lock a data file to a particular structure file, preventing the use of old or incompatible files.

By default, there is no WEDD resource present in either a structure file or data file, and there is no locking.

In general, it is a good idea to use the WEDD resource in the following situations:

- **Old data**: You are maintaining old data files for archival purposes and you do not want someone to access these files accidentally.

- **Old Structure**: You have modified the structure of your database (added fields or files) and you want to prevent someone with an old structure file from accessing your data file.

- **Multiple Databases**: You are working with several different databases and want to ensure that you do not accidentally open a data file that does not belong to a particular structure.

The WEDD resource works by matching a user-supplied string or *signature*. If a data file contains a WEDD resource, it can only be opened by a structure file that contains a WEDD resource with the identical signature.

▶ To add or change a WEDD resource signature:

- **Type the signature and close the dialog box**.
  The WEDD resource is added if one was not yet present. If one existed, it will now contain the new signature.

Compatibility   This parameter group is available for structure files and executables.

The behavior of certain routines has changed between version 2 and version 6 of 4th Dimension. To ensure complete compatibility with existing and future databases, the Compatibility resource allows you to choose how these routines behave in your version 6 databases. The Compatibility dialog box gives you the option of retaining the previous version's behavior (v2) or adopting the new version's behavior (v6).
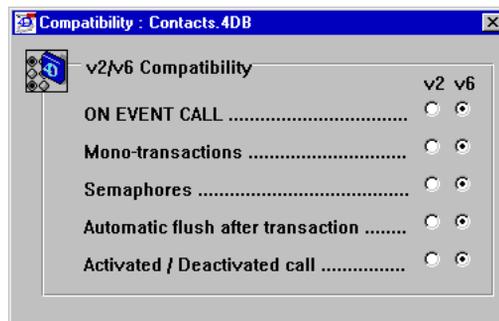
If your structure file has been converted from version 2 to version 6, all buttons are set to v2 by default. If your structure file was created under version 6, all buttons are set to v6 by default.

The following table discusses the way each routine works in version 2 (v2) and version 6 (v6):

Routine	v2 option	v6 option
ON EVENT CALL	Process variables (formerly called global variables) can be used to communicate with the User/Custom menus environment.	Communication with the User/Custom menus environment requires use of interprocess variables.
Mono-transactions1	Omitting [1] parameter to the START TRANSACTION command starts a mono-transaction in which data is locked to other users.	START TRANSACTION always starts a multi-transaction. During the transaction, data is not locked to other users.
Semaphores	A semaphore set to TRUE returns TRUE for all processes (including the process which set it) and can be cleared by any other process.	A semaphore set to TRUE by a process returns FALSE for that process and cannot be cleared by any other process.
Automatic flush after transaction	Cache is automatically flushed to disk at the end of a transaction.	Cache is not automatically flushed to disk at the end of a transaction.
Activated/ Deactivated	No Activated and Deactivated execution cycles.	Activated and Deactivated cycles are generated.

[1] We recommend that you select v6 for the START TRANSACTION command and modify your applications to use this mode.

Note This feature is maintained for compatibility reasons, but we strongly recommend that you adapt your databases to take advantage of version 6 features.

Update

This parameter group is available for structure files.

This parameter allows you to trigger the update of the ".res" file located in the ACI folder of the client machine, when the client connects to the server.

By default, this icon is dimmed. When you double-click on this icon, a dialog box is displayed, allowing you to create this resource. If you click OK, the following window appears.
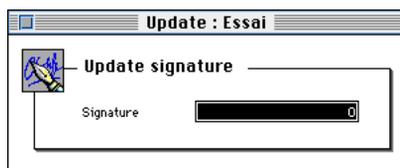
If you increment this parameter, the "MyBase.res" file is updated at the next connection.

Note MyBase.res file contains a copy of the resources of the structure file stored on the server machine (STR#, PICT, etc.) as well as a copy of external routines file (Proc.ESR on Windows).

This parameter modifies the value of the 4D4D resource stored in the structure file.

During the first connection of 4D Client, the MyBase.res file is created in the ACI folder. This file contains a 4D4D resource identical to the structure resource. At each connection, 4D Client makes sure that these two resources are identical; if they are not, it triggers the update of the MyBase.res file.

In the case of a Windows 4D Server, the "Update" parameter group is only useful under the following conditions:

■ The database was "transported" from Mac OS to Windows and its structure file contains externals installed with no specific installer.

■ The client machine connected to this server is a Mac OS 4D Client.

Properties

This parameter group is available for structures files and executables.

This parameter group allows you to set some of the database properties that are also available in the database properties dialog box of the Design environment.

Platform Interface

The Platform Interface property lets you display any form using the conventions of the Graphical User Interface (GUI) of a selected platform. Specifying Platform Interface for a form or object does not actually modify the form or object. The selected platform interface affects only the way the forms are displayed on the screen. A form can look like a Macintosh (System 7 or MacOS 8), a Windows 3.1, or a Windows 95 screen, depending on the option you choose.

The Platform Interface option in Database Properties sets the platform interface for all forms in the database. You can also set the platform interface for individual forms and for individual objects on a form. At the form and form object level, you can choose to inherit the setting from the next highest level or override it with a custom setting.

Platform Interface Settings

The Automatic option is the default and displays forms as they appear on the host platform. If you use the database on Macintosh, the forms look like Macintosh screens; if you use the database under Windows 3.1, the forms will look like Windows 3.1 screens, and so on.

Choosing another option allows you to handle the following situations:

■ You are designing forms on one platform and you would like to see how they will look on the other platforms or operating systems.

■ No matter which platform you are using, you want your layouts to always look the same, overriding the default GUI of the platform.

■ You would like to control the look and feel of the interface using the language. A new 4D command (SET INTERFACE) allows you to choose the platform interface. With SET INTERFACE, you can simply let the users of the database choose the GUI they like.

The Platform Interface property affects only 4th Dimension forms. It does not change standard 4th Dimension dialog boxes such as the Query and Order By editors.

4th Dimension always displays standard dialog boxes using the platform's GUI regardless of the Platform Interface setting. On Macintosh, standard dialog boxes are displayed on a white background and the controls use the Macintosh system control definitions. On any Windows platform, standard dialog boxes are displayed on a gray background and controls use the 3D effects Windows methods, if the Windows 3D effects DLL (CTL3D32.DLL) is installed. Otherwise, they are displayed on a white background with gray buttons and non-3D check boxes and radio buttons. Note that on Windows 95, 3D effects are always available. Buttons and graphical elements (such as surrounding rectangles) are displayed using the colors set in the Colors Windows Control panel.

4th Dimension displays your forms according to the current Platform Interface setting rather than the actual platform's GUI on which the database is run (except if the Automatic option is selected.)

This setting acts on the following objects and form properties:

- Buttons (push buttons)
- Check boxes
- Radio buttons
- Objects whose foreground and/or background colors are automatic
- Form background color

Here are descriptions of each setting:

Mac OS Setting
- Buttons are displayed as Mac OS round rectangle buttons.
- Check boxes and radio buttons are displayed as Mac OS controls.
- The automatic foreground color of layout objects is set to black.
- The automatic background color of layout objects is set to white.
- Each form's background color is white.

Windows 3.1 Setting
- Buttons are displayed as 3D effects push buttons (using the Windows 3.1.x method).
- Check boxes and radio buttons are displayed as regular Windows 3.1.x controls.
- The automatic foreground color of layout objects is set to black.
- The automatic background color of layout objects is set to white.
- Each form's background is white.

Windows 95 Setting

- Buttons are displayed as 3D effects push buttons (using the Windows 95 method).
- Check boxes and radio buttons are displayed as 3D effects (using the Windows 95 method).
- The automatic foreground color of form objects is set to the Button Text color chosen by the user in the Windows Color Control panel.
- The automatic background color of form objects is set to the Button Face color chosen by the user in the Windows Color Control panel.
- Each form's background is set to the Button Face color chosen by the user in the Windows Color Control panel.

Default Font

The default font is specified for the platform chosen in the Look and Feel drop-down list. The following are the default fonts for each platform:

Platform	Default Font
Mac OS	Geneva 9
Windows 3.1	MS Sans Serif 10
Windows 95	MS Sans Serif 12

The default font and default font size are used in the Structure editor as well as the Method editor.

Message Font and Font Size

This area allows you to specify the font and font size that will be used for messages.

Scheduler

This area allows you to modify the number of ticks between calls from 4th Dimension to the operating system while running your database in interpreted mode.

Database Cache Memory

These parameters allows you to define the allocated memory to the database cache memory.

Cache memory is an element that allows the application to keep, in RAM, data that is frequently used. The access to information is then much faster than if the application had to access the disk.

Use New Memory Allocation Scheme (Macintosh Only)

If this option is selected, 4D uses the memory allocated to the application to manage the main memory. Database cache memory then uses the available memory of the system (also called multi-finder memory).

If this option is not selected, 4D assigns parts of the memory allocated to it to the database cache memory and to the main memory. The repartition between the two will be done using the Cache group parameter. The maximum and minimum cache values are not taken into account.

Maximum Cache and Minimum Cache on the Macintosh

These parameters are used when the Use new memory allocation scheme (Macintosh only) option is selected.

When opening the database, 4D tries to allocate a memory block of a size that corresponds to Maximum Cache value. If the available memory is insufficient, 4D will try values between the maximum and minimum values until it finds a cache size that matches the available space.

If there is not enough system memory, 4th Dimension then uses a part of its allocated memory.

Maximum Cache on Windows

These parameters are used when the Use new memory allocation scheme (Macintosh only) option is selected.

Note The entered values are rounded to the closest smaller 16 Kb multiple.

Web Server

This parameter allows you to set the TCP port number that will be used when the database is published as a Web server. The default value is 80.

This parameter is useful for running several Web servers on the same machine. To do so, select different TCP ports for each Web server. This option also allows you to have the OS manage Web services on port 80, while 4th Dimension publishes a database using another port.

Customizing a Data File

WEDD
This parameter group is available for structures and data files, and executables.

This parameter group allows to restrict the use of a data file to the structure file that has the same WEDD signature.
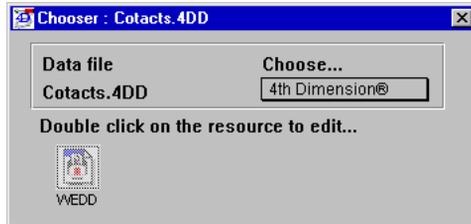
This parameter group must be created.

For more information, refer to the section "WEDD Resource" on page 48.

7 Customizing Plug-in Files

Update

This parameter group is available for plug-in files (Macintosh only).

For more information on the Update parameter groups, refer to the section "Update" on page 51.

8 Customizing Network Components

▶ To customize the network components installed by 4D Server and
4D Client:

1 **Choose Network Component in the List Files of Type drop down menu
in the Customizer Plus Open dialog.**

4D Server and 4D Client Network Components automatically create
their own option files in the C:\WINDOWS\ACI directory. These
option files are named IPX.OPT, TCP.OPT and ADSP.OPT.

2 **Open the file that corresponds to the Network Component you wish
to customize.**

The available network components are:

■ IPX Network Component

■ TCP/IP Network Component

■ ADSP Network Component

If you customize one of these option files, the change will affect all
copies of 4D Server launched on the machine, unless there is an option
file in the same directory as a particular copy of 4D Server. An option
file located at the same level as 4D_SERV.EXE overrides the option file
located in the C:\WINDOWS\ACI directory.

Please consult the Network Components electronic documentation for
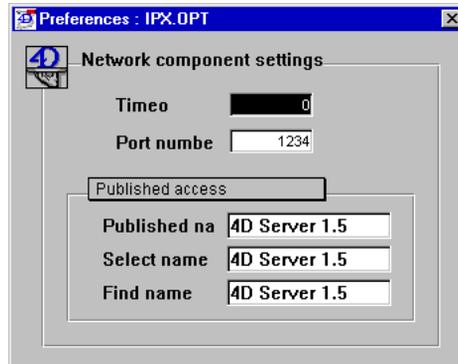more information about configuring the Network Components.

Customizing the IPX Network Component

When you open the file IPX.OPT with Customizer Plus, a Customizer window appears, containing one resource icon, called Preferences:
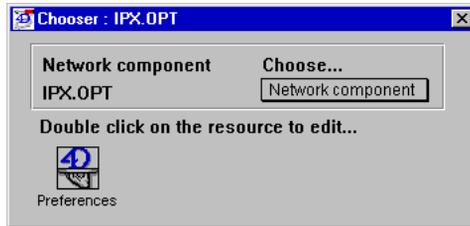
▶ To edit the resource:

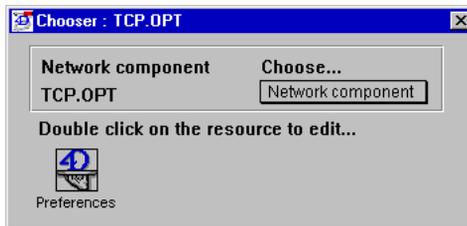■ **Double-click on the resource icon**.

The following dialog appears.

The fields in this dialog are:

■ **Timeout**: Timeout, expressed in seconds, has a default value of 180.

■ **Port Number**: The default port number for IPX is 1234.

■ **Published Access**: This pop-up menu sets whether or not 4D Server will publish its presence on the network, or whether 4D Client will send published-access requests.

■ **Published Name**: This is the Type used by 4D Server for publishing its presence on the network. The default value is 4D Server 1.5.

■ **Select Name**: This is the Type used by 4D Client when looking for servers on the network.

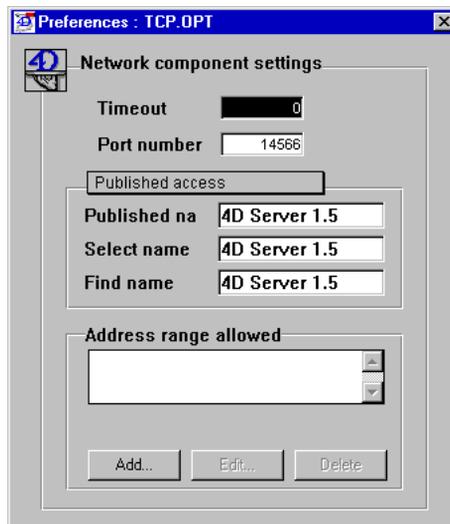■ **Search Name**: This is the Type used by Path documents to connect to a particular server.

Customizing the TCP/IP Network Component

When you open the TCP.OPT file with Customizer Plus, a Customizer window appears, containing one resource icon, called Preferences:

► To edit the resource:

■ **Double-click on the resource icon**.
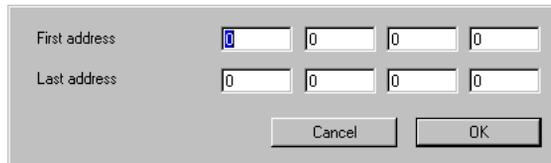
The following dialog appears:

The fields in this dialog are:

■ **Timeout**: Timeout, expressed in seconds, has a default value of 0.

■ **Port Number**: The default port number for TCP/IP is 14566.

■ **Published Access**: This pop-up menu sets whether or not 4D Server will publish its presence on the network, or whether 4D Client will send published-access requests.

■ **Published Name**: This is the Type used by 4D Server for publishing its presence on the network. The default value is 4D Server 1.5.

- **Select Name**: This is the Type used by 4D Client when looking for servers on the network.
- **Search Name**: This is the Type used by Path documents to connect to a particular server.
- **Address Range allowed**: The Address Range allowed list area lets you specify ranges of TCP/IP addresses that can connect to a 4D Server.

In the Preferences dialog of the TCP/IP network component, you can specify a list of address ranges allowed to connect to a 4D Server.

- **Add**...: Click the Add... button to add a TCP/IP address range to the list of allowed addresses. The following dialog appears:


Enter the first and last address in the range and click the OK button. The range is added to the list.
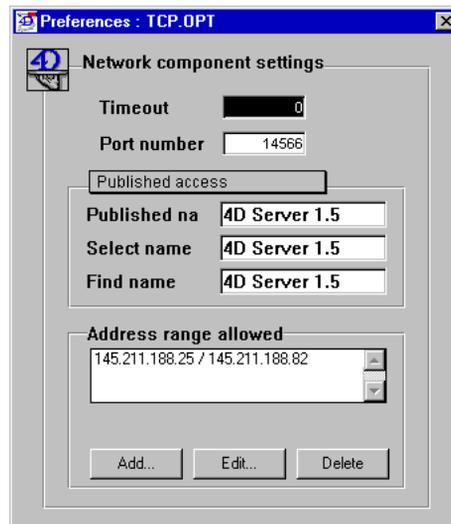
- **Edit**...: To edit a range in the list, select the line and click the Edit button.
- **Delete**...: To delete a range from the list, select the line and click the Delete button.
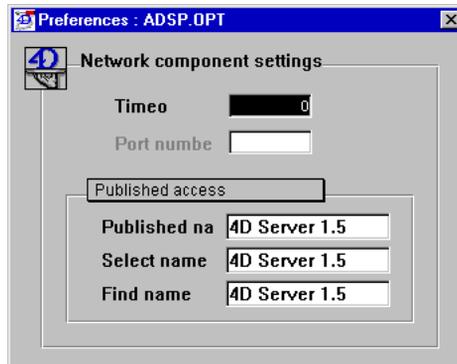
Customizing the ADSP Network Component

When you open the file ADSP.OPT with Customizer Plus, a Customizer window appears, containing one resource icon:
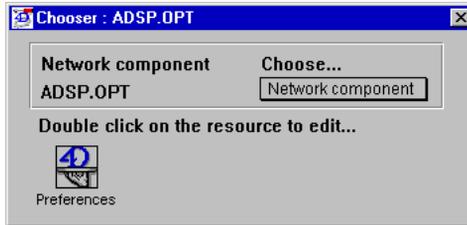
▶ To edit the resource:

■ Double-click on the resource icon.

The following dialog appears:

The fields in this dialog are:

■ **Timeout**: Timeout, expressed in seconds, has a default value of 180.

■ **Published Access**: This pop-up menu sets whether or not 4D Server will publish its presence on the network, or whether 4D Client will send published-access requests

■ **Published Name**: This is the Type used by 4D Server for publishing its presence on the network. The default value is 4D Server 1.5

■ **Select Name**: This is the Type used by 4D Client when looking for servers on the network.

■ **Search Name**: This is the Type used by Path documents to connect to a particular server.

Publishing

Network components can be set to published access, manual access, or published only. If 4D Client is launched and its network component has been set to published access, the 4D Client connection dialog will list all 4D Servers present on the network using the same network component also set to published access. 4D Servers on the network using the same network component set to manual access will not automatically appear in the connection dialog of a 4D Client set to published access.

A 4D Client using a network component set to published access or manual access can connect to a 4D Server set to manual access by manually entering the address of the server in the 4D Client's connection dialog. However, a 4D Client using a network component set to published only will be unable to manually enter a 4D Server address in its connection dialog, and thus can only connect to 4D Servers that are set to published access.

In summary:

	Published Access	Manual Access	Published Only
4D Client	Sends published access requests	Does not send published access requests	Can connect only to servers that have published access. The user cannot manually enter a server address in the connection dialog.
4D Server	Replies to published access requests	Does not reply to published access requests.	