

**FRONTDOOR**  
**Administrator Guide**

## **FRONTDOOR**

Administrator Guide

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Produced in Sweden.

**Definite**  
**S O L U T I O N S**

To the memory of Catharina Frödin and Alva Gårdlund.  
And to Alexander, Janet, Christian, Katja, and Igor.  
Party on Fred, we miss you.

---

Special thanks to Bruce Bodger for his help with the production of the entire FrontDoor package.

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# 1. INTRODUCTION

## About this document

When using the PDF viewer from [Adobe](#), Acrobat Reader, this document is best viewed in 1024x768 (or higher) resolution. We realize that not everyone has access to hardware capable of such resolutions and apologize if the document appears hard to read on some displays.

The *bookmarks* window (typically displayed to the left of the *document* window) can be closed to gain some display space for the document window. Furthermore, the [View](#) options [Fit page](#) and [Fit width](#) can be used to change the display of the document. We also recommend experimentation with the various display settings in the reader, in particular the [Smooth text and monochrome images](#) option (located under [File.Preferences.General](#) in the English language version of the reader).

One, perhaps not so obvious, feature in the Acrobat Reader is the ability to jump "back" after having followed a link. To jump back, hold down the **CTRL** key and press - (minus).

## Version notation

The following notations are used to indicate where features are supported differently by various versions of the software:

- [ML] Multi-line version;
- [SL] Single-line version (*Shareware*);
- [DOS] DOS version (see below);
- [!DOS] Any version other than the DOS version (see below);
- [OS/2] OS/2 version (see below).

## Executables

Since this document intends to cover all available platform versions of the software, the following should be noted in regards to the name of the program executables:

Platform	DOS	OS/2
Executables	FD.EXE	FD2.EXE
	FM.EXE	FM2.EXE
	FDNC.EXE	FDNC2.EXE
	FDSETUP.EXE	FDSETUP2.EXE

## FDSETUP options

Throughout this document, references to options and menus in various FrontDoor programs, are made by using a reference to a menu path. These paths begin with the name of the top-level menu, followed by one or more menus or options, until the final destination has been reached. A few examples follow:

[Mailer.File requests.Filenames](#)

[Editor.Display.Screen size](#)

If no reference is given to a specific program, FDSETUP is implied.



## 2. PROGRAMS

This section briefly describes each of the programs in the FrontDoor package.

### FD

FD - also referred to as "the mailer" - is the program responsible for handling the actual transfer of mail from and to systems other than your own. In the simplest of definitions, FD is the interface to the outside world; it is primarily intended to run unattended.

FD also contains a powerful terminal emulator - also referred to as "the Terminal". The Terminal can be accessed via FD, or as a stand-alone terminal program by loading FD with specific command-line parameters; the Terminal is primarily intended to be used interactively to access remote systems.

### FM

FM - also referred to as "the editor" - is the program used to read and write mail (messages).

### FDSETUP


FDSETUP is the primary configuration/setup program for the FrontDoor package.

### FDNC

FDNC - also referred to as "the nodelist compiler/manager" - is the program used to maintain and update the FrontDoor address directory ("the nodelist").

### X00

X00 is a FOSSIL driver for use in conjunction with FD. It is primarily intended to run under DOS. A FOSSIL driver is responsible for the communication between FD and the communications hardware (i.e. modem, ISDN card, ASDL equipment, etc).

 *A FOSSIL driver is only required/used by the DOS version of FD.*

### 3. HARDWARE/SOFTWARE

#### Hardware requirements

The DOS version of FrontDoor will run on most IBM AT compatible hardware. A 80286 or NEC V20 CPU (or compatible) is, however, required. FrontDoor will **not** operate on an 8086/8088 CPU-based system. It is further a requirement that the hardware is IBM AT-BIOS compatible.


For versions other than the DOS version, a machine capable of running the host operating system (such as OS/2) is required.

The following hardware is furthermore required to run FrontDoor:

Platform	DOS	OS/2
Available disk space	3 MB	5 MB
Memory (RAM)	500 Kb of <b>available</b> RAM	At least 16 MB of RAM should be installed in the computer; this is a largely a requirement imposed by the operating system.


The following hardware is furthermore required to run FD:

- An asynchronous modem or other communications device capable of sending alphanumeric messages such as "CONNECT 33600"

 *Since the DOS version of FD does not communicate directly with the communications device, it is possible to use a FOSSIL driver that emulates a modem in place of an actual modem. For versions other than the DOS version, FD only issues standard calls to the communications hardware, thus making it possible to write drivers for other types of communications devices.*

#### Software requirements

Platform	DOS	OS/2
Version	MS-DOS 3.10 or PC-DOS 3.10 or above (or 100% compatible).	OS/2 Warp 3 or above. For OS/2 Warp 4, at least fixpack #3 <b>must</b> be installed.
FOSSIL driver	X00, ADF, BNU, cFos, SIO/VX00, WinFOSSIL, DGFossil, COM/IP, or VFD.	n/a


 *The DOS version of FrontDoor can also take advantage of LIM/EMS memory (for overlay handling) as well as LIM/EMS and XMS memory (for program image swapping). While recommended, neither of these are required.*

#### Software notes

##### DOS

The DOS version of FrontDoor has been tested in the following DOS and DOS compatible environments:

- MS and PC DOS 3.10, 3.20, 3.3x, 4.x, 5.x, 6.x, and 7.x.
- Caldera OpenDOS 7.0x.

 *It is recommended that SMARTDRV or similar disk caching software be used if FrontDoor is installed in a "pure" DOS environment.*

##### Windows

The DOS version of FrontDoor runs under Windows 3.x, Windows 9x, Windows ME, Windows NT, and Windows 2000. Due to the limited multi-tasking capabilities of Windows 3.x, it is recommended that Windows 9x, Windows ME, Windows NT, or Windows 2000 be used. Please refer to "Platforms" for specific notes regarding running FrontDoor in the Windows environment.

##### OS/2

The DOS version of FrontDoor runs under OS/2 Warp 3, and OS/2 Warp 4. It is recommended that FrontDoor be installed in an OS/2 Warp 3 or OS/2 Warp 4 environment due to the improved performance over OS/2 2.x.

The OS/2 version of FrontDoor is a native, 32-bit OS/2 application.

For OS/2 Warp 3, no FP (FixPack) is required. For OS/2 Warp 4, FP #3 or above **must** be installed. Please refer to "Platforms" for specific notes regarding running FrontDoor under OS/2.

## 4. INSTALLATION

This section contains information about suggested directory structures, location of files, etc. When installing FrontDoor using the accompanying installation program, many issues in this section do not apply. The intended purpose for this section is to explain about various installation related topics in detail.


### Directory structure

The following directory structure is recommended, but by no means required:

```
(FrontDoor root)
BIN
FILES
  PKT
  SEM
  NET
  NETSEC
  TMP
MSG
  MSG
    NET
JAM
HMB
```

e.g.

```
C:\FD
C:\FD\BIN
C:\FD\FILES
C:\FD\FILES\PKT
C:\FD\FILES\SEM
C:\FD\FILES\NET
C:\FD\FILES\NETSEC
C:\FD\MSG
C:\FD\MSG\MSG\NET\
C:\FD\MSG\JAM\
C:\FD\MSG\HMB\
```

 *[OS/2] FrontDoor does not require an HPFS partition. Some performance improvements can, however, be made by placing the \FD\MSG structure (above) on such a partition.*

### Removable and volatile media

It is not recommended that any paths or filenames that use removable or volatile (e.g. RAM disks) media are configured; except where it is otherwise noted. This is in particular important for FD, which is intended to be left running unattended most of the time.

### Environment variables

Certain parameters and options can be specified to FrontDoor by means of environment variables. This section does not list all environment variables used by FrontDoor. Only those that are the minimum recommended settings are mentioned below. Please refer to "Environment variables" in the Appendix section for a complete reference to the environment variables used by FrontDoor.

#### FD

The contents of the FD environment variable is used by FrontDoor to locate its primary configuration file, SETUP.FD.

It is **highly recommended** that this environment variable be properly configured (set) on all machines and in all environments where any FrontDoor program is or will be used. The FD environment variable should typically point to the FrontDoor root directory. In the above structure, the FrontDoor root directory is C:\FD. To set this environment variable, add:

```
SET FD=C:\FD
```

to your AUTOEXEC.BAT (DOS) and/or CONFIG.SYS (OS/2) and other applicable system start-up files. If your FrontDoor root directory is something other than C:\FD, put the complete path (including the drive) after the equal sign.

## TZUTC

The TZUTC environment variable determines your geographical time zone's offset to UTC (GMT) time. A positive TZUTC setting indicates a geographical location east of UTC0000, a negative TZUTC setting indicates a location west of UTC0000. The format for the TZUTC environment variable is:

```
SET TZUTC=[+|-]hhmm
```

The plus sign is optional and implied unless the minus sign is specified. For Central European Time (CET), the TZUTC setting is 0200 during summer time, and 0100 during winter time. The TZUTC setting is added to messages created by FM and FD, and is also used by FD to aid in automated time synchronization services between systems. A list of the most commonly used time zones and their TZUTC setting equivalents is listed in "TZUTC reference".

## TASK

[ML] The TASK environment variable is primarily used by FD. It is, however, recommended that it is properly configured (set) on all machines and in all environments where any FrontDoor program is or will be used. The format for the TASK environment variable is:

```
SET TASK=<tasknum>
```

where <tasknum> is 0-255. FD requires that the TASK environment variable is set and that no other running copy of FD is using the same task number.

## TMP and TEMP

While not internally supported by FrontDoor, these two environment variables can be referred to by means of the internal macros in path and filename definitions throughout the FrontDoor environment. It is recommended that at least TMP is configured, pointing to a directory capable of holding at least one megabyte (1 MB) of data. For example,

```
SET TMP=C:\FD\FILES\TMP
```

would set the TMP environment variable to point to C:\FD\FILES\TMP.

Unless used for other purposes, the TMP/TEMP is typically an ideal candidate to be placed on a RAM disk or similar media; it should, however, not point to removable media.

## CONFIG.SYS


[DOS] It should be noted that several of the environment variables mentioned above should also be added to CONFIG.SYS in environments such as OS/2 if OS-native FrontDoor applications (utilities) are being used.

[OS/2] It should be noted that several of the environment variables mentioned above should also be added to AUTOEXEC.BAT if FrontDoor applications (utilities) written for DOS are being used.

Some environments do not make use of CONFIG.SYS, which is a file originating from the DOS environment. CONFIG.SYS is used to specify certain OS configuration options and to load device drivers when the system is started.

## FILES=

The DOS version of both FM and FD are pushing the "legal limit" (20) on the number of files a DOS application can keep open at any given time. It is important that the FILES= setting in CONFIG.SYS is properly configured to handle this. In a pure DOS environment, with no other programs running, a setting of 25 (or higher) is recommended. If the system is a multi-tasking and/or networking environment, it is normally already configured to handle this, though the setting may need to be increased somewhat.

 Note that the setting should be configured to handle the maximum number of running copies of FM and FD at any given time, i.e. if two copies of FD will be running on the same machine (at the same time), a setting of 50 or higher is required.

## BUFFERS=

For pure DOS environments, a setting of 30 (or higher) is recommended. If a disk cache is used, a lower BUFFERS setting (3-5) is normally sufficient.

## 5. FDSETUP

FDSETUP is the primary configuration tool for FrontDoor. It is used to configure options that affect and control various aspects of all FrontDoor programs. Before FDSETUP is used, the FD environment variable (see "Installation") should be properly configured to point to the directory where SETUP.FD is located (or will be created, in the case of a new installation).

### Running FDSETUP

FDSETUP can be invoked in a number of ways. Typically, one of the below listed methods are used:

- ❑ With the **ALT+S** ([Setup](#)), shortcut in the **Programs** menu of FD;
- ❑ By typing FDSETUP and then pressing the **ENTER** key from an OS command prompt.

If FDSETUP can locate and read the primary configuration file, SETUP.FD, it will display the menu system and make the **File** menu the active menu.

If FDSETUP cannot locate the configuration file, it will display the name of the file it has attempted to open, together with a description of why it could not be opened (e.g. **Path not found**, **File not found**, etc). FDSETUP will then wait for keyboard input. At this point, the **SPACE** key can be used to force a new SETUP.FD file to be created; the **ESC** key will abort FDSETUP.

### Menu navigation

The selection bar in menus is moved with the **UP** and **DOWN** keys. Pressing the **HOME** key will move the selection bar to the topmost field; pressing the **END** key will move the selection bar to the last field. **PGUP** and **PGDN** generally move the selection bar one page up and one page down respectively. If a list or menu contains more entries than will fit on the screen, **CTRL+PGUP** and **CTRL+PGDN** can be used to move to the top and bottom, respectively, of the list/menu.

To move between the top-level pull-down menus, the **LEFT** and **RIGHT** keys are used. The current pull-down menu cannot be changed unless it is the active window (i.e. no sub-menus or sub-options may be displayed).

### Current task number

[ML] If the current task number is something other than zero (0), FDSETUP will display the task number in the bottom right-hand corner. FDSETUP will by default fetch the current task number from the **TASK** environment variable (see "Installation"). By using the `/T<task>` command-line parameter, FDSETUP can be forced to use a specific task number and ignore the **TASK** environment variable. For example:

```
FDSETUP /T8
```

will force FDSETUP to operate as if **TASK=8** was present in the environment.

### Multi-user environments

In a multi-user environment such as a LAN, it is generally not recommended that all users have access to FDSETUP. If FDSETUP is available to all users, at least one user (in FDSETUP) with **Supervisor** status should exist; this user should furthermore have its profile protected by a password (see [Global Users](#), below).

### File menu

The [File](#) menu consists of four (4) options:

### Write SETUP.FD

Writes the current settings to SETUP.FD without terminating FDSETUP. This option is primarily intended for environments where FDSETUP is left running.

### Shell to DOS

Invokes a temporary OS shell. Typing EXIT and then pressing the **ENTER** key from the OS command prompt will return to FDSETUP. The temporary OS shell function can be invoked throughout FDSETUP with the **ALT+Z** shortcut.

### Set task number


[ML] Allows a different task number to be specified (see "Current task number" above). FDSETUP will default to editing the current task settings for task-specific options.

## Exit

Terminates FDSETUP. If changes have been made to the configuration, FDSETUP will first prompt if those changes should be saved. Exiting FDSETUP can also be accomplished by pressing the **ESC** key in any of the top-level menus.

## License information

[ML] Allows configuration and viewing of the product license information.

 *It is required that product license information be properly entered before running FM, FD, and FDNC.*

## Global menu


The [Global](#) menu consists of four (4) options; all of which, in part or fully, affect the operation of the FrontDoor programs.

## Address

The [Address](#) option contains a number of settings vital to all FrontDoor programs; the **Address**, and **AKA matching** settings in particular. Some options specific to FM and FD are also configured here.

### Address

The network addresses used by the system. Each address must be unique within the respective network it belongs to; i.e. no two systems should use the same network address(es). For more information about networks, the nodelist, and addresses, please refer to "The Nodelist". A maximum of 31 addresses can be configured.

 *With regards to the unique addresses mentioned above, it should be pointed out that "system" in this context does not include multiple copies of FD running with the same configuration files on the same machine or LAN.*

## Site info

The settings configured here are presented to remote systems during mail sessions; the settings are only used by FD.

**Name** is the name of the system, e.g. **XYZ Corporation HQ**. If multiple copies of FD are sharing the same configuration, the **\$(TASK)** macro (see "System macros") can be used to add task/line distinction to the name.

**Location** is the geographical location of the system, e.g. **Stockholm, Sweden**.

**Phone#** is the telephone number in "raw" (untranslated) format, e.g. **+46 8 123456**. If a country number is specified, it should be specified with **one** + (plus) character in front of it.

**Speed** should contain the maximum supported connection speed of the communications device attached to the system.

**Flags** should contain the proper nodelist flags (see "The Nodelist") applicable to this system.

**BBS name** should contain the name of the BBS software (if any) used to handle interactive access the system; alternatively, the text **the BBS** can be used here.

## Domains

The domain names associated with specific addresses used by the system. This is currently only used when FM and FD creates message addressing information (MSGID); and by FD during EMSI-style session negotiations. Each domain name is linked to a specific zone number (see "The Nodelist"). For example, if zone 300 is used for the XYZ Corporation network, a suitable domain name may be **xyznet** or **xyzcorpnet**.

## AKA matching

The AKA matching table is used to match a specific system address to a zone, or a net within a zone. This allows FM to automatically use the correct address when messages are sent to recipients in different zones and/or nets. This table is also used by FD to determine which address it should present (or present first, in the case of certain types of mail sessions) to the remote system. If the system only has one address, no AKA matching needs to be configured.

## Filenames


The [Filenames](#) option contains a number of settings vital to all FrontDoor programs; the **System**, **NetMail**, **TempPath**, and [ML] **Semaphore** settings in particular. Some options specific to FM and FD respectively are also configured here.

## System

The location of most configuration files for FD, FM, and FDNC. Even though no implied logic enforces this, the **System** path is often used to store SETUP.FD. The **System** path should be configured identically for each SETUP.FD in a multi-mailer environment.


## NetMail

The location of the System NetMail folder; to which FD will unpack received messages.

 [OS/2] Some performance improvements can be made by placing this directory on an HPFS partition.


## Files

Where inbound (received) files are stored by FD.

 It is important that the disk to which this setting points has sufficient available (free) disk space to avoid a disk full condition during a mail session.

## SecFiles


Where inbound (received) files are stored by FD for secure (password protected) mail sessions. If this setting has not been configured, the above path is used for secure and unsecure sessions.

 It is important that the disk to which this setting points has sufficient available (free) disk space to avoid a disk full condition during a mail session.

## Packets


Where FD stores temporary files used for mail handling. All files in this directory can be recreated by FD as needed; this makes the directory an ideal candidate to be placed on volatile media such as a RAM disk. The directory should, however, not point to removable media.

It is recommended that FD be the only application configured to use this directory. If multiple copies of FD are running, they can safely share this directory.

 If a RAM disk is used, it is recommended that a sub-directory is created (e.g. \PACKETS) and used since the number of directory entries in the root of a disk is usually limited to a fairly low number.

## Log file

The log file used by FD to record its activities. A number of settings ([Mailer.Log](#)) affect what is written to this file. For [ML], this is also used by the Terminal if such logging has been enabled.

 [ML] It should be noted that if several copies of FD are to share the same SETUP.FD configuration file, this configuration option must include the `$(TASK)` macro (see "System macros") to make the actual filename used unique for each copy/task of FD.

## Banner

The contents of this file are displayed to interactive callers before FD terminates to pass control to the calling program or batch file used to invoke the interactive service; for example BBS software. This setting does not need to be configured for normal operation of FD.

## Nodelist

Where the nodelist database (see "The Nodelist") is stored. FDNC (see "FDNC") expects to find its control file used for creating the nodelist database in this directory.

## No BBS

The contents of this file are displayed to interactive callers when FD has been configured as mail-only ([Mailer.Miscellaneous.Mail-only](#)) or the currently active event (see "Events") does not permit interactive access. If this setting has not been configured, FD will display a hardcoded message indicating that interactive access is not permitted as applicable. This setting does not need to be configured for normal operation of FD.

## Bad BPS

The contents of this file are displayed to interactive callers when a connection is established at a speed that does not fall within the minimum required and maximum allowed settings ([Mailer.BBS/Errorlevels](#)). If this setting has not been configured, FD will display a hardcoded message indicating that the caller cannot access the system interactively at the current connection speed. This setting does not need to be configured for normal operation of FD.

## HMB files

The directory where FM expects to find the Hudson Message Base (HMB) files: MSGHDR.BBS, MSGTXT.BBS, MSGINFO.BBS, MSGIDX.BBS, MSGTOIDX.BBS, and LASTREAD.BBS. This setting is sometimes referred to as the *QuickBBS path* or *QBBS path* in third-party software. This setting does not have to be configured

For more information about the various storage types, please refer to "Mail storage".



## HMB extra


The directory where FM creates/updates the ECHOMAIL.BBS file used in conjunction with the other HMB files. If this setting has not been configured, FM uses the **HMB files** path.

For more information about the various storage types, please refer to "Mail storage".

## JAM extra

The directory where FM creates/updates the ECHOMAIL.JAM file used in conjunction with JAM-type folders (see "Folders").

For more information about the various storage types, please refer to "Mail storage".

 *This setting must be configured if JAM-type folders are used.*


## TempPath

Where general files of temporary nature are stored; including swap files ([Mailer.Swapping](#) and [Editor.Swapping](#)). If a **TMP** or **TEMP** environment variable has been defined (see "Environment variables"), it is recommended that this setting be configured as **\$(TMP)** or **\$(TEMP)** respectively. If this setting has not been configured, the **SYSTEM** path (above) is used.

For more information on the use of **\$( )**-style macros, please refer to "System macros".

## Semaphore

[ML] Where semaphore files (see "Semaphore files") are created and looked for by various FrontDoor programs and third-party applications. Most files in this directory can be recreated by the various programs as needed, with the exception of user-created semaphores; this makes the directory an ideal candidate to be placed on volatile media such as a RAM disk. The directory should, however, not point to removable media.

 *If a RAM disk is used, it is recommended that a sub-directory is created (e.g. \SEMAPHOR) and used since the number of directory entries in the root of a disk is usually limited to a fairly low number.*

If this setting has not been configured, the **SYSTEM** path (above) is used. [SL] The **SYSTEM** path is always used for semaphores and the **Semaphore** path cannot be configured.

## MailExit

If configured, this file is created by FD when mail has been received that would normally trigger FD to terminate with an errorlevel (indicating that mail has been received).

## General


The **General** option contains a number of settings used by all FrontDoor programs; in particular the [Your country code](#), and [Extended keyboard](#) settings.

## Your country code

The international country code (as used for telephone numbers) for the country where the system is geographically located (e.g. USA=1, Sweden=46, Germany=49, etc). This setting is used for telephone number translation and **must** be properly configured.


## Screen flickers

Used to override the default CGA (Color Graphics Adapter) detection. All FrontDoor programs attempt to detect if a CGA card is installed in the machine, and if so, attempts to prevent "snow" which is a common occurrence when these cards are used. The default is **No**, which should not be changed unless the screen flickers when a FrontDoor program is being used.

 *This setting is only applicable to the DOS version of FrontDoor.*

## Use "fastkey"

Specifies that the DOS versions of FM, FD, FDNC, and the Terminal should modify the typematic rate (BIOS) settings for the keyboard to accelerate input. This can only be done on machines with an IBM AT (or compatible) BIOS.

 *If other keyboard acceleration utilities are being used, or the typematic rate settings have already been configured in the BIOS setup, this setting should be **No**.*

## Screen blanking


Prevents screen images from "burning in". If a monochrome (phosphor) monitor is being used, data that is displayed in the same position on the screen tends to leave permanent trails. Color monitors and modern monochrome monitors typically do not have this problem.

## Blackout timer

Specifies how many seconds of inactivity should pass before the screen is blanked when FD is running. This setting is only used if [Screen blanking](#) (above) has been enabled. The screen will be restored automatically when activity occurs or when a key is pressed on the keyboard.

## Extended keyboard

Specifies that an extended (101 or more keys) keyboard is attached to the system. FDSETUP will attempt to detect the type of keyboard attached to the system. Some machines (BIOS) do not, however, correctly reflect the keyboard type; in which case this setting can be used to override what the machine returns to FDSETUP.

 *If this setting is No, the FrontDoor programs will not recognize the **F11** and **F12** keys, as well as some other key combinations such as **CTRL+UP** and **CTRL+DOWN**.*

## Date format

Specifies the format and separators used when dates are displayed. If set to **Auto**, the various FrontDoor programs will fetch this information from the operating system. This does not affect the format of the date displayed in the upper right-hand corner of FD's main window.

## Time format

Specifies the format and separators used when time is displayed. If set to **Auto**, the various FrontDoor programs will fetch this information from the operating system.

## Monochrome mode

Specifies that FDSETUP should use a color set suitable for monochrome, LCD, and B&W monitors. This can also be accomplished by running FDSETUP with the **/M** command-line parameter; similarly, the **/C** command-line parameter forces FDSETUP to use colors suitable for color monitors.

## Enable bright BG

Specifies that the FrontDoor programs should enable bright background colors at startup. This allows additional colors to be used as background colors; the side-effect is, however, that blinking text is no longer available (this is a limitation of the video display hardware). It should be noted that this option typically has no effect when the program is running in a window in environments like OS/2 and Windows NT; i.e. it only affects screen output in full-screen sessions.


## Reset bright BG

Specifies that the FrontDoor programs should disable/reset bright background colors when exiting. This restores the availability of blinking text. If [Enable bright BG](#) (above) is enabled, this setting should also be enabled.

It should be noted that this option typically has no effect when the program is running in a window in environments like OS/2 and Windows NT; i.e. it only affects screen output in full-screen sessions.

## Semaphore timer

Specifies, in seconds, how frequently FM and FD should scan the semaphore directory ([Global.Filenames.Semaphore](#)) to detect possible semaphore updates. The setting must be in the range 1 through 255; the default is 20 seconds.

 *Configuring this setting with a high value will result in a delay in FM and FD detecting that one or more semaphores have been updated. Configuring this setting with a low value will result in increased network traffic in LAN environments.*

## Users

The **Users** option allows up to ten user profiles (the maximum number of users for one copy of SETUP.FD) to be configured. At least one must exist. To edit an existing user profile, simply press the **ENTER** key when the desired user name is highlighted. To create a new user profile, position the selection bar on an empty user profile slot and press the **ENTER** key.


## Name

The name of the user, specified in natural form (e.g. "John Doe"); at the very least, all-uppercase names (e.g. "JOHN DOE") should be avoided. The name specified in the first user profile is presented to remote systems during mail sessions as the primary system operator (SysOp).

## Access

The access level assigned to the user; this is one of **Supervisor**, **Administrator**, or **User**.

Users with **Supervisor** access are not restricted in any way. Users with **Administrator** access are only restricted in that they may not modify various passwords without first entering the current password; some restrictions also apply to **Administrator**-type users in **Restricted** folders (see "Folders"). Users with **User** access cannot bypass any folder or password settings; furthermore, they can only modify their own password when FDSETUP is invoked.

 *It should be noted that unless user profiles with **Supervisor** and **Administrator** access are configured with a password, nothing stops anyone with physical access to FDSETUP from invoking it and modifying vital system configuration data.*

## UIL

The default User Interface Level (UIL) for the profile; this is one of **Advanced**, **Intermediate**, or **Novice**. The UIL setting determines the options available to the user; in particular for FM and the Terminal.

## Lock UIL

Specifies that the user may not change the UIL setting from within the FrontDoor programs.

## Password

The password required to access the user profile. For maximum access control, it is recommended that all users with **Supervisor** or **Administrator** access are configured with a password.

## Address

The default network address to use for the profile.

## UserID

The user ID or number used to **uniquely** identify a user. This is primarily used for JAM-type folders (see "Folders").

## UserCRC

An automatically calculated CRC (Cyclic Redundancy Check) value, based on the name setting for the profile. If FrontDoor is interfaced with the RemoteAccess BBS software package, or any other package that does not use a unique user ID for JAM folder access, the **UserID** setting should be identical to the value displayed here.

## Mailer menu

The **Mailer** menu consists of a number of options; all of which affect the behavior of FD. Some of the options in the Mailer menu also affect the Terminal.

## Miscellaneous

These options affect general and global behavior of FD.

## Mail from unlisted systems

Determines if FD should accept inbound mail sessions from systems not listed in the nodelist database (see "The Nodelist"). If **No**, FD will simply terminate the call (hang up) when the remote system has identified itself and FD cannot locate any of its addresses in the nodelist database.

## Mail from "unprotected" systems

[ML] Determines if FD should accept inbound mail sessions from systems for which no session level security (see "Mail security") has been configured. If **No**, FD will simply terminate the call (hang up) when the remote system has identified itself and FD cannot locate any security configuration settings for the addresses presented by the remote system.

## Mail from unlisted points

Determines if FD should accept inbound mail sessions from point systems (see "The Nodelist") not listed in the nodelist database. If **No**, FD will simply terminate the call (hang up) when the remote system has identified itself and FD cannot locate any of its addresses in the nodelist database.

FD will by default accept incoming mail sessions from unlisted points provided its Server/Boss passes all security checks (as configured above and elsewhere).

### Terminal-only (no Mail)

Specifies that FD should primarily be used as a Terminal; if enabled, FD will launch the Terminal as soon as it is invoked. To override this setting, the **/M** command-line parameter can be specified when FD is invoked. Alternatively, the Terminal can be invoked automatically by using the **/TERM** command-line parameter.

### Mail-only (no BBS)

Specifies that no interactive access (e.g. a BBS) should be permitted to the system. When an inbound call is processed and it is not another mail system, FD will simply terminate the call (hang-up). See "BBS interface" for more information about interfacing FD with an external program such as a BBS package to handle interactive calls.

### BBS-only (no Mail)

Specifies that FD is not used to handle mail sessions. As soon as an inbound call is detected, FD will exit with the errorlevel designated for interactive/BBS use ([Mailer.BBS/Errorlevels](#)). See "BBS interface" for more information about interfacing FD with an external program such as a BBS package to handle interactive calls.

### Match remote's zone

Specifies that FD should use an additional method to the AKA matching configuration (**Global.Address.AKA matching**) to determine which address it should present to the remote system. If enabled, and no match could be made in the AKA matching configuration, FD will compare the remote systems address(es) with its system addresses and if an address with a matching zone is found, it will be used.

### Present all AKAs to remote system

Specifies that FD should present all system addresses to the remote system. This setting should be configured as **Yes** unless there are specific reasons why FD should not present all system addresses to the remote system.

### Trigger exit upon receipt of NetMail

Specifies that FD should set its exit flag when uncompressed mail is received (from a remote system). The exit flag is by default only set when compressed mail is received. If an external program is used to process messages (e.g. to track transit mail), this setting should be configured as **Yes** to override the default behavior.



*Whether or not FD will actually exit is ultimately determined by the **Exit when mail is received** setting of the current event (see "Events").*

### Trigger exit upon receipt of ANY file

Similar to the **Trigger exit upon receipt of NetMail** setting above; this setting, however, applies to any file, compressed and uncompressed mail included.

### Busy retries

Specifies the maximum number of attempts FD should make to call a given system during an event if the line is busy or the remote system does not answer. Note that this setting specifies **retries**; i.e. a setting of one (1) will result in a maximum of two attempts. FD will reset its attempt counters when it rescans the NetMail folder to prepare outbound mail.

### Resend retries

Specifies the maximum number of delivery attempts FD should make to a given system during an event if a session is terminated prematurely or abnormally. This also affects how FD treats a failed session in regards to the *Undialable* status of a system (see "Undialable handler"). Note that this setting specifies **retries**; i.e. a setting of one (1) will result in a maximum of two attempts; a setting of zero (0) will result in a maximum of one attempt. FD will reset its attempt counters when it rescans the NetMail folder to prepare outbound mail.

### Retry delay

Specifies the default minimum number of seconds FD should pause (wait) between placing outbound calls; this setting can be explicitly configured on a per-event basis (see "Events"). This setting is used together with a small random timer to avoid two systems calling each other at the same time.

### Days to keep mail history

Specifies the number of days an entry in the mail history database should be retained. FD removes all entries older than this setting from the mail history database during its midnight maintenance.

## Seconds before passing to BBS


Specifies the number of seconds FD will wait before assuming that an inbound call is an interactive call (i.e. not another mail system attempting to deliver or pickup mail); unless FD receives two consecutive escape (ASCII 27) characters, it will attempt to establish a mail session with the caller for the amount of time configured here. The default value is 30 seconds; the minimum and maximum values are 11 and 60 respectively.

## Minimum undialable cost

The minimum cost (as retrieved from the nodelist database) of a call to be processed by the undialable handler (see "Undialable handler").

## Allow time synchronization w/o UTC

Specifies that FD should allow time synchronization (see "Mail security:TSRC") with a system that does not present valid UTC (GMT) offset information.

 *It is highly recommended that this setting be configured as No.*

## Default sort order in STQ list

Specifies the default sort order for entries when the static queue (STQ) manager is invoked from FD.

## Bypass scripts in Console services

Specifies if FD should ignore the presence of script files (see "Scripts") in the SYSTEM directory when it prompts for parameters in Console Services; script files have the .SCR extension.

## NetMail folder

These options affect the behavior of FD in regards to the System NetMail folder.

## Kill empty received messages


Specifies that FD should remove messages without **visible** text; such (empty) messages are sometimes created to force a call to be made (i.e. to pickup mail). This only affects messages, unpacked from mail packets by FD, addressed to the local system.

## Print received messages

[ML] Specifies that FD should print messages that it unpacks from received mail packets. FD will use the configured printer settings ([Printer](#)) to print messages; if no printer settings have been configured, FD will not print received messages regardless of this setting.

## Mail waiting for FrontDoor users only

Specifies that FD should only trigger the display of the *Mail waiting* indicator if an unread message (addressed to the local system) is detected in the System NetMail folder with a recipient listed in the [Global.Users](#) configuration.

 *Unread messages addressed to SysOp (on the local system) will trigger the indicator, regardless of this setting.*

## Honor Return Receipt Requests (RRQ)


[ML] Specifies that FD should honor return receipt requests. These requests are typically used to track the delivery of mail. Return receipts indicate that the message has reached its final destination system; it does not indicate that the message has been read by its intended recipient.

## Force Kill/Sent on receipts

[ML] Specifies that FD should force receipts that it generates in response to a return receipt request (see above) to be removed once they have been sent.

## Log

These options affect the behavior of FD in regards to information written to the log file; [ML] this also applies to the Terminal if logging has been enabled in the Terminal.

 *It is recommended that at least **Fatal errors**, **Other errors**, and **Brief** messages be enabled. It should also be noted that the **Debug** setting enables output of some otherwise not generated messages/information.*

## File requests

See separate "File requests" section.

## FDServer

See separate "FDSERVER" section.

## External mail

The **External mail** interface allows external programs to be launched when FD detects a specific sequence in the data received from the communications device. Any data received from the communications device can be used to trigger an exit, including **CONNECT** messages, **Caller ID** information, etc.

**String** is the data sequence FD should look for. Control characters and non-printable characters can be entered by holding down the **ALT** key and entering a one, two, or three digit sequence on the numerical keypad (e.g. **ALT+13** will result in a <CR>, ASCII 13).

**InB** specifies if the string should be monitored for inbound calls.

**OutB** specifies if the string should be monitored for outbound calls.

[DOS] **Hot** specifies that FD should not deinitialize the communications drivers when it exits.

**Level** specifies the errorlevel with which FD will terminate when the specified sequence is detected. [OS/2] This field is ignored; it must, however, be set to something above thirty (30) for the external mail entry to be considered active.

For more information about the external mail interface, see "External mail interface".

## Display

These options control some of the visual characteristics of FD.

### Mail waiting blinking

Specifies that the *Mail waiting* indicator should be displayed as blinking text; or with a high-intensity background, if the [Global.General.Enable bright BG](#) setting has been configured as **Yes**.

### Display timestamp

Specifies that the current time should be inserted into messages displayed in the scrolling message section of the main window.


### Screen size

Specifies the screen (text) mode that FD should attempt to use; this is one of **80x25**, **80x28** (VGA), **80x33** (VGA), **80x43/50** (EGA/VGA), **Auto**, or [ML] **Custom** (DOS version only). It should be noted that some VGA cards do not support the **80x28** and/or **80x33** display modes.

The **Auto** setting specifies that FD should adapt its display to use whatever the current screen (text) mode is; FD will, however, not use more than 80 column to display information. When the **Auto** setting is used, it is important that no program modifies the screen mode when loaded from FD or from a temporary shell from FD.

[ML] The **Custom** setting specifies that FD should call the BIOS (INT 10H) *Set Video Mode* function with the specified register values.

The **Set Custom..** settings are used to set the custom video mode. The **Reset Custom..** settings are used to reset the custom video mode to whatever the default video mode is.

 *The Custom setting is only available in the DOS version.*

## Colors

Allows colors used by FD to be customized to suit personal preferences. These settings also affect menus and windows displayed in the Terminal. A number of preconfigured color settings are included in FDSETUP.

## Hidden dial info

Allows up to ten strings to be specified. These strings are used to mask (hide) portions of telephone numbers sent to the communications device. This feature is typically used to hide long-distance access codes, credit card information, etc. The actual data sent to the communications device is not affected by this, only what is displayed on the screen and written to the log file.

 *The "hidden" digits are actually replaced by the text <hidden>.*

## Function keys

Allows the configuration of up to 20/24 function keys (depending on the type of keyboard attached to the system); **F1** through **F10 (F12)** and **SHIFT+F1** through **SHIFT+F10 (F12)**. These can be configured to launch other programs, force FD to exit with a specific errorlevel, etc.

To modify the configuration of a specific function key, press the desired key.

### Title

The text displayed by FD when the list of function keys is invoked. This text is also written to the log when the given function key is used.

### Action

The program or command that should be invoked by FD when the function key is used. Multiple commands and programs can be specified (stacking), separated by a semi-colon (;), for example:

```
LIST C:\FD\FD.LOG;DEL C:\FD\FD.LOG
```

would first invoke the program LIST with C:\FD\FD.LOG as the parameter; when the LIST program is terminated, FD would proceed to the next program or command, which is the DEL command in this case (which removes the specified file).

See "OS/2 version specifics" for more information about how to specify external programs for the OS/2 version of FrontDoor.

To force FD to terminate with a specific errorlevel, the following construct is used:

```
?<Errorlevel>
```

where <Errorlevel> must be in the range 0-255. It should be noted that stacking (use of multiple commands) is not possible when FD is instructed to terminate with a specific errorlevel.

[ML] An alternative to the force exit construct described above exists:

```
?<Errorlevel>;<Data>
```

where <Errorlevel> must be in the range 0-255; <Data> must be a number in the range 0-255 or an asterisk (\*). If a number is used, it specifies that FD should, instead of exiting, create the semaphore FDXITnnn.eee (where **eee** is the specified errorlevel and **nnn** is the number specified in <Data>) in the semaphore directory; if an asterisk is used, it specifies that FD should create the semaphore FDXITANY.eee (where **eee** is the specified errorlevel) in the semaphore directory.

The FDXITnnn.eee semaphore will cause the specified task (nnn) to exit as soon as possible. The FDXITANY.eee semaphore will cause the first FD task that detects the semaphore to exit.

### Pause

Specifies that FD should pause, and wait for a key to be pressed, before restoring its window after the specified program(s) and command(s) terminates.

The setting of this option is ignored when FD has been told to terminate with a specific errorlevel (see above).

### Check

Specifies that FD should rescan the System NetMail folder; this may be necessary if the invoked program creates new messages but does not create/update the FDRESCAN.NOW semaphore properly.

The setting of this option is ignored when FD has been told to terminate with a specific errorlevel (see above).

### Swap

Specifies that the DOS version of FD should swap as much of itself out of memory prior to invoking each program/command; this will leave only a small footprint of FD in memory, and thus make as much memory as possible available to the invoked program/command.

The setting of this option is ignored when FD has been told to terminate with a specific errorlevel (see above).

## BBS/Errorlevels

These options are related to errorlevels, used by FD when terminating under various circumstances, and the interactive access/BBS interface. See "BBS interface" for more information about this interface.

### Inbound Fax calls

Specifies the errorlevel with which FD will terminate when the **Fax** message ([Modem.Connect messages](#)) is received from the communications device. This setting does not require configuration if FD is being used with a fax capable ZyXEL modem and internal fax support has been enabled.

Typical use of this setting is to launch an external fax receiver application such as BGFAX. To enable the external fax receiver interface, this option must be configured with a value above thirty (30).

See "BBS interface" for more information about this interface.

## Inbound Voice calls


Specifies the errorlevel with which FD will terminate when the **Voice** message ([Modem.Status messages](#)) is received from the communications device during an **inbound** call. If this setting has been configured to zero (0), the call is simply terminated.

Typical use of this setting is to launch an external voice mail application. To enable the external voice mail interface, this option must be configured with a value above thirty (30).

See "BBS interface" for more information about this interface.


## Received mail

Specifies the errorlevel with which FD should terminate when an exit condition is triggered by received mail ([Mailer.Miscellaneous](#)).

 Whether or not FD will actually exit is ultimately determined by the **Exit when mail is received** setting of the current event (see "Events").

## BBS

Specifies the errorlevel with which FD will terminate when an inbound interactive/BBS call is detected. This setting need not be configured for mail-only systems. For this setting to be enabled, a value of thirty-one (31) or above must be specified.

 Whether or not FD will actually accept interactive/BBS access is ultimately determined by the **Allow users during event** setting of the current event (see "Events").

## Minimum BBS speed

Specifies the minimum connection speed at which FD will allow interactive/BBS access. If no minimum speed is required, this setting should be configured to zero (0).

## Maximum BBS speed


Specifies the maximum connection speed at which FD will allow interactive/BBS access. If no maximum speed is required, this setting should be configured to zero (0).

## Create .BAT file

Determines if the DOS version of FD should create the DOBBS\*.BAT file when it terminates as the result of an inbound interactive/BBS call being detected.

This setting is also used when the DOS version of FD terminates as the result of an inbound fax transmission (not handled by FD internally) being detected ([Mailer.BBS/Errorlevels.Inbound Fax calls](#)).

See "BBS interface" for more information about this interface.

 This setting is only available in the DOS version.

## Audio control


These options control some of the audible characteristics of FD.

The various settings apply to specific events, such as new mail being unpacked, waiting mail, inbound calls, etc.

FD can furthermore be configured to only issue audible signals during a specific time of the day (the start and end times are specified in 24-hour notation).

## Swapping

Determines how FD should behave when it invokes external programs and commands; other than when it terminates with a specific errorlevel. If swapping is enabled, FD will remove as much as possible of itself from memory prior to invoking the external program or command. If **Use XMS/EMS** is not enabled, or an insufficient amount of XMS/EMS memory is available, FD will swap itself to a disk file, written to the directory specified in [Global.Filenames.TempPath](#).

 This setting is only available in the DOS version.

## Protection

[ML] Allows access to specific options and commands in FD to be protected from unauthorized use. The specified password (case insensitive) will be required by FD before it allows access to any of the checked options and commands.

Note that the [Recent activity](#) and [Active event](#) functions of the **Mail** menu in FD are not protected.



## Fax

These options are related to the internal fax reception support in FD. If a fax capable ZyXEL modem is attached to the system, FD can be configured to automatically handle (receive) inbound fax transmissions.

**RcvdFiles** is the directory where the .FAX files should be stored.

**Recipient** is the recipient on the local system to which the fax cover messages created by FD will be addressed.

## Editor menu


The [Editor](#) menu consists of a number of options; all of which affect the behavior of FM.

## Miscellaneous

These options affect general and global behavior of FM.

### Delete original..

These three options specifies how and if FM should prompt the user to delete the original message when replying to messages in the various types of folders. There are two **Ask** settings, specifying the default response to the **Delete original message** prompt.

 *Note that the **Yes** and **No** settings will bypass the prompt automatically and possibly delete the original message (**Yes**).*

### Show hard CRs

Determines if the physical end-of-line markers (also known as "Hard CRs" or "Hard Carriage Returns") should be visible by default. It does not affect the actual contents or layout of messages. If this setting is enabled, FM will display Hard CRs as paragraph marks (¶).

### Margin

Specifies the right margin at which FM should automatically wrap text when message text is entered. This setting is also used when replying to messages and selecting to quote the original message. When a message already contains quoted text, FM will use a preset value to better handle the already present quoted text.

### Honor CFM


[ML] Specifies that FM should honor confirmation receipt requests. These requests are typically used to track the delivery of mail. Confirmation receipts indicate that the message has been read by its intended recipient.

### Force Kill/Sent on receipts

[ML] Specifies that FM should force receipts that it generates in response to a confirmation receipt request (see above) to be removed once they have been sent.

### New mail semaphores

Determines if FM should create/update the new mail semaphores, in the semaphore directory, when new mail has been entered. These semaphores can be used for background processing of mail. There are three semaphores, one for each type of mail: FMNEUNET.nnn (NetMail), FMNEWCNF.nnn (Conference Mail), and FMNEWLOC.nnn (Local Mail); .nnn is the task number.

 *These semaphores are not created by FM until the user changes to a different folder, a temporary shell is invoked, and/or FM terminates.*

### Hide time written

Specifies that FM should "hide" the time a message was written. It does this by setting the time field of new messages to contain zero (midnight), on the current day.

### Suppress tearlines

Specifies that FM should not create the optional tearline (three dashes, ---) when it appends Conference Mail information in the form of an Origin line (see "Folders").

### Survey delete default

Specifies the default response to the **Delete selected messages** prompt in the Survey function.

### Case of quote initials

Determines how FM inserts the initials of the sender of a message being replied to.

**Strip "Re:" on replies**

Specifies that FM should remove all occurrences of **Re:** that it recognizes from the contents of the Re: (subject) field when a message is being replied to. For Newsgroup-type folders, this is always done, as well as adding one **Re:** to the contents of the Re: (subject) field.

**Support "Replied-to" status**

Specifies that FM should support the "Replied-to" message status. This message status indicates that at least one reply has been made to the message. To do this for certain types of folders, FM has to use a message status indicator intended for other purposes (this does not normally present a problem for FrontDoor or other applications).

**Force user selection dialog**

Specifies that FM should display the user selection dialog on startup; forcing the user to select a user profile. FM will always do this if the first user profile has a password configured.

**Show Survey selection status**

Specifies that FM should display the text [**Selected**] on the line dividing the message header from the message text if a message is selected in the Survey list. This adds some overhead, which may not be desirable on slower machines.

**Highlight new messages in Survey**

Specifies that FM should highlight new (unread) messages to the current user in the Survey list. If this setting is **No**, FM will only show an asterisk (\*) in the Survey list to indicate new messages to the current user.

**Highlight user messages in Survey**

Specifies that FM should highlight messages to and from the current user in the Survey list.

**NetMail folder**

These options affect the behavior of FM in regards to the System NetMail folder. For more information about the various options and settings, please refer to "Folders".

**Restricted**

Specifies that the NetMail folder should be restricted.

**Read-only**

Specifies that the NetMail folder should be read-only.

**Export OK**

Specifies that FM should allow exporting of messages/text from the NetMail folder.

**Use tables**

Specifies that FM should enable the translation tables for the NetMail folder.

**Crash**

Specifies that FM should add the Crash message status as the default for new messages.

**Direct**

Specifies that FM should add the Direct message status as the default for new messages.

**Private**

Specifies that FM should add the Private (Pvt) message status as the default for new messages.

**Kill/Sent**

Specifies that FM should add the Kill/Sent message status as the default for new messages.


**Other folders**

Please refer to "Folders".

## Keyboard macros

Allows the configuration of up to 20/24 function keys (depending on the type of keyboard attached to the system); **F1** through **F10 (F12)** and **SHIFT+F1** through **SHIFT+F10 (F12)**. These can be configured to insert text into messages, launch other programs, and to automate certain functions while writing messages with FM.

All macros begin with the tilde (ASCII 126) character. Applicable \$[] macros can also be used in these macros (see "System macros").

 *The keyboard macros are only available while writing messages.*

To modify the configuration of a specific function key, press the desired key. If the current screen mode has more than 42 lines, FDSETUP will display a window containing a brief macro reference; the contents of which is duplicated below:

### General macros

```

~~      Literal ~
~|      Literal |
|       <CR>
~B      <TAB>
~>     <Right>
~<     <Left>
~^     <Up>
~V     <Down>
~g     <Home>
~h     <End>
~U     User name
~u     User name (first)
~Z     Current AKA (address)
~c     Current date and time

~S     Save and keep original message
~#     Save and delete original message
~W     Export message to file without headers
~X     Export message to file
~E     Execute program
~I     Import file to message
~R     Import file to message and delete file
~F     Reformat paragraph
~L     Insert line
~Y     Delete line
~}     Delete from cursor to EOL (end-of-line)
~T     Delete from cursor to EOT (end-of-text)
~G     Move cursor to top of message
~H     Move cursor to end of message

```

For the E, I, R, X, and W macros, additional data should be specified as:

```
<filename>;
```

where <filename> is the file to import/export to, or program to execute. An example follows:

```
~WC:\FD\Q.BAK;~G~T~EE.EXE C:\FD\Q.BAK;~RC:\FD\Q.BAK;
```

This macro will:

- Export the contents of the current message (body) to the file C:\FD\Q.BAK
- Move the cursor to the top of the message
- Remove all text from the cursor (which is now at the beginning) to the end of the message
- Launch the program E.EXE with C:\FD\Q.BAK as the parameter
- Import the contents of C:\FD\Q.BAK and thereafter remove the file (C:\FD\Q.BAK)

See "OS/2 version specifics" for more information about how to specify external programs for the OS/2 version of FrontDoor.

## Macros inserting data from current message

```

~m      Last name of name in To: field (message recipient)
~n      First name of name in To: field (message recipient)
~d      Full name of name in To: field (message recipient)
~p      Last name of name in By: field (message sender)
~q      First name of name in By: field (message sender)
~o      Full name of name in By: field (message sender)
~a      The contents of the Re: (subject) field

```

## Macros inserting data from original message

These macros are typically used to insert information from the original message into the reply.

```

~i      Contents of message ID information
~r      Contents of reply-to information
~M      Last name of name in To: field (message recipient)
~N      First name of name in To: field (message recipient)
~D      Full name of name in To: field (message recipient)
~P      Last name of name in By: field (message sender)
~Q      First name of name in By: field (message sender)
~O      Full name of name in By: field (message sender)
~A      The contents of the Re: (subject) field
~C      The contents of the On: (date) field
~J      The originating address (from where message originated)
~K      The destination address (to where the message was destined)

```

## Origin lines

Origin lines are used to identify the origin of messages in Conference Mail-type folders (see "Folders"). This option allows the configuration of up to 20 origin lines that can be used as the default or forced origin line in Conference Mail-type folders. One hardcoded, "empty", origin line exists, which can also be specified as the default or forced origin line for applicable folders.

Applicable \$[] macros (see "System macros") can be used in origin lines.

It is possible to generate random origin lines by configuring one of the origin line slots (1-20) as follows:

```
@<filename>
```

For example:

```
@C:\FD\MUSIC.TXT
```

would instruct FM to read the file C:\FD\MUSIC.TXT and use one of the lines present in that file as the origin line information. The specified file must be a text (ASCII) file with each line terminated by a <CR><LF> (ASCII 13, ASCII 10) pair. Comments can be placed behind semi-colons (;) and are ignored by FM.

## Display


These options control some of the visual characteristics of FM.

### Screen size

Specifies the screen (text) mode that FM should attempt to use; this is one of **80x25**, **80x28** (VGA), **80x33** (VGA), **80x43/50** (EGA/VGA), **Auto**, or [ML] **Custom** (DOS version only). It should be noted that some VGA cards do not support the **80x28** and/or **80x33** display modes.

The **Auto** setting specifies that FM should adapt its display to use whatever the current screen (text) mode is; FM will use the entire screen area to display information. When the **Auto** setting is used, it is important that no program modifies the screen mode when loaded from FM or from a temporary shell from FM.

[ML] The **Custom** setting specifies that FM should call the BIOS (INT 10H) *Set Video Mode* function with the specified register values. The **Set Custom..** settings are used to set the custom video mode. The **Reset Custom..** settings are used to reset the custom video mode to whatever the default video mode is.

 *The Custom setting is only available in the DOS version.*

## Colors


Allows colors used by FM to be customized to suit personal preferences. A number of preconfigured color settings are included in FDSETUP.

## Xlat.In and Xlat.Out

These two options allow the definition of so called translation tables. Translation tables can be used to perform one-to-one character mapping/translation when FM is reading and writing messages. **Xlat.In** is used when FM reads messages from disk, **Xlat.Out** is used when FM is writing (saving) messages to disk.

## Swapping

Determines how FM should behave when it invokes external programs and commands. If swapping is enabled, FM will remove as much as possible of itself from memory prior to invoking the external program or command. If Use **XMS/EMS** is not enabled, or an insufficient amount of XMS/EMS memory is available, FM will swap itself to a disk file, written to the directory specified in [Global.Filenames.TempPath](#).

 *This setting is only available in the DOS version.*

## File viewer

Allows the configuration of an external program which can be used from FM to view files attached to messages (file attachments). See "OS/2 version specifics" for more information about how to specify external programs for the OS/2 version of FrontDoor.

## Fax

Allows the configuration of an external program which can be used from FM to view fax documents attached to fax cover messages. See "OS/2 version specifics" for more information about how to specify external programs for the OS/2 version of FrontDoor.

## Terminal menu

The [Terminal](#) menu consists of eight options; all of which affect the behavior of the Terminal.

## Miscellaneous

These options affect general and global behavior of the Terminal.

### Init

Specifies a terminal-specific modem initialization string. When the Terminal is invoked from FD, only this string is transmitted to the communications device. When the Terminal is invoked directly from the command-prompt, this string is transmitted to the communications device after any other device initialization strings have been sent.

### Protocol


The default file-transfer protocol to use when uploading (transmit) and downloading (receive) in the Terminal; the available settings are: **Zmodem**, **Xmodem**, **Telink**, and **SEAlink**.

### Emulation

The default terminal emulation protocol to use in the Terminal; the available settings are: **ANSI**, **VT-52**, **VT-100**, and **TTY**.


### AVATAR/0+

Determines if the Terminal should honor (support) emulation sequences specific to the AVATAR/0+ terminal emulation protocol (AVT/0+). If this setting is configured as **No**, the Terminal will simply display these sequences as data received from the communications device.

 *AVATAR/0+ sequences are only supported if the currently used emulation protocol is set to ANSI.*

### Buffer size

Determines the size (in Kb) of the scroll back buffer in the Terminal. The scroll back buffer can be used to view and save data that has scrolled off the screen.

 *This setting is only used by the DOS version.*

### Connect noise

Specifies that the Terminal should issue an audible signal when a connection is established.

## Transfer noise

Specifies that the Terminal should issue an audible signal when a file-transfer has been completed.

## Xlat tables

Specifies the default type, if any, of character translation the Terminal should use. If set to **Latin1**, the Terminal uses a hardcoded table to translate data received from the communications device to suit the local environment; if set to **Config**, the Terminal will use the Terminal translation table (see below).

## Auto Zmodem

Specifies that the Zmodem file-transfer protocol may enter receive mode automatically upon the receipt of the Zmodem transmit data sequence.

## Local echo

Specifies that the Terminal should "echo" any locally entered data to the screen. Local echo is seldom used as the entered data is typically "echoed" (sent back) by the remote system.

## Wrap around

Specifies that the Terminal should automatically move onto the next line when the current cursor position is equal to the width of the screen and more data is received.

## Delay

The delay, in seconds, between calls that result in no connection being made (**BUSY, NO CARRIER, NO ANSWER**, etc). This setting is not used when calls initiated manually by typing the dial command directly in the Terminal; e.g. **ATDT123456** followed by **ENTER**.

## Logging

[ML] Determines if the Terminal should output data to the log file ([Global.Filenames.Log file](#)).

## Auto DW mode

Specifies that the Terminal should accept the sequences used to indicate that an application should enter/leave Doorway or *raw* keyboard mode. In Doorway keyboard mode, data generated by local keys being pressed is sent to the remote system in binary form.

## Timer enabled

Specifies that the Terminal should automatically terminate and return to FD after a certain amount of time has passed without activity. Regardless of the configuration of this setting, the Terminal will only automatically return to FD if it was invoked from FD; i.e. it will not exit due to inactivity if it has been invoked directly.

## Timer

Specifies the inactivity timer setting (in seconds) after which the Terminal should return to FD (see above).

## Scripts in Nodelist dial

Specifies that the Terminal should honor the presence of .SCR files in the SYSTEM directory when prompting the user for a network address in the nodelist database (nodelist dial). If scripts are only used with the mailer, this should be configured as **No**.

## Filenames

These options determine default paths and filenames used by the Terminal.

## Download

Specifies the default location to store received (downloaded) files.

## Upload

Specifies the default location of files to be transmitted (uploaded).

## Editor

Specifies the name of an external editor which can be invoked from the Terminal. If there is no desire to use an external editor in the Terminal, this option can instead be used to launch an external protocol program or similar.

See "OS/2 version specifics" for more information about how to specify external programs for the OS/2 version of FrontDoor.

## Capture

Specifies the default filename to use for data capturing when the [Capture](#) function is used in the Terminal.

## Display


These options control some of the visual characteristics of the Terminal.

### Screen size

Specifies the screen (text) mode that the Terminal should attempt to use; this is one of **80x25**, **80x28** (VGA), **80x33** (VGA), **80x43/50** (EGA/VGA), **Auto**, or [ML] **Custom** (DOS version only). It should be noted that some VGA cards do not support the **80x28** and/or **80x33** display modes.

The **Auto** setting specifies that the Terminal should adapt its display to use whatever the current screen (text) mode is; the Terminal will use the entire screen area to display information. When the **Auto** setting is used, it is important that no program modifies the screen mode when loaded from the Terminal or from a temporary shell from the Terminal.

[ML] The Custom setting specifies that the Terminal should call the BIOS (INT 10H) *Set Video Mode* function with the specified register values. The **Set Custom..** settings are used to set the custom video mode. The **Reset Custom..** settings are used to reset the custom video mode to whatever the default video mode is.

 *The Custom setting is only available in the DOS version.*

### Cursor size

Specifies the cursor size to use in the Terminal.

## Keyboard macros

Allows the configuration of up to 20/24 function keys (depending on the type of keyboard attached to the system); **SHIFT+F1** through **SHIFT+F10 (F12)** and **CTRL+F1** through **CTRL+F10 (F12)**. These can be configured to transmit text to the remote system or the communications device.

To modify the configuration of a specific function key, press the desired key. All macros begin with the tilde (ASCII 126) character. Applicable \$[] macros (see "System macros") can also be used in these macros.

### Macros


```

~~  Literal ~
~|  Literal |
|   <CR>
~B  <TAB>
~P  Current password
~!  One second pause

```

## Xlat.In and Xlat.Out

These two options allow the definition of so called translation tables. Translation tables can be used to perform one-to-one character mapping/translation when the Terminal is receiving and transmitting characters. **Xlat.In** is used when the Terminal displays data received from the remote system or communications device, **Xlat.Out** is used when the Terminal is transmitting local data (keyboard input, macros, etc).

 *The translation tables are not used when files are sent and received by means of a file-transfer protocol such as Zmodem.*

## IEMSI Profile

Specifies the default IEMSI profile. The IEMSI terminal protocol is discussed in a separate (appendix) section.

## VT-100 emulation

Specifies options related to the VT-100 terminal emulation protocol.

## Modem menu

The **Modem** menu consists of several options related to the configuration of the communication between FD and the attached communications device. This configuration also affects the Terminal. Please refer to "Modem configuration" for further information about these configuration settings.

## Printer menu

The **Printer** menu consists of a number of options related to the configuration of the printer attached to the system (if any). This configuration affects FM and FD.

### Hardware

Specifies hardware related configuration options for the printer.

[OS/2] Only the **Disabled** and **Port** settings are available.


### Disabled

Specifies that there is no printer attached to the system, or that the attached printer is not available. If configured to **Yes**, this setting disables printing in FM and FD.

### Port

### DOS version

Specifies the port on which the printer is attached to the system; this is one of **LPT1**, **LPT2**, **LPT3**, **COM1**, **COM2**, **COM3**, or **COM4**. For LPT1-LPT3, the programs will use BIOS calls (INT 17H) to output data to the printer; for COM1-COM4, the programs will use the communications driver to output data to the printer.

 *It should be noted that if serial I/O is to be used (COM1-COM4), the communications driver must be configured to handle at least two ports if printing is to be done from FD.*

### OS/2 version

Specifies the port on which the printer is attached to the system; this is one of **LPT1**, **LPT2**, or **LPT3**.

It is possible to redirect printer output to a serial printer by using the OS/2 **SPOOL** command.

### BPS rate

Specifies the bits-per-second (BPS) rate at which the programs should communicate with the printer; this is one of **1200**, **2400**, **4800**, **9600**, **19200**, or **38400** BPS. This is only used when the port has been configured as **COM1-COM4**.

### Word length

Specifies the word length (in bits); this is one of seven (7) or eight (8). This is only used when the port has been configured as **COM1-COM4**.

### Stop bits

Specifies the number of stop bits that should be used; this is one of one (1) or two (2). This is only used when the port has been configured as **COM1-COM4**.

### Parity

Specifies the parity that should be used; this is one of **None**, **Even**, or **Odd**. This is only used when the port has been configured as **COM1-COM4**.

### Page

Specifies configuration options related to page-control for data output to the printer.

### Paper forwarding

Specifies the method used for paper forwarding; this is one of **Formfeeds**, **Continuously**, or **Linefeeds**.

**Formfeeds** specifies that the programs should output one <FF> (ASCII 12) character to instruct the printer to load a new paper to prepare for printing on a new page. This is supported by most printers and also recommended setting.



**Linefeeds** specifies that the programs should output the <LF> (ASCII 10) character to forward the paper until the beginning of the next page has been reached.

**Continuously** specifies that the printer is fitted with continuously running paper.

### Manual paper feed

Specifies that the programs should pause to allow for new paper to be inserted after each page.

### Suppress ^a info

Specifies that extended message information, normally hidden behind a ^a (ASCII 1) character, should remain hidden and not be output to the printer.

### Page length

Specifies the number of printable lines of text that will fit on one page; i.e. the printable length or height.

### Page width

Specifies the number of printable characters that will fit on one line of the paper; i.e. the printable width.

### Left margin

Specifies the number of columns to leave (skip) before printing on each line.

### Top margin

Specifies the number of lines to leave (skip) before printing on each page.

### Bottom margin

Specifies the number of lines to leave (skip) at the end of each page.

## Strings

Specifies configuration options related to printer initialization and basic type face control for the printer.

For all of the below options, it is possible to specify a character using hexadecimal notation as follows:

~HH

Where **HH** is a two-digit hexadecimal number in the range 00 - FF. E.g. **~1b** and **~1B** both specifies the ASCII 27 (<Esc>) character.

### Init

Specifies the initialization string to send to the printer. This should include page and font setup, as well as clearing any printer options and settings modified by programs previously using the printer.

### Reset

Specifies the reset string to send to the printer. This should reset any specific options and settings configured in the **Init** string (above) as well as bold and italics typeface settings.

### Bold on

Specifies the string to send to the printer to enable a bold typeface. This should not clear **italics** typeface.

### Bold off

Specifies the string to send to the printer to disable a bold typeface. This should not clear **italics** typeface.

### Italics on

Specifies the string to send to the printer to enable italics typeface. This should not clear **bold** typeface.

### Italics off

Specifies the string to send to the printer to disable italics typeface. This should not clear **bold** typeface.

## Xlat.Out

Allows the definition of a so called translation table. The translation table can be used to perform one-to-one character mapping/translation when the programs output data to the printer.

## Fax

Specifies configuration options related to the printing of fax documents. This requires an external program to create the actual data to be sent to the printer, as well as communicating with the printer to transmit that data.

See "OS/2 version specifics" for more information about how to specify external programs for the OS/2 version of FrontDoor.

## Manager menu

The [Manager](#) menu consists of three options related to various configuration settings for FD.

## Events

See "Events".

## Security

See "Mail security"

## Modem

See "Modem configuration"

## 6. THE NODELIST

The nodelist is the common term used throughout the FrontDoor documentation to describe a rather complex topic. In the simplest of definitions, the nodelist is very much like a phone directory listing (phone book). But it contains a lot more information than a name and a telephone number, and different programs in the FrontDoor package use different parts of this information.

Among the many uses of the nodelist are to allow the user to perform name look-ups when writing messages, to retrieve information about remote systems, to check if a remote system is known to the local system or should be treated as an unlisted system, etc.

FD requires that the nodelist be present whereas FM and the Terminal can both be used without one, if so required.

### Base components

The nodelist is a structure similar to an inverted tree. Primarily, the nodelist is divided into one or more *Zones*, each of which is in turn divided into *Region* and *Net* sub-sections. Each net contains the details of one or more individual systems (or *Nodes*), and finally a *Node* may have one or more *Client/Point* sub-systems.

#### Zone

Usually a large geographical area, such as Europe, North America, South America, Africa, Asia, etc.

#### Region

Usually a somewhat smaller geographical area than that denoted by a zone, such as a country or part of a (large) country. A collection of regions make up one zone.

#### Net

Usually a collection of systems local to each other. Typically a city and in some cases including its suburbs. A collection of nets make up one region. The coordinating system of a net is called a *Host*. *Host* systems normally act as a default drop-off system for mail that is destined for a system located in the net.

#### Node

A single system within a net.

### Additional components

Three additional components can exist in a nodelist:

#### Hub

A hub is typically used to consolidate mail at specific pick-up/delivery points in large nets. This is done to make mail distribution within a net more efficient as far as cost and/or delivery time is concerned.

#### Server/Boss

A server - also called *Boss* - is the term used to describe a system which has one or more clients (see below) attached to it. In terms of logical placement within the nodelist hierarchy, a server/boss is identical to a node (see above).

#### Client/Point

A client - also called *Point* - is typically an individual user with a unique address. These users can reside at the same geographical location, e.g. an office, or be loosely tied to a geographical location, e.g. distance workers, field staff, etc.

### Addresses

Each individual system has a unique identifier called an address. The address is made up of four components: *Zone*, *Net*, *Node*, and *Point* (see above for an explanation of these components). A complete address is expressed as: **Zone:Net/Node.Point**, where **.Point** is often omitted if it has a value of zero (**.0**). As previously mentioned, these components are normally used to classify different geographical areas such as continents, countries, cities, etc.

The primary reason for using these components instead of an arbitrary number is to be able to quickly group a number of systems together. For example, if zone 200 is used for the North American continent, it is easy to see that a system with the address 200:3000/123 is located somewhere on that continent.

## Layout

The nodelist’s information is primarily contained in ASCII (text) source files. FDNC (see "Programs") is used to create the actual nodelist database from one or more source files. For a small network, FDNC can be used to directly create the nodelist database, without the requirement of source files. Once the nodelist database has been prepared, it is ready to be used by FD, FM, FDNC, and any other program that can directly interface with the FrontDoor nodelist.

The optimal layout and structure of your nodelist greatly depends on the number of entries it contains, as well as the method(s) used to deliver mail within the network. For a small network, with just a few systems, it is usually not a requirement that you follow the implied meaning of the base nodelist components (see "Base components", above). A network consisting of five offices in two different cities is outlined below; two different layouts have been used, each with its advantages and disadvantages:

### Layout-1

```
Zone, 300, XYZ_Corp_Network, Europe, John_Doe, 46-8-8888888, 33600, V34, CM
Host, 1, XYZ_Corp_Sthlm, Sthlm, John_Doe, 46-8-8888888, 33600, V34, CM
, 1, XYZ_Corp_Sthlm_City, Sthlm, John_Doe, 46-8-8888888, 33600, V34, CM
, 2, XYZ_Corp_Sthlm_East, Sthlm, Amanda_Doe, 46-8-7777777, 33600, V34, CM
, 3, XYZ_Corp_Sthlm_West, Sthlm, Daniel_Doe, 46-8-6666666, 64000, X75, CM
Host, 2, XYZ_Corp_Gbg, Gbg, Chris_Doe, 46-31-5555555, 33600, V34, CM
, 1, XYZ_Corp_Gbg_City, Gbg, Chris_Doe, 46-31-5555555, 33600, V34, CM
, 2, XYZ_Corp_Gbg_R&D, Gbg, Andrew_Doe, 46-31-4444444, 33600, V34, CM
```

### Layout-2

```
Zone, 300, XYZ_Corp_Network, Europe, John_Doe, 46-8-8888888, 33600, V34, CM
Host, 1, XYZ_Corp_Sthlm, Sthlm, John_Doe, 46-8-8888888, 33600, V34, CM
, 1, XYZ_Corp_Sthlm_City, Sthlm, John_Doe, 46-8-8888888, 33600, V34, CM
, 2, XYZ_Corp_Sthlm_East, Sthlm, Amanda_Doe, 46-8-7777777, 33600, V34, CM
, 3, XYZ_Corp_Sthlm_West, Sthlm, Daniel_Doe, 46-8-6666666, 64000, X75, CM
, 4, XYZ_Corp_Gbg_City, Gbg, Chris_Doe, 46-31-5555555, 33600, V34, CM
, 5, XYZ_Corp_Gbg_R&D, Gbg, Andrew_Doe, 46-31-4444444, 33600, V34, CM
```

Both layouts define five unique systems, all located in zone 300. You will notice that some systems appear to be duplicated - they are. It is common - in most network layouts - that a system which functions as a zone, region, host, or hub system, also has a "normal" (node) entry. This is by no means a requirement, but it simplifies the task of changing the entries with special meaning (zone, region, host, and hub) without having an impact on how mail is delivered throughout the network.

Layout-1 defines the following systems:

- 300:300/0 XYZ Corp Network (also 300:1/0 below)
- 300:1/0 XYZ Corp Stockholm (also 300:1/1 below)
- 300:1/1 XYZ Corp Stockholm City
- 300:1/2 XYZ Corp Stockholm East
- 300:1/3 XYZ Corp Stockholm West
- 300:2/0 XYZ Corp Gothenburg (also 300:2/1 below)
- 300:2/1 XYZ Corp Gothenburg City
- 300:2/2 XYZ Corp Gothenburg R&D

Layout-2 defines the following systems:

- 300:300/0 XYZ Corp Network (also 300:1/0 below)
- 300:1/0 XYZ Corp Stockholm (also 300:1/1 below)
- 300:1/1 XYZ Corp Stockholm City
- 300:1/2 XYZ Corp Stockholm East
- 300:1/3 XYZ Corp Stockholm West
- 300:1/4 XYZ Corp Gothenburg City
- 300:1/5 XYZ Corp Gothenburg R&D

The addresses 300:300/0, 300:1/0, and 300:2/0 are the logical result of using the special entries zone and host. A zone entry automatically generates an address of **Zone:Zone/0**. A host entry generates an address of **Zone:Host/0**.

In the above two examples, it is quite clear that Layout-2 has less overhead than Layout-1 as far as the number of systems defined. This is primarily due to the missing of the second **Host** entry. And for a small network, it is unnecessary to overly complicate the network layout.


But when applied in a network with some additional offices in each city, some of which cannot be reached during certain times of the day, or offices in additional cities, Layout-1 serves as a good starting point for a well-structured network. It utilizes two Host entries, one for each city, which creates two separate entities that clearly outline the geographical separation of the offices.

As far as the duplication of addresses in the above two layouts is concerned, it should be noted that the special purpose entries (zone and host) are typically only used for mail delivery purposes. It is rare that messages are written to a user on a special purpose system if they also have a "normal" (node) entry in the network.

## Source file format

The required file format for a source file will now be described.

Each line in a source file is either a comment or a network entry. Empty lines are ignored but can be used in place of comments to separate lines. Adding empty lines or comments to separate zones, nets (host), etc. makes it easier to read and manage the source file, but does not affect how FDNC interprets the file when it creates the actual nodelist database. All lines must be terminated by a <CR><LF> (ASCII 13, ASCII 10) pair, as is typical for most text-file editors.

 *No field may contain comma (,) or space (ASCII 32) characters; an underscore character (\_) is used to represent a space character.*

The format for a line containing a network entry is:

```
[ <KeyW> ], <SNum> , <SName> , <SLoc> , <Op> , <TelNo> , <Speed> , [ <Flags> ]
```

### KeyW      Keyword

**Zone, Region, Host, Hub, Boss, Server, Point, Pvt, Down, Hold, Route**, or nothing (empty).

The **Pvt, Down, and Hold** keywords are used to indicate exceptional status of an entry.

- Pvt** is used for entries without any data in the <TelNo> (telephone number) field, or if the field contains **-Unpublished-**; the Pvt keyword indicates that the system cannot be called directly.
- Down** is used to indicate that the system is not operational.
- Hold** is used to indicate that the system is not operational but that the condition is temporary. Mail is typically sent via the system's hub or host (see above).

The **Route** keyword is used to specify the default routing target for entries following the line containing the **Route** keyword, until another keyword that modifies the default routing target (**Host, Hub, or Route**) is encountered. The **Route** keyword is only processed (honored) if it appears within a net.

The format of the **Boss/Server** and **Route** keywords differ somewhat from that of other keywords:

```
Route,<Net>/<Node>
```


e.g.

```
ROUTE, 201/330
```

```
Server,<Zone>:<Net>/<Node>
```

e.g.

```
SERVER, 2:201/330
```

 *Typically, the addresses of systems with special meaning (**Zone, Region, Host, and Hub**) are only used for mail delivery purposes.*

### SNum      System number

A number 1-65535. This field defines the system's number within the current level or branch. The system number cannot be duplicated within the current level, nor can a zone, region, or host entry appear with the same system number within a zone. If the <KeyW> field specifies **Zone, Region, or Host**, the contents of the <SNum> field define the zone, region, and net number respectively. Some examples follow:

Zone,3,..	defines 3:3/0, the zone entry for zone 3.
Region,30,..	defines 30/0 (region) in whatever the current zone is.
Host,300,..	defines 300/0 in whatever the current zone and region, if any, is.

The actual numbers used for Zone, Region, and Host entries are not important. In most network layouts, however, it makes sense to use some sort of scheme when assigning the numbers. For Zone entries, the order of appearance is often used, e.g. 1, 2, 3, ..., 10, and so on. For Region entries, a similar scheme can be applied - using the order of appearance within the current zone. For Host entries, telephone number area codes or country codes are often used.

Note that if <KeyW> specifies **Zone**, the zone number specified after the keyword is used for all entries following the line with the **Zone** keyword; until another line containing the **Zone** keyword is encountered. Similarly, if <KeyW> specifies **Region** or **Host**, the host (net) or region number specified after the keyword is used for all entries following the line with the **Host/Region** keyword; until another line containing the **Zone, Region, or Host** keyword is encountered.

### SName      System name

The name of the system. This field should contain a descriptive name of the system; a company name, branch name, etc. Note that spaces (ASCII 32) should be replaced with underscore (\_) characters.

## SLoc System (geographical) location

The geographical location of the system. Depending on the layout of the nodelist, it may not be necessary to specify the complete location. If the <SLoc> field for Zone, Region, and Host entries is used to indicate a general description of the geographical area (e.g. North America, Europe, Scandinavia, etc), the field typically contains a description relative to that location for other entries. Note that spaces (ASCII 32) should be replaced with underscore (\_) characters.

## Op System operator

The name of the person primarily responsible for maintaining the system (the *SysOp*) specified as **Firstname\_Lastname** (e.g. John\_Doe). Note that spaces (ASCII 32) should be replaced with underscore (\_) characters.

## TelNo Telephone number

The telephone number of the system in universal (raw, or untranslated) format. If the <KeyW> field contains **Pvt**, this field should contain exactly **-Unpublished-**. This field should be structured to aid automated dial translation (see "FDNC") for programs (such as FD). It is typically divided into two, three, or four numeric sub-fields separated by dashes (-); e.g. 46-8-55630102 (Sweden, Stockholm), 1-800-555-0123 (USA, toll-free number), and so on.

The first sub-field should be the country code. If the country in which the system is located uses area codes or city codes, they should be placed in the second sub-field.

## Speed Maximum speed of modem

The maximum speed supported by the modem (or other device) attached to the system when it is communicating with another modem (or device). This field is typically of little use other than to estimate the time it takes to transfer a file to or from the system. It is, however, recommended that it is properly maintained to reflect as close to reality as possible. Valid contents for this field are: 300, 1200, 2400, 4800, 9600, 12000, 14400, 16800, 19200, 21600, 24000, 28800, 31200, 33600, 38400, 57600, 64000, 78600, 115200, 128000, and 256000.

## Flags Special capabilities indicator

This (optional) field is used to indicate special capabilities and restrictions applicable to the system. See "Nodelist flags" below for a more detailed reference to the various flags and their meaning.

FD ignores most of these flags, but can be configured to not dial a specific system based on the contents of the flags field.

## Comments

A line with a semi-colon (;) as its first non-space character is a comment. It is ignored by FDNC and other nodelist processing tools. Comments can be used to separate zones and nets, which makes it easier to view and edit the nodelist source file(s). Example of comments:

```
;This is the XYZ Corporation Network (Zone 300)
;
Zone,300,XYZ_Corp_Network,Europe,John_Doe,46-8-8888888,33600,V34,CM
;
;This is the XYZ Corporation Net in Stockholm Sweden (330:1/*)
Host,1,XYZ_Corp_Sthlm,Sthlm,John_Doe,46-8-8888888,33600,V34,CM
,1,XYZ_Corp_Sthlm_City,Sthlm,John_Doe,46-8-8888888,33600,V34,CM
,2,XYZ_Corp_Sthlm_East,Sthlm,Amanda_Doe,46-8-7777777,33600,V34,CM
,3,XYZ_Corp_Sthlm_West,Sthlm,Daniel_Doe,46-8-6666666,64000,X75,CM
;
;This is the XYZ Corporation Net in Gothenburg Sweden (330:2/*)
Host,2,XYZ_Corp_Gbg,Gbg,Chris_Doe,46-31-5555555,33600,V34,CM
,1,XYZ_Corp_Gbg_City,Gbg,Chris_Doe,46-31-5555555,33600,V34,CM
,2,XYZ_Corp_Gbg_R&D,Gbg,Andrew_Doe,46-31-4444444,33600,V34,CM
```

## Nodelist flags

Below is a list of several nodelist flags and their meaning.

Flag	CM
Description	Continuous mail - indicates that the telephone number specified in the nodelist entry is dedicated for mail purposes. When the telephone is answered, it is always answered by mail capable software, such as FD.

Flag	MO
Description	Mail only - indicates that the system does not allow interactive (e.g. BBS) access.

Flag	LO
Description	Listed only - indicates that the system only accepts mail calls from systems listed in its nodelist database.
Flag	MN
Description	No compressed mail - indicates that the system does not handle compressed mail.
Flag	V32
Description	Device - indicates that the communications device attached to the system is capable of supporting the ITU-T V.32 (9600 BPS full duplex) protocol.
Flag	V32B
Description	Device - indicates that the communications device attached to the system is capable of supporting the ITU-T V.32bis (14400 BPS full duplex) protocol.
Flag	V42
Description	Device - indicates that the communications device attached to the system is capable of supporting the ITU-T V.42/LAPM error correction protocol.
Flag	V42B
Description	Device - indicates that the communications device attached to the system is capable of supporting the ITU-T V.42bis data compression protocol.
Flag	V34
Description	Device - indicates that the communications device attached to the system is capable of supporting the ITU-T V.34 (28800 BPS full duplex) protocol.
Flag	ZYX
Description	Device - indicates that the communications device attached to the system is capable of supporting the proprietary ZyXEL protocol.
Flag	HST
Description	Device - indicates that the communications device attached to the system is capable of supporting the proprietary HST protocol.
Flag	FAX
Description	Device - indicates that the system is capable of receiving fax transmissions.
Flag	X2C
Description	Device - indicates that the communications device attached to the system is capable of supporting the USR X2 client protocol.
Flag	X2S
Description	Device - indicates that the communications device attached to the system is capable of supporting the USR X2 server protocol.
Flag	XA
Description	File requests - indicates that the system honors all types of file requests (all systems using FD and honoring file requests should have this flag present in their nodelist entry).

Flag	XB, XC, XP, XR, XW, XX
Description	File requests - indicates that the system honors specific types of file requests (FD can request files from any system with one of these flags in their nodelist entry).
Flag	X75
Description	Device - indicates that the communications device attached to the system is capable of supporting the ITU-T X.75 (ISDN) protocol.
Flag	V110L
Description	Device - indicates that the communications device attached to the system is capable of supporting the ITU-T V.110 (19200 async "low") protocol.
Flag	V110H
Description	Device - indicates that the communications device attached to the system is capable of supporting the ITU-T V.110 (38400 async "high") protocol.
Flag	V120L
Description	Device - indicates that the communications device attached to the system is capable of supporting the ITU-T V.120 (57600 async) protocol.
Flag	V120H
Description	Device - indicates that the communications device attached to the system is capable of supporting the ITU-T V.120 (64000 async) protocol.
Flag	ENC
Description	Encrypted mail - indicates that the system accepts inbound encrypted mail.
Flag	U...
Description	User flag - one or more flags not otherwise covered by already defined nodelist flags; the user flag(s) may contain any alphanumeric character except spaces (ASCII 32). The maximum (total) length of user flags is 32 characters. The <b>U</b> (capital u) character should not be repeated.  It is recommended that the initial <b>U</b> is immediately followed by a comma and then by one or more user flags, separated by commas. For example: <b>,U,REC,NEC</b>

## Points

Adding a definition of one or point addresses in the nodelist database can be accomplished by including separate *point lists* into the nodelist database (see "FDNC"), or by using the **Point** keyword as indicated below:

```
;This is the XYZ Corporation Network (Zone 300)
;
Zone,300,XYZ_Corp_Network,Europe,John_Doe,46-8-8888888,33600,V34,CM
;
;This is the XYZ Corporation Net in Stockholm Sweden (330:1/*)
Host,1,XYZ_Corp_Sthlm,Sthlm,John_Doe,46-8-8888888,33600,V34,CM
,1,XYZ_Corp_Sthlm_City,Sthlm,John_Doe,46-8-8888888,33600,V34,CM
,2,XYZ_Corp_Sthlm_East,Sthlm,Amanda_Doe,46-8-7777777,33600,V34,CM
,3,XYZ_Corp_Sthlm_West,Sthlm,Daniel_Doe,46-8-6666666,64000,X75,CM
Point,1,Daniel_at_home,Sthlm,Daniel_Doe,-Unpublished-,33600,
;
;This is the XYZ Corporation Net in Gothenburg Sweden (330:2/*)
Host,2,XYZ_Corp_Gbg,Gbg,Chris_Doe,46-31-5555555,33600,V34,CM
,1,XYZ_Corp_Gbg_City,Gbg,Chris_Doe,46-31-5555555,33600,V34,CM
,2,XYZ_Corp_Gbg_R&D,Gbg,Andrew_Doe,46-31-4444444,33600,V34,CM
```

Note the use of the **Point** keyword above (*Daniel at home*); the resulting network address is 300:1/3.1 (point one of 300:1/3).

The above points can also be placed in a separate point list as indicated below (note the lack of the **Point** keyword):

```
;Points for 300:1/3
Boss,300:1/3
,1,Daniel_at_home,Sthlm,Daniel_Doe,-Unpublished-,33600,
```




## 7. FDNC

FDNC is the FrontDoor Nodelist Compiler or Manager used to maintain the FrontDoor nodelist database.

FDNC is most frequently used as a command-line utility and invoked from a batch file or another program; it can also be used interactively.

When FDNC is run from the command-line to compile the nodelist database, it reads the nodelist configuration from a file called `FDNODE.CTL`, located in the `NODELIST` directory. This file contains information about which nodelist source files should be processed, as well as telephone number dial translation, and cost information data.

 It should be noted that FDNC will only add entries to the system log file when it is run as a command-line utility.

### FDNODE.CTL

This file is located in the `NODELIST` directory. It is a plain ASCII (text) file containing information which determines how FDNC should compile the nodelist database and its associated files.

Each line in `FDNODE.CTL` is either a comment, command, or data for a command. Empty lines are ignored but can be used in place of comments to separate lines. Adding empty lines or comments to separate commands makes it easier to read and manage the file, but does not affect how FDNC interprets it when it creates the actual nodelist database. All lines must be terminated by a `<CR><LF>` (ASCII 13, ASCII 10) pair.

### Comments

A line with a semi-colon (;) as its first non-space character is a comment. It is ignored by FDNC and other nodelist processing tools.

### IGNOREBADNL

When FDNC is interpreting `FDNODE.CTL` or a nodelist source file, it performs basic syntax checking in an attempt to detect format errors, etc. When such errors are detected, FDNC will normally stop its processing and terminate with a specific errorlevel to indicate that an input file error has occurred; this may leave the system in an unusable state.

To prevent FDNC from performing this syntax checking, the `IGNOREBADNL` command can be placed on a line by itself, somewhere near the top of the `FDNODE.CTL` file.

### POINTLIST <Filename> [<Server/Boss>]

This command specifies that FDNC should incorporate the contents of `<Filename>` into the nodelist database. If `<Filename>` contains a native pointlist (i.e. one without Boss/Server keywords), the `<Server/Boss>` field **must** be used; it should contain the Server/Boss address of the points defined in `<Filename>`.

When FDNC encounters a `POINTLIST` command, it copies the contents of `<Filename>` into a file called `FDPOINT.PVT` (the file is created/truncated when the first `POINTLIST` command is encountered). If the `<Server/Boss>` field has been specified, FDNC inserts **Boss,<address><CR><LF>** into the file before copying the contents of the file.

`<Filename>` may contain wildcards, in which case FDNC will use the most recent file of the files matching the specified filemask.

### PVTLIST <Filename> [<Zone>]

This command specifies that FDNC should incorporate the contents of `<Filename>` into the nodelist database. If `<Filename>` is a nodelist source file without a Zone entry as the first entry, the `<Zone>` field **must** be used; it should contain the zone number to which the systems defined in `<Filename>` belong.

 Only the first `PVTLIST` command in `FDNODE.CTL` may contain the `<Zone>` field.

When FDNC encounters a `PVTLIST` command, it copies the contents of `<Filename>` into a file called `FDNET.PVT` (the file is created/truncated when the first `PVTLIST` command is encountered).

`<Filename>` may contain wildcards, in which case FDNC will use the most recent file of the files matching the specified filemask.

### SWEPULSE

This command should **only** be used if the following conditions are met:

- The system is connected to the Swedish PSTN.
- The system is using pulse dialing.
- The modem connected to the system cannot handle proper pulse dial translation for Sweden.

The `SWEPULSE` command forces a remapping of digits in telephone numbers so that the correct telephone number is dialed when the above listed conditions are met. This command is typically not needed with modern equipment.

## PHONE <Address> <Override\_Number>


This command is used to override a telephone number listed for <Address> in a nodelist source file.

When FDNC encounters this command, it copies the nodelist entry for the system specified in the <Address> field to the internal nodelist database and then replaces the telephone number field with the number specified in <Override\_Number>; the specified telephone number should follow the same format as telephone numbers in the nodelist source files.

If the system specified in <Address> does not exist in the nodelist database, no action is taken by FDNC.

## USE ZONE <Zone1>[ <Zone2> <Zone3> .. <ZoneNN>]

This command controls which entries should be included in the searchable nodelist and userlist indices. FDNC will by default include all entries in these indices. The purpose of this command is to decrease the size of the index files - the source nodelist files are not affected by this.

 If FrontDoor cannot locate a given system (address) in the nodelist index, it is considered to be a non-existent system, even though it may actually exist in a nodelist source file processed by FDNC.

## DIAL <natl Prefix>/<Suffix> <intl Prefix>/<Suffix>

This command indicates the start of the dial translation table. The table is used to determine how FD dials a particular telephone number.

If no national prefix and suffix is required, a single slash (/) should be used. Likewise, if no international prefix and suffix is required, a single slash (/) should be used. These fields determine what, if anything, should be inserted before (Prefix) and after (Suffix) the telephone number when FD calls a system by dialing its number. The [Global.General.Country code](#) setting in FDSETUP determines what is considered domestic and international telephone numbers respectively.

FDNC considers all lines, from the DIAL command until an END command is encountered, to be part of the dial translation table. The lines following the DIAL command, if any, consist of two fields: a search string, and a replacement string.

The translation table fields do not have to contain digits (0-9). They may contain anything supported by the attached communications device; e.g. S25=100 could be used as the suffix part of a field if that sequence is supported by the communications device.

### Example 1 (Country code = 46):

```
DIAL / 009 ;Add 009 to intl numbers not matched below
46-8- ;Remove 46-8- if starting with 46-8- (local)
46- 0 ;Remove 46- and add 0 if starting with 46-
;(domestic)
END ;;End of dial translation table
```

The above dial translation will translate the following (raw) numbers as listed:

```
46-8-123456      Dialed as 123456 (local)
46-40-7890123   Dialed as 040-7890123 (domestic)
1-800-555-0123  Dialed as 0091-800-555-0123 (international)
```

### Example 2:

```
DIAL 12345-1- / ;Add 12345-1- to natl numbers not
;matched below
END ;End of dial translation table
```

### Example 3:

```
DIAL /2222 00/1111 ;Append (suffix) 2222 to all natl
;numbers not matched below.
;Add 00 to all intl numbers not
;matched below
;Append (suffix) 1111 to all intl
;numbers not matched below.
END ;End of dial translation table
```

### Example 4 (Country code = 46):

```
DIAL / 009 ;Add 009 to intl numbers not matched below
46- ;Remove 46- if starting with 46-
46-8- /391 ;Append (suffix) 391 if starting with
;46-8- (and remove 46-8-)
61- 00961-/X2 ;Translate 61- to 00961- and append
;(suffix) X2
END ;End of dial translation table
```

## IP translation

A special type of dial translation is indicated by using the **Internet** keyword in a translation field; this is called *IP translation* and is used to convert a telephone number to something that resembles an Internet IP address.

An example of IP translation follows:

```
DIAL / 009           ;Add 009 to intl numbers not
                    ;matched below
#      Internet     ;IP translate numbers starting with '#'
0000-  Internet/:155 ;IP translate numbers starting with 0000-
V      Internet#    ;IP translate numbers starting with 'V'
END                    ;End of dial translation table
```

The above dial translation will translate the following (raw) numbers as listed:

```
#2-2-2-0          dialed as 2.2.2.0 (note that the dashes have been translated to dots)
0000-3-3-3-0      dialed as 3.3.3.0:155 (note the :155 suffix)
V4-4-4-0          dialed as #4.4.4.0
```

## COST <natl Cost> <intl Cost >

This command indicates the start of the cost table. The table is used to determine how much it costs to dial a particular telephone number. The cost-to-dial figure can be used to limit which systems FD calls during specific times of the day, and with other call-control options.

The two default parameters, <natl Cost> and <intl Cost>, are required; they determine the default cost for a domestic call, as well as the default cost for an international call. The default values are only used if no match is made in the actual cost table. The [Global.General.Country code](#) setting in FDSETUP determines what is considered domestic and international telephone numbers respectively.

FDNC considers all lines, from the COST command until an END command is encountered, to be part of the cost table. The lines following the COST command, if any, consist of two fields: the telephone number match criteria, and its associated cost.

### Example (Country code = 46):

```
COST 0      100 ;Default domestic cost=0, international cost=100
      1-     75 ;Canada and the US
      1-800- 0 ;Canada and the US, toll-free numbers
      46-    35 ;Sweden (can be replaced by default natl cost)
      46-31- 25 ;Sweden, city of Gothenburg
END                    ;End of cost table
```

The above cost table will assign the following costs to the below numbers as listed:

```
46-8-123456      cost 35      (Sweden)
46-31-7890123    cost 25      (Sweden, city of Gothenburg)
1-315-123-4567   cost 75      (Canada and the US)
1-800-555-0123   cost 0       (Canada and the US, toll-free number)
32-123-4567      cost 100     (no match, default international cost)
```

### Cost assignment for IP translated numbers

When the special IP translation (see above) has been used to translate a telephone number, a special entry in the cost table must be used to apply cost to the call. If no such entry exist in the cost table, the default international cost will be used. The special entry is created by using the text **Internet** in the first field, followed by the cost in the second field. This cost will apply to all numbers that have been translated using the IP translation feature.

## PVTLIST and POINTLIST

As previously mentioned, the PVTLIST and POINTLIST commands in FDNODE.CTL copy the specified source file(s) into FDNET.PVT and FDPOINT.PVT respectively; it is, however, not necessary to use these commands simply to maintain a private nodelist.

### FDNET.PVT

If no PVTLIST commands are used in FDNODE.CTL, FDNC will not modify the contents of an existing FDNET.PVT file. Thus, if only one local nodelist source file exists, it can be named FDNET.PVT and placed in the NODELIST directory.

### FDPOINT.PVT

If no POINTLIST commands are used in FDNODE.CTL, FDNC will not modify the contents of an existing FDPOINT.PVT file. Thus, if only one local nodelist source file containing points exists, it can be named FDPOINT.PVT and placed in the NODELIST directory.

## Nodelist groups

Nodelist groups can be used to categorize specific systems; FDNC will automatically place entries from specific files into groups as follows:

- Group 1: Entries from the raw nodelist (typically the file NODELIST.nnn where **.nnn** is a numerical extension representing the day-of-year number when it was created).
- Group 2: Entries compiled from FDNET.PVT (which usually contains the combined result of all occurrences of the **PVTLIST** command).
- Group 3: Entries compiled from FDPOINT.PVT (which usually contains the combined result of all occurrences of the **POINTLIST** command).

Groups **A** through **Z** are user assigned groups, which can be used when importing lists into the nodelist database and when existing entries in the nodelist database are edited and saved to the internal database.

## Command-line use of FDNC

As previously mentioned, FDNC is mostly used as a command-line utility to compile the nodelist source file(s) into the nodelist database. If FDNC is started without parameters, its interactive interface will be displayed.

Please refer to "Batch files" for a list of possible errorlevels returned by FDNC.

This section outlines the FDNC command-line parameters and their function. All FDNC command-line parameters can be specified as `<slash><parm>`, `<dash><parm>`, or `<parm>`, e.g.

```
/Parm
-Parm
Parm
```

are all treated as the same parameter; command-line parameters are case insensitive, unless otherwise noted. If a parameter requires additional data (such as **EDITFILE** below), it follows the parameter separated by a space (ASCII 32). The order of command-line parameters does not matter, unless otherwise noted. For clarity, all parameters below are prefixed with a single slash (/).

### COMPILE

Parameter format: `/C` or `/COMPILE`

FDNC will compile the nodelist source files into the nodelist database if it detects that a source file (or FDNODE.CTL) has been modified since the nodelist database was last compiled.

### FORCECOMPILE

Parameter format: `/F` or `/FORCECOMPILE`

FDNC will unconditionally compile the nodelist source files into the nodelist database.

### PHONECOMPILE

Parameter format: `/P` or `/PHONECOMPILE`

Forces FDNC to process **COST**, **DIAL**, and **PHONE** commands in FDNODE.CTL. FDNC will ignore any other command it encounters in FDNODE.CTL.

## MISSINGOK

Parameter format: /MISSINGOK

Forces FDNC to ignore missing nodelist source files specified with the **PVTLIST** and **POINTLIST** commands in FDNODE.CTL. FDNC will normally abort with an error message when it cannot find a nodelist source file.

This parameter can also be specified in the FDOPT environment variable as **MISSINGOK**.

## EDITFILE

Parameter format: /EDITFILE <WhatFile>

This invokes FDNC's internal text editor to edit an ASCII (text) file. When the editor is closed, FDNC will terminate, unless the /NOEXIT (see below) parameter has also been specified or an error occurs while editing the file.

<WhatFile> is one of the following:

### ROUTEFILE

The FD source route file (ROUTE\*.FD) in the SYSTEM directory. FDNC will suggest the actual filename to be edited; the suggested filename can be used as is or edited before the actual editor is invoked.

### NAMEMACROS

The file NAMES.FD in the SYSTEM directory.

### BANNERFILE

The file specified in FDSETUP ([Global.Filenames.Banner](#)).

### NOBBSFILE

The file specified in FDSETUP ([Global.Filenames.No BBS](#)).

### BADBPSFILE

The file specified in FDSETUP ([Global.Filenames.Bad BPS](#)).

### REQLISTFILE

The file specified in FDSETUP ([Mailer.File requests.Filenames.List](#)).

### SECREQLSTFILE

The file specified in FDSETUP ([Mailer.File requests.Filenames.SecList](#)).

### ALIASFILE

The file specified in FDSETUP ([Mailer.File requests.Filenames.Alias](#)).

### SECALIASFILE

The file specified in FDSETUP ([Mailer.File requests.Filenames.SecAlias](#)).

### REQMSGFILE

The file specified in FDSETUP ([Mailer.File requests.Filenames.Message](#)).

### FDNODECTLFILE

The file FDNODE.CTL in the NODELIST directory.

### OTHERFILE

Another ASCII file, specified after the OTHERFILE parameter (separated by a space). For example:

```
FDNC<SPACE>EDITFILE<SPACE>OTHERFILE<SPACE>C:\AUTOEXEC.BAT
```

would invoke the text editor with C:\AUTOEXEC.BAT as the file to edit. The file specified as the file to edit must not contain wildcards; the file need not exist, in which case FDNC displays a warning that the file could not be found, and then allows a new file to be created.

## EXPORT

Parameter format:

```
/EXPORT <ListMode> <Filename> <IncGroups> <ExcGroups> <Options>
```

 All parameter must be specified. If the /NOEXIT parameter is used, it must be specified after the <Options> parameter.

<ListMode> is the equivalent of the **Mode** option when FDNC is used interactively and is one of:

NLIST	Nodelist
PLIST	Pointlist
PBOOK	Phonebook
FDAPX	FrontDoor APX
ZLIST	Zone list
ZRLIST	Zone+Region list
ZRHLIST	Zone+Region+Host list

<Filename> is the file to which the exported entries should be written; an existing file will be overwritten.

<IncGroups> is the group or groups (A-Z, 1-3, or \*) to include - use a single asterisk (\*) to include all groups.

<ExcGroups> is the group or groups (A-Z, 1-3, or !) to exclude - use a single exclamation mark (!) to specify that no groups should be excluded.

<Options> is related to the various options present when using the [Nodelist.Export to file](#) function in FDNC interactively. The <Options> parameter must contain six characters (**1** or **Y** for Yes, and **0** or **N** for No).

From left to right, the <Options> parameter specifies:

Points are Pvt

"All" are Pvt

Exclude Hold

Exclude Down

Exclude Pvt

Exclude Points

Please refer to the [Export to file](#) function below ("Interactive use FDNC") for more information about the various modes and options.

## BROWSE

Parameter format: /BROWSE

Invokes the nodelist browser which allows browsing of the nodelist database.

## NOEXIT

Parameter format: /NOEXIT

Used in conjunction with EDITFILE, EXPORT, or BROWSE, this command prevents FDNC from closing (terminating) once the specified operation has been completed.

## Combining parameters

The EDITFILE, EXPORT, BROWSE, COMPILE, and PHONECOMPILE command-line parameters are mutually exclusive; i.e. only one of these parameters may appear on the command-line.

## Interactive use FDNC

FDNC can be used interactively to aid in a number of tasks such as manually editing nodelist entries, exporting portions or all of the nodelist to an ASCII file, and importing one or more nodelist source files directly into the compiled nodelist database.

To use FDNC interactively, simply invoke it without any parameters.

The main screen of FDNC consists of a pull-down menu system, a work area, and a bottom status line. The work area is the space between the menu bar (top) and the bottom status bar. The pull-down menu layout will now be described.

### System menu

The system menu contains two menu options:

#### DOS shell

Invokes a temporary OS shell which allows operations such as copying and moving of files to be performed.

#### Exit

Closes (terminates) FDNC and returns to the command-line or calling program (e.g. FD).

### Nodelist menu

The nodelist menu contains seven menu options:

#### Edit nodelist

Allows editing of individual system entries in the nodelist database.

#### Browse nodelist

Invokes the internal nodelist browser which allows browsing of the nodelist database. This is the same browser invoked by the /BROWSE command-line parameter (see "Command-line use of FDNC", above).

#### Export to file

Invokes the nodelist export function (see below).

#### Import from file

Invokes the nodelist import function (see below).

#### Compile nodelist

Invokes the nodelist compiler. This is the equivalent of running FDNC with the /C (or /COMPILE) command-line parameter (see "Command-line use of FDNC", above).

#### Compile FDNODE.CTL

Forces FDNC to process **COST**, **DIAL**, and **PHONE** commands in FDNODE.CTL. This is the equivalent of running FDNC with the /P (or /PHONECOMPILE) command-line parameter (see "Command-line use of FDNC", above).

#### Edit control file

Invokes the file editor to allow editing of FDNODE.CTL. This is the equivalent of running FDNC with the /EDITFILE FDNODECTLFILE command-line parameters (see "Command-line use of FDNC", above).

### Edit menu

The edit menu contains several options, all of which allows the editing of files relevant to the configuration of the system:

#### Routing..

Invokes the file editor to allow editing of ROUTE\*.FD (route source file). This is the equivalent of running FDNC with the /EDITFILE ROUTEFILE command-line parameters (see "Command-line use of FDNC", above).

## Name macros

Invokes the file editor to allow editing of NAMES.FD (name macros file). This is the equivalent of running FDNC with the /EDITFILE NAMEMACROS command-line parameters (see "Command-line use of FDNC", above).

## Banner file

Invokes the file editor to allow editing of the file specified in FDSETUP ([Filenames.Banner](#)). This is the equivalent of running FDNC with the /EDITFILE BANNERFILE command-line parameters (see "Command-line use of FDNC", above).

## No BBS

Invokes the file editor to allow editing of the file specified in FDSETUP ([Filenames.No BBS](#)). This is the equivalent of running FDNC with the /EDITFILE NOBBSFILE command-line parameters (see "Command-line use of FDNC", above).

## Bad BPS

Invokes the file editor to allow editing of the file specified in FDSETUP ([Filenames.Bad BPS](#)). This is the equivalent of running FDNC with the /EDITFILE BADBPSFILE command-line parameters (see "Command-line use of FDNC", above).

## Request list

Invokes the file editor to allow editing of the file specified in FDSETUP ([Mailer.File requests.Filenames.List](#)). This is the equivalent of running FDNC with the /EDITFILE REQLST command-line parameters (see "Command-line use of FDNC", above).

## Secure request list

Invokes the file editor to allow editing of the file specified in FDSETUP ([Mailer.File requests.Filenames.SecList](#)). This is the equivalent of running FDNC with the /EDITFILE SECREQLST command-line parameters (see "Command-line use of FDNC", above).

## Alias list

Invokes the file editor to allow editing of the file specified in FDSETUP ([Mailer.File requests.Filenames.Alias](#)). This is the equivalent of running FDNC with the /EDITFILE ALIASFILE command-line parameters (see "Command-line use of FDNC", above).

## Secure alias list

Invokes the file editor to allow editing of the file specified in FDSETUP ([Mailer.File requests.Filenames.SecAlias](#)). This is the equivalent of running FDNC with the /EDITFILE SECALIASFILE command-line parameters (see "Command-line use of FDNC", above).

## Request message

Invokes the file editor to allow editing of the file specified in FDSETUP ([Mailer.File requests.Filenames.Message](#)). This is the equivalent of running FDNC with the /EDITFILE REQMSGFILE command-line parameters (see "Command-line use of FDNC", above).

## Other..

Invokes the file editor to allow editing of an ASCII (text) file. This is the equivalent of running FDNC with the /EDITFILE OTHERFILE command-line parameters (see "Command-line use of FDNC", above).

## Help menu

The help menu contains the **About** menu option, which displays program information and available memory.



## The FDNC ASCII file editor

The FDNC file editor is a general purpose ASCII (text) file editor with some enhancements suitable for the FrontDoor environment. In the DOS version of FDNC, the editor is, however, not suitable for handling the task of editing large files. The maximum file size the editor can handle is [DOS] somewhere around 55 Kb and/or 1500 lines [OS/2] three megabytes and/or 30000 lines; whichever is first reached.

Once the editor is active, its menus are accessed by holding down the **ALT** key and then pressing one of the letters highlighted in the (top) menu bar; for example, to invoke the **File** menu, hold down the **ALT** key and press the **F** key (**ALT+F**). For keys and functions not found in the menus, a keyboard reference screen can be accessed by pressing **F1**.

**Insert** (INS) and **Overtyp**e (OVR) mode is toggled by pressing the INS (Insert) key. The current input mode is displayed to the right on the bottom status bar of the editor window.

## The FDNC nodelist editor

The nodelist editor is used to directly manipulate entries in the compiled nodelist database. When an entry is modified with the editor, it is copied from its current location to the internal nodelist database. The reason for this is that the nodelist source file from which the entry is copied does not necessarily have to exist for as long as the internal nodelist database - this is typically the case where updates to the source file are received on a periodic basis, e.g. once a week, once a month, and so on.

To invoke the nodelist editor, select the [Edit nodelist](#) option from the Nodelist menu.

If FDNC responds by displaying a message with "**Nodelist Database: Access Denied**", it is an indication that another program (such as FD or FM) is using the database. Programs that access the nodelist database normally open it using a method that allows several applications to read from, but not write to, the database. FDNC requires exclusive access to the nodelist database before it will allow the [Edit nodelist](#) function to be invoked. The [Browse nodelist](#) function can be used when other programs have opened the nodelist database for read access.


If FDNC responds by displaying a message that indicates one or more missing files, it means that one or more files vital to the (compiled) nodelist database are missing. The nodelist editor **cannot** be used to create a new nodelist database. See "Creating a new nodelist database" for further information about creating a new nodelist database.

If FDNC can successfully open the nodelist database, it will locate the first entry in the database and display it. Until you select to: add a new entry; copy an existing entry as the base for a new entry; or edit an entry; the nodelist editor operates in view mode.

## Navigating in view mode

All navigation functions listed in the Navigate (**ALT+N**) menu are accessible directly by using the shortcut listed to the right of each menu option. Some time should be spent learning them as they will simplify finding the desired entry without having to invoke the menu each time.

The **DatRef** field at the bottom of the view mode window is primarily supplied for technical support and troubleshooting purposes.

 *Even though the contents of the nodelist database cannot be modified from View Mode, it should be noted that no other programs will be able to access the nodelist database while it is being held open by the nodelist editor.*

## Editing a nodelist entry

The nodelist editor is accessed by selecting [New entry](#) (**INS**), [Copy entry](#) (**F10**), or [Edit entry](#) (**ENTER**) from the File menu. The copy function is similar to the new function with the exception that data for the new entry is copied from the currently displayed entry.

The edit entry screen will now be explained. For more information about the contents of the fields displayed in the nodelist editor, refer to "The Nodelist:Layout" above. One important difference between the layout of the nodelist and directly editing an entry with the nodelist editor is that an underscore (**\_**) character is **not** used to represent a space (ASCII 32) character.

The selection bar is moved with the **UP** and **DOWN** keys. Pressing the **HOME** key will move the selection bar to the topmost (of the available) field; pressing the **END** key will move the selection bar to the last (of the available) field. The first letter of a field description can also be used to move the selection bar to that field. If more than one field description with the same initial letter exist, the selection bar is moved to the first field the first time the letter is pressed, the second field the second time, and so on.

## Address

The address of the system expressed as **Zone:Net/Node.Point**, where **.Point** is optional. The **Zone** and **Net** components of the address may not be zero. If an address that already exists in the nodelist database is specified, FDNC will not allow the address to be used. The contents of this field cannot be modified when an existing entry is being edited.

## Site

The name and geographical location of the system. This field consists of two sub-fields (name and geographical location). The **TAB** key is used to move between the two sub-fields. Pressing the **ENTER** key in the first sub-field also moves to the second sub-field.

## SysOp

The name of the person primarily responsible for maintaining the system (the "SysOp") specified as **Firstname Lastname** (e.g. John Doe).

## Speed

The maximum speed supported by the modem (or other device) attached to the system when it is communicating with another modem (or device). This field is typically of little use other than to estimate the time it takes to transfer a file to or from the system. It is, however, recommended that it is properly maintained to reflect as close to reality as possible.

## Flags

This (optional) field is used to indicate special capabilities and restrictions applicable to the system. FDNC does not allow free-style editing of the flags field. The reason for this is that entries added or edited with the nodelist editor are maintained in an internal nodelist database which only supports the most commonly used flags. Please refer to "The Nodelist:Nodelist flags" for a reference to common flags and their meaning.

## Phone

The telephone number of the system in universal (raw, or untranslated) format. If the **Status** field contains **Pvt**, this field should contain -Unpublished-. This field should be structured to aid automated dial translation (see "FDNODE.CTL") for programs (such as FD). It is typically divided into two, three, or four numeric sub-fields separated by dashes (-); e.g. 46-8-55630102 (Sweden, Stockholm), 1-800-555-0123 (USA, toll-free number), and so on.

The first sub-field should be the country code. If the country in which the system is located uses area codes or city codes, they should be placed in the second sub-field.

## Cost


The cost-per-minute value is normally calculated by scanning the cost table (see "FDNODE.CTL") for a match against the telephone number of the system. If this field contains anything but a single asterisk (\*), the contents specify (override) the cost-per-minute value.

## Routing

The default routing (see "Mail routing") target for mail addressed to this system. The contents of this field cannot be modified for entries with Zone, Region, Hub, or Point status (see below).

For Host (net) entries, this field should contain the number of the region to which the net belongs. For all other entries except those with Point status, this field should contain the address of the system's hub (or host, if no applicable hub exists); for entries with Point status, this field should contain the contents of the **Address** field minus **.Point** (i.e. the address of the server/boss).

To specify that no default routing target should be used, this field should contain **0/0**.

 Note that the **Zone:** and **.Point** components of an address cannot be specified in this field.

## Status

The status (see "The Nodelist") of the system. For entries with an address of **Zone:Net/0** where the **Zone** and **Net** components have the same value (e.g. 255:255/0), Zone status is required. For entries with **Zone:Net/0** where the **Zone** and **Net** components are not the same value, Region or Host status is required. For entries with an address where **.Point** is specified, Point status is required.

## Groups

The contents of this field can be used to organize user-maintained nodelist entries into groups. An entry can belong to up to three groups. At least one group (A-Z) must be specified. The contents of the groups field can also be used when specifying which systems to export from the nodelist database (see "Exporting entries from the nodelist", below).

## Exporting entries from the nodelist

The nodelist export function is primarily intended for creating nodelist source files suitable for distribution to other systems; which can then incorporate the exported source file(s) into their (local) nodelist database. The export function does, however, also provide for some export selections which are useful for more general network administration tasks.


The output from most export selections is suitable for use as nodelist source data; to be used with the PVTLIST and POINTLIST commands (see "FDNODE.CTL"), or to be imported with the nodelist import function (see "Importing nodelist source files", below).

To invoke the nodelist export function, select the [Export to file](#) option from the Nodelist menu.

The export nodelist screen will now be explained.

The selection bar is moved with the **UP** and **DOWN** keys. Pressing the **HOME** key will move the selection bar to the topmost (of the available) field; pressing the **END** key will move the selection bar to the last (of the available) field. The first letter of a field description can also be used to move the selection bar to that field. If more than one field description with the same initial letter exists, the selection bar is moved to the first field the first time the letter is pressed, the second field the second time, and so on.

The [Start Export](#) option will not be available for selection until sufficient data has been supplied for the export function to be used.

 It should be noted that the interactive export function is only available in [ML]. Please refer to the EXPORT command-line parameter (above) for [SL].

## Mode

The export function has a number of output selections which have specific values pre-set for applicable fields in the export nodelist screen.

### Nodelist

This is the most flexible default output selection. It allows the contents of all fields to be modified to customize the resulting output.

### Pointlist

Creates output including only point systems (and a reference to their respective server/boss).

### Phonebook

Creates output suitable to be used as an address book (i.e. to be used for user and address lookups in FrontDoor). No telephone numbers are exported, and no flags are exported.

### FrontDoor APX

Creates output suitable to be used with FrontDoor APX for Windows (FDAPX/w). The output is what FDAPX/w expects to find in a ABOOKPUB.TXT file. Use of this mode requires that the userlist index (USERLIST.FDX) is present.

### Zone list

Creates nodelist output containing only **Zone** entries.

### Zones+Region list

Creates nodelist output containing only **Zone** and **Region** entries.

### Zones+Region+Host list

Creates output containing only **Zone**, **Region**, and **Host** entries.

## Filename

The name of the file to which the resulting output data should be written. If the name of an existing file is specified, FDNC will prompt for the action to take (Append, Overwrite, etc).

## Include groups

The groups to include in the exported data. The default is to include all ('\*') groups. Up to ten groups can be specified.

## Exclude groups

The groups to exclude from the exported data. Up to ten groups can be specified.

## Points are Pvt

Removes the actual telephone number and replaces it with **-Unpublished-** for all exported points.

## "All" are Pvt

Removes the actual telephone number and replaces it with **-Unpublished-** for all exported entries.

## Exclude Hold

Excludes entries with **Hold** status from the exported data.

## Exclude Pvt

Excludes entries with **Pvt** status (unpublished) from the exported data.

## Exclude Points

Excludes points from the exported data.


## Start Export

Starts the export function with the specified criteria.

## Importing nodelist source files

[ML] The [Import from file](#) function is primarily intended for importing fragments and partial nodelist source files into the nodelist database. It is not intended to be a replacement for the **PVTLIST** command (see above) which is used to incorporate automatically distributed nodelist source files into the nodelist database.

Entries imported into the nodelist database with the [Import from file](#) function are always imported to the internal database. The entries must be manually deleted by using the [Edit nodelist](#) function, or by removing the file `FDNODE.FDA` from the `NODELIST` directory and then recompiling the nodelist database.

 **CAUTION:** If the `FDNODE.FDA` file is removed from the `NODELIST` directory, all entries that have been copied and added to the internal database will be removed.

To invoke the nodelist import function, select the [Import from file](#) option from the Nodelist menu.

The import nodelist screen will now be explained.

The selection bar is moved with the **UP** and **DOWN** keys. Pressing the **HOME** key will move the selection bar to the topmost (of the available) field; pressing the **END** key will move the selection bar to the last (of the available) field. The first letter of a field description can also be used to move the selection bar to that field. If more than one field description with the same initial letter exist, the selection bar is moved to the first field the first time the letter is pressed, the second field the second time, and so on.

The [Start Import](#) option will not be available for selection until sufficient data has been supplied for the export function to be used.

It should be noted that the **USE ZONE** command (see above) is not honored by `FDNC` when importing entries with this function.

## Filename

The name of the file from which `FDNC` should read the nodelist entries to be imported. The file must contain sufficient information to define the imported systems' placement within the network hierarchy (i.e. a **Zone**, **Region**, and/or **Host** entries).

If the file contains only a fragment of a network hierarchy (i.e. individual systems), the [Zone](#), [Region](#), and [Net](#) fields (below) must be properly specified.

## Zone

Specifies the starting zone; this is typically used when importing files that only contain fragments of a network hierarchy. The specified zone will be used until a **Zone** entry is encountered in the file from which entries are being imported.

## Region

Specifies the starting region; this is typically used when importing files that only contain fragments of a network hierarchy. The specified region will be used until a **Zone** entry or a **Region** entry is encountered in the file from which entries are being imported.

## Net

Specifies the starting net; this is typically used when importing files that only contain fragments of a network hierarchy. The specified net will be used until a **Zone**, **Region**, or **Host** (net) entry is encountered in the file from which entries are being imported.

## Group

Specifies the group assignment (A-Z) for imported entries. Up to three group "tags" (identifiers) can be specified here. The default group is **A**.

## Duplicates

Specifies the action `FDNC` should take when it encounters an entry that already exists in the nodelist database.

### **Replace existing entries with imported entries**

Forces `FDNC` to automatically replace existing entries with the imported entries.

### **Do not replace existing entries with imported entries**

Forces `FDNC` to automatically skip entries that already exist in the nodelist database.

### **Prompt for action to take for duplicate entries**

Forces `FDNC` to prompt for the action to take when a duplicate entry is encountered.

## Points are Pvt

Specifies that the telephone number of all imported point entries should be set to **-Unpublished-**.

## "All" are Pvt

Specifies that the telephone number of all imported entries should be set to **-Unpublished-**. This is not applicable to imported **Zone**, **Region**, or **Host** (net) entries.

## Exclude Hold

Specifies that FDNC should not import entries with **Hold** status.

## Exclude Down

Specifies that FDNC should not import entries with **Down** status.

## Exclude Pvt

Specifies that FDNC should not import entries with **Pvt** (unpublished) status.

## Exclude Points

Specifies that FDNC should not import point entries.

## Start Import

Starts the import function with the specified criteria.

## Creating a new nodelist database

When dealing with large nodelists, it is recommended that interactive maintenance of nodelist entries with FDNC is kept to a minimum. The interactive nodelist editor in FDNC is not designed for the purpose of adding a large number of entries, but rather to add entries that do not yet appear in distributed lists, and to correct or update data in nodelist entries.

If the nodelist database contents is only made up of interactively added entries, a skeleton (near-empty) nodelist database must be created prior to using the nodelist editor. This can be done by creating a new FDNET.PVT file, in the NODELIST directory, containing only one entry:

```
Zone,65535,Skeleton,Nowhere,Noname,-Unpublished-,300,
```

once the file has been created with the above contents, FDNC should be used to compile the nodelist, either from the command-line (**/F**) or from the [Nodelist](#) menu.

## 8. MAIL ROUTING

Mail routing is the common term used throughout this Administrator Guide to describe a very complex topic. In the simplest of definitions, mail routing determines how, when, and if mail is delivered or picked-up; mail routing involves defining a set of rules and exceptions to those rules. FD interprets these rules and handles mail accordingly. Mail routing does not apply to the Terminal, nor does it apply to FM; though it may apply to mail (messages) created with FM.

Understanding the details of mail routing requires basic knowledge about the nodelist (see "The Nodelist") and events (see "Events").

### Route file

Mail routing rules are specified in the ROUTE\*.FD file, located in the SYSTEM directory. This is referred to as the *route file*. The default file, ROUTE.FD, is used if no task-specific file (ROUTE $n$ .FD where  $n$  is 1-255) can be found. FD reads the route file and tokenizes its contents to speed up repetitive processing of the file; once FD has tokenized the file, it will use the tokenized copy until a change in the source file is detected. The tokenized version of the route file is named ROUTE\*.FD@ and is stored in the **Packets** directory as specified in FDSETUP ([Global.Filenames.Packets](#)). The tokenized file is referred to as the *binary route file*.

Each line in the route file is either a comment, command, or data for a command. Empty lines are ignored but can be used in place of comments to separate lines. Adding empty lines or comments to separate commands makes it easier to read and manage the file, but does not affect how FD interprets it when it creates the binary route file. All lines must be terminated by a <CR><LF> (ASCII 13, ASCII 10) pair and may not exceed 255 characters (including the two terminating characters) in length.

All commands in the route file are case insensitive; i.e. **ROUTE-TO** is the same as **route-to** is the same as **Route-To**.

### Route file sections

The route file is divided into two primary sections: a global section and one or more local sections. Each local section is tied to a specific event (see "Events"), while the global section applies to all events; the local sections therefore usually contain commands which override certain aspects of the global section for certain events.

A local section is referred to as a *schedule block*. The global section is made up of all commands appearing before the first occurrence of the **SCHEDULE** word.

### Schedule tags

As mentioned above, each local section is tied to a specific event. The event is referred to by a *schedule tag*. A schedule tag is one letter (@, A-Z excluding X) correlating to the event tag.

### Schedule blocks

A schedule block starts with the word **SCHEDULE**, followed by a space and a one-letter tag (@, A-Z, excluding X). A schedule block ends when another SCHEDULE word or the end of the route file is encountered.

The following is an example of two schedule blocks:

```
SCHEDULE A
...
SCHEDULE B
...
..
```

### Addresses

When a command requires one or more addresses (e.g. <Address-List>, below), the constructs listed below are generally supported, unless otherwise noted. Note that an address list can consist of several lines.

255:3046/1

The system with the address 255:3046/1.

255:3046/\*

All systems in zone 255, net/region 3046; e.g. 255:3046/0, 255:3046/1, ..., 255:3046/65535.

255:\*

All systems in zone 255.

\*

All systems.

## Short-form addresses

Short-form addressing is the term used when partial addressing information is supplied without the use of an asterisk (see above). Short-form addressing can be used for addresses following the first address specified on a given line. An example follows:

```
SCHEDULE A 255:3046/1 2 3 4 5
```


The above implies 255:3046/1, 255:3046/2, 255:3046/3, 255:3046/4, and 255:3046/5.

For a slightly more verbose version of the above example, the following can be used:

```
SCHEDULE A 255:3046/1 3046/2 3046/3 3046/4 3046/5
```

The above specifies the same addresses as the first example.

Short-form addresses are always resolved by copying missing components from the previously (to the left) specified address.

 *The first address specified on a line **must** be a complete address unless it contains an asterisk (where applicable).*

The following is an example of invalid short-form address usage:

```
SCHEDULE A 2
```

Another example of invalid short-form address usage:

```
SCHEDULE A 2:201/300
          400 500 600
```


## Route commands

Route commands are used to modify the default mail routing rules (see "Default routing", below). Most route commands require additional data. All commands in the route file are case insensitive; i.e. **ROUTE-TO** is the same as **route-to** is the same as **Route-To**.

### SCHEDULE <Tag> [<Address-List>]

Defines the start of a schedule block. <Tag>, the schedule tag, must be a letter @, A-Z excluding X. The tag corresponds to the tag of an event (see "Events"). When an event with the specified tag is active, the schedule block is used to define routing rules or override those specified in the global section which is processed for all events. Only one schedule block with a given tag should exist. The optional <Address-List> implies a **QUALIFY** <Address-List> construct (see below).

The schedule block is made up of all commands following the **SCHEDULE** command until the next **SCHEDULE** command or the end of the file is encountered.

 *It should be noted that use of the **SCHEDULE** command for a given event is not a requirement; i.e. if no special rules need to be defined for an event, no schedule block for that event needs to be defined.*

### QUALIFY <Address-List>

Qualifies the specified systems. FD will only call systems that have been qualified in the global section, and those defined in the active schedule block. Note that a system can also be qualified by means of special message status settings and static queue (STQ) status settings.

The **QUALIFY** command does not affect how mail is routed.

The **QUALIFY** command can also be specified in the schedule block header:

```
SCHEDULE @ 255:3046/*
```

is identical to

```
SCHEDULE @
  QUALIFY 255:3046/*
```

Another example:

```
SCHEDULE @ 255:3046/*
          255:3045/*
```

is identical to

```
SCHEDULE @
  QUALIFY 255:3046/* 255:3045/*
```

or

```
SCHEDULE @
  QUALIFY 255:3046/*
          255:3045/*
```

 *Though possible, it is not recommended that the **QUALIFY** command be used in the global section of the route file.*

**HOLD** <Address-List>

Prevents FD from calling the specified systems. Note that FD may ignore this command if a system has been qualified by means of special message or STQ status (see "Implied routing and qualification"). It is only necessary to apply the **HOLD** command to systems which have been qualified.

Note that this command, although identical in name, is not the same as the Hold message status (see "Message status").

**UNHOLD** <Address-List>

Allows FD to call the specified systems (provided they have been qualified). This command is primarily used to override the effect of a **HOLD** command which was specified for a range of systems, e.g.

```
HOLD 255:3046/*
UNHOLD 255:3046/1 255:3046/2
```

**ROUTE-TO** <Target> <Address-List>

Specifies that mail destined for systems in <Address-List> should be delivered to the system specified in <Target>. Using this command does not affect the actual contents of the messages that are redirected. The **ROUTE-TO** command does not affect messages with file attachments (see "**ROUTE-FILES**", below).

Some implied logics are used by FD when interpreting this command. If the address specified in <Target> does not contain a **.Point** component, FD automatically adds <Target>.\* to the <Address-List>. Furthermore, if an address in the <Address-List> does not contain a **.Point** component, FD automatically replaces the address to include all points of the address.

This construct:

```
ROUTE-TO 255:3046/1 255:3046/2
```

(route mail destined for 255:3046/2 via 255:3046/1) is expanded to:

```
ROUTE-TO 255:3046/1 255:3046/1.* 255:3046/2.*
```

This construct:

```
ROUTE-TO 255:3046/1.0 255:3046/2.0
```

is not expanded (both the target and the systems listed in <Address-List> have an explicit **.0** component).

This construct:

```
ROUTE-TO 255:3046/1.0 255:3046/2
```

is expanded to

```
ROUTE-TO 255:3046/1.0 255:3046/2.*
```

**ROUTE-FILES** <Target> <Address-List>

Similar to the **ROUTE-TO** command (above), with the difference that the **ROUTE-FILES** command only affects messages with file attachments.

**HUB-ROUTE** <Address-List>

Similar to the **ROUTE-TO** command (above) in that it affects how mail for the specified systems should be routed. The primary difference is that no <Target> is specified for the **HUB-ROUTE** command.

FD uses information in the nodelist database to determine the <Target> by examining the contents of the **Routing** field (see "FDNC" and ""The Nodelist").

The **HUB-ROUTE** command does not affect messages with file attachments.

The **Routing** field normally contains the default routing target for a given system. If a hub exists, the address of the hub is stored in the field, if no hub exists, the address of the host is stored in the field. If FD cannot locate the system stored in the **Routing** field, the **HUB-ROUTE** command will be ignored for the specified address and the mail routed directly to its destination (system).



## HOST-ROUTE <Address-List>

Similar to the **HUB-ROUTE** command (above) in that it affects how mail for the specified systems should be routed. Unlike the **HUB-ROUTE** command, using **HOST-ROUTE** does not instruct FD to read the <Target> information from the nodelist database. Instead, FD simply uses the /0 address (i.e. the host) of the specified system and attempts to locate that system in the nodelist database. If FD cannot locate the (host) system, the **HOST-ROUTE** command will be ignored for the specified address and the mail routed directly to its destination (system).

The **HOST-ROUTE** command does not affect messages with file attachments.

## NO-ROUTE <Address-List>

The opposite of **ROUTE-TO**, **HUB-ROUTE**, and **HOST-ROUTE** in that it instructs FD not to attempt routing mail for the specified systems through another system. Some implied logics are used by FD when interpreting this command. The **NO-ROUTE** command means "route as directly as possible", taking the nodelist into consideration.

The **NO-ROUTE** command does not affect messages with file attachments.

When the **NO-ROUTE** command is applied to a **Pvt** (unpublished) or **Hold** system, it will result in a final routing target of the system's hub or host as applicable.

Special consideration is taken by FD when interpreting the **NO-ROUTE** command in regards to points. Unless an explicit point address is specified, or if the point cannot be located in the nodelist database, FD attempts to route the mail via the server/boss of the point (i.e. "as directly as possible").

## DIRECT <Address-List>

The opposite of **ROUTE-TO**, **HUB-ROUTE**, and **HOST-ROUTE** in that it instructs FD not to attempt routing mail for the specified systems through another system. Some implied logics are used by FD when interpreting this command.


The **DIRECT** command does affect messages with file attachments.

Special consideration is taken by FD when interpreting the **DIRECT** command in regards to points. Unless an explicit point address is specified FD routes the mail via the server/boss of the point (i.e. "as directly as possible").

## FORWARD-TO <Address-List>

The **FORWARD-TO** command is used to allow non-local (transit) mail to pass through the system without manual intervention. The destination address of a message is matched against the systems listed in <Address-List>; if a match is found, FD allows the message to pass through the system. **FORWARD-TO** does not affect how messages are routed or delivered.


The **FORWARD-TO** command does not affect messages with file attachments (see "**FILES-TO**", below).

 Note that only one of **FORWARD-TO**, **FORWARD-FOR**, **FILES-TO**, or **FILES-FOR** has to apply for a transit message to be automatically forwarded.

## FORWARD-FOR <Address-List>

The **FORWARD-FOR** command is used to allow non-local (transit) mail to pass through the system without manual intervention. The originating address of a message is matched against the systems listed in <Address-List>; if a match is found, FD allows the message to pass through the system. **FORWARD-FOR** does not affect how messages are routed or delivered.


The **FORWARD-FOR** command does not affect messages with file attachments (see "**FILES-FOR**", below).

 Note that only one of **FORWARD-FOR**, **FORWARD-TO**, **FILES-TO**, or **FILES-FOR** has to apply for a transit message to be automatically forwarded.

## FILES-TO <Address-List>

The **FILES-TO** command is used to allow non-local (transit) mail to pass through the system without manual intervention. The destination address of a message (with at least one file attachment) is matched against the systems listed in <Address-List>; if a match is found, FD allows the message and its associated file attachments to pass through the system. **FILES-TO** does not affect how messages are routed or delivered.


The **FILES-TO** command only affects messages with file attachments (see "**FORWARD-TO**", above).

 Note that only one of **FILES-TO**, **FILES-FOR**, **FORWARD-TO**, or **FORWARD-FOR** has to apply for a transit message to be automatically forwarded.

## FILES-FOR <Address-List>

The **FILES-FOR** command is used to allow non-local (transit) mail to pass through the system without manual intervention. The originating address of a message (with at least one file attachment) is matched against the systems listed in <Address-List>; if a match is found, FD allows the message and its associated file attachments to pass through the system. **FILES-FOR** does not affect how messages are routed or delivered.

The **FILES-FOR** command only affects messages with file attachments (see "**FORWARD-FOR**", above).


 Note that only one of **FORWARD-FOR**, **FORWARD-TO**, **FILES-TO**, or **FILES-FOR** has to apply for a transit message to be automatically forwarded.

## POLL <Address-List>

The **POLL** command is used to force FD to call a given system at a specific time of the day. FD will call the specified system(s) even if there is no mail waiting to be delivered to the system.

If there is outbound mail waiting to be delivered, it will only be delivered if the system has also been qualified for the currently used schedule block (see "**QUALIFY**", above); i.e. using the **POLL** command does not automatically qualify a system.

If the event (see "Events") in which the **POLL** command has been used is restarted, FD will not call the system if a successful call was previously placed during the event.


 Use of the **POLL** command in the global section is not recommended.

## DENY <Address-List>

The **DENY** command prevents another system from picking up mail during an inbound call. The calling system will only be allowed to deliver its mail.


This command is primarily used during events (see "Events") dedicated to the calling of specific systems, or to attempt to make the system as available to handle inbound calls as possible.

The **DENY** command can also be used to prevent mail for a specific address from being picked-up (by accident or deliberately) on a permanent basis by placing it in the global section. This is in particular useful when certain addresses are used internally on the system for specific purposes.

 Note that if the **DENY** command applies to a calling system, it will not be able to request files.

## SCRIPT <ScriptFile> <Address-List>

The **SCRIPT** command is used to specify that FD should use an external script file when calling the systems in <Address-List>. Using script files (see "Scripts") enables extremely flexible dial control.

 The script files used in the route file must be located in the **SYSTEM** directory. The default extension is **.SCR**.

## NO-SCRIPT <Address-List>

The **NO-SCRIPT** command is the opposite of the **SCRIPT** command; it is primarily intended to exclude a few systems from a previously used **SCRIPT** command construct. For example:

```
SCRIPT    POLLFTP.SCR 255:3046/*
NO-SCRIPT 255:3046/1 255:3046/2
```

would instruct FD to use the script file POLLFTP.SCR when calling any 255:3046/ system, except 255:3046/1 and 255:3046/2.

## EXCEPT <Address-List>

The **EXCEPT** command is used to specify an exception to the previously used <Address-List>; i.e. to exclude one or more systems from the list. Consider the above example for the **NO-SCRIPT** command; using the **EXCEPT** command, it would be written as:


```
SCRIPT    POLLFTP.SCR 255:3046/*
EXCEPT 255:3046/1 255:3046/2
```

This would instruct FD to use the script file POLLFTP.SCR when calling any 255:3046/system, except 255:3046/1 and 255:3046/2.

It should, however, be noted that **EXCEPT** is not the equivalent of **NO-SCRIPT**. Consider the following:

```
SCRIPT    POLLXTRA.SCR 255:3046/1 255:3046/2
SCRIPT    POLLFTP.SCR 255:3046/*
EXCEPT 255:3046/1 255:3046/2
```

This would instruct FD to use the script file POLLFTP.SCR when calling any 255:3046/ system, except 255:3046/1 and 255:3046/2 - for which FD would use POLLXTRA.SCR. Had a **NO-SCRIPT** been used in place of the **EXCEPT** command, the result would be that neither of the **SCRIPT** commands would apply to 255:3046/1 and 255:3046/2.

 The **EXCEPT** command works with the <Address-List> from the previous command, including another **EXCEPT** command.

With all route commands, it is possible to continue the <Address-List> onto as many lines in the route file as is required. It is also possible to repeat the command itself without affecting the meaning of the command, e.g.

```
NO-ROUTE 255:3046/1 255:3046/2 255:3046/3 255:3046/4
NO-ROUTE 255:3046/5 255:3046/6 255:3046/7 255:3046/8
```

or

```
NO-ROUTE 255:3046/1 255:3046/2 255:3046/3 255:3046/4
        255:3046/5 255:3046/6 255:3046/7 255:3046/8
```

With the **EXCEPT** command, however, caution has to be taken so that it is not used to affect "itself". Consider the following:

```
NO-ROUTE 255:*
  EXCEPT 255:3046/1 255:3046/2 255:3046/3 255:3046/4
          255:3046/5 255:3046/6 255:3046/7 255:3046/8
```

This applies **NO-ROUTE** to all 255: systems, except those 255:3046/ systems listed with the **EXCEPT** command. Had the above been written like:

```
NO-ROUTE 255:*
  EXCEPT 255:3046/*
  EXCEPT 255:3046/1 255:3046/2 255:3046/3 255:3046/4
```

the **NO-ROUTE** command would be applied to all 255: systems, except those 255:3046/ systems listed with the first **EXCEPT** command; the **NO-ROUTE** command would be applied to 255:3046/1, 255:3046/2, 255:3046/3, and 255:3046/4.

## Order of evaluation

The route file is processed from top to bottom; the last route command to affect a system overrides any previously used route commands, as applicable. This is particularly important to keep in mind when using the **EXCEPT** command (see above).

## Using nodelist flags

For route commands that require an <Address-List> parameter, nodelist flags (see "The Nodelist:Nodelist flags") can be used in place of, or combined with, addresses. The **FORWARD-TO**, **FORWARD-FOR**, **FILES-TO**, and **FILES-FOR** commands do not, however, support the use of nodelist flags. When using nodelist flags, they must be prefixed with a single percent (%) sign. For example:

```
HOLD %CM
```

would apply the **HOLD** route command to all applicable systems with the CM flag in their nodelist entry.

It is also possible to specify a negative (not) condition using nodelist flags. This is done by placing an exclamation mark (!) in front of the nodelist flag. For example:

```
HOLD %!CM
```

would apply the **HOLD** route command to all applicable systems without the CM flag in their nodelist entry.

Some nodelist flags may appear immediately behind a capital U character. These flags are referred to as *user flags* and are not directly supported by FD; e.g. the **REC** user flag may appear as **REC** and as **UREC**. To cover both possibilities in a route file, **%UREC %REC** should be used.

## Route macros


Only one macro is supported in the route file: **[\$[MYPOINTS]**. This macro expands to all local addresses with **.\*** appended. Thus, if the local system was configured with the 255:3046/1 and 255:3046/2 addresses, **DIRECT [\$[MYPOINTS]** would expand to **DIRECT 255:3046/1.\* 255:3046/2.\***.

## Default routing

When no commands in the route file affect a system, implicitly or explicitly, FD uses a set of built-in rules, these rules are called *default routing*.

For mail destined for systems outside the net of the local system, the default routing is the equivalent of the **HOST-ROUTE** command.

For mail destined for systems inside the net of the local system, the default routing is the equivalent of the **HUB-ROUTE** command.

 For systems with **Down** status, no default routing applies.

## Implied routing and qualification

The following implied rules apply to mail with certain status and to entries in the STQ:

Entries in the STQ are **never** routed.

Messages with file attachments can **only** be explicitly routed with the **ROUTE-FILES** command.

Messages with File Request (FilReq), Update File Request (UpdReq), Hold, or Force Pickup (FPU) status are **never** routed.

Messages with Hold status are **never** delivered during an outbound call; the destination system must call the local system for such messages to be delivered.

Messages with Received (Rcvd), Orphan, Lock, and/or Sent status are ignored by FD.

Messages with Direct, Immediate (Imm), and/or Crash status **cannot** be explicitly routed with route commands (the Direct message status should not be confused with the **DIRECT** route command); they will automatically be routed "as directly as possible".

Messages and STQ entries with Immediate (Imm) status are automatically qualified, whether or not the destination system has been qualified (see "**QUALIFY**" above).

Messages and STQ entries with Immediate (Imm) and/or Crash status **cannot** be held with the **HOLD** route command.

Immediate (Imm), Crash, Force Pickup (FPU), File Request (FilReq), Update File Request (UpdReq), Direct, and Hold status in a message is ignored if the message is non-local (without Local status).

For more information about various message status flags, see "Message status".

## Sample route file

This is a very simple, yet functional, example of a route file:

```
;
;ROUTE.FD sample file
;

HOLD      *           ;Hold all mail for pickup
NO-ROUTE *           ;Do not route any mail

;
;This is the schedule block for the default (@) event
;
SCHEDULE @ *         ;Qualify all systems (mail will be held)

;end of file "ROUTE.FD"
```

## 9. EVENTS

Events are used to control the operating schedule of FD. Events can be used to perform a number of tasks, but are usually divided into two primary categories: Mail events and External events (also called *X-events*). An external event forces FD to terminate with a specific errorlevel. A mail event determines which schedule block in the route file (see "Mail routing") FD should consider as the active schedule block.

The events are stored in a file named EVENTnnn.FD, located in the SYSTEM directory, this file is called the *event file*. The default event file is named EVENT.FD which is used if FD cannot find the task-specific file (EVENTnnnn.FD).

Events are configured in the Event manager in FDSETUP ([Manager.Events](#)).

### Event manager

If the applicable EVENTnnn.FD file cannot be located in the SYSTEM directory, FDSETUP will ask if it should be created, or if the default event file (EVENT.FD) should be used.

Once FDSETUP has created a new event file, or successfully opened an existing event file, the event manager screen is displayed. The title of the primary window contains the name of the event file that is currently being edited.

Events are sorted in ascending (low to high) order, based on the time of day they are configured to start; FDSETUP performs the sort when it writes the event file.

The event manager screen displays a list of the currently defined events. The list is divided into 11 columns: event number, event tag, day(s) on which the event should be invoked, modifier, start time, length (duration), errorlevel, minimum cost, maximum cost, retry delay, and the last-run date. Some of the information only applies to mail events (those with a tag of @, **A-Z**, excluding **X**), and some of the information only applies to external events (those with a tag of **X**). If an event has been set **Inactive**, a lowercase **i** is displayed between the event number and the event tag columns.

### Navigating


The selection bar is moved with the **UP** and **DOWN** keys. Pressing the **HOME** key will move the selection bar to the first event displayed on screen; pressing the **END** key will move the selection bar to the last event displayed on screen. The **PGUP** and **PGDN** keys can be used to move the selection bar one page up and one page down, respectively. To display the first event in the event file, press **CTRL+PGUP**; to display the last event in the event file, press **CTRL+PGDN**.

### Adding events

New events can be added by pressing the **INS** (Insert) and **F10** keys. If **F10** is used, settings for the new event are copied from the event on which the selection bar is positioned.

### Modifying events

To modify the event on which the selection bar is positioned, press the **ENTER** key. If you just want to toggle the **Inactive** flag of an event, simply press **F1** when the selection bar is positioned on the selected event.

 *The @ event cannot be set to Inactive.*

The **SPACE** key can be used to display the status settings of an event without first selecting to edit the event.

### Deleting events

To delete the event on which the selection bar is positioned, press the **DEL** (Delete) key. This will not physically remove the event from the event file; it will simply mark the event for deletion. When the event file is written (saved), entries marked for deletion will not be saved. Entries marked for deletion are indicated with an asterisk (\*) between the event number and the event tag columns. If you change your mind, simply press the **DEL** key again to remove the deletion marker.

### The Add/Edit event form

This window is displayed if you choose to add a new event or edit an existing event. The window has twelve options. Depending on the type of event (mail event or external event), some options cannot be modified. The keys used to navigate between events (see above) are used to navigate between the various options. The **ENTER** key is used to modify an option.

### Tag

This is the event tag, a one-letter field which must contain @, **A-Z**. The X-tag is used to indicate an external event. For mail events, the event tag corresponds to the tag used in schedule blocks (see "Mail routing"). When FDSETUP creates a new event file, one event is automatically created with the tag field set to @, this is called the **default event** or *@-event*.

Only one default event can exist per event file; it cannot be created manually. The starting time of the default event is called the *eventbase*. The eventbase can be used to modify the starting time of other events and is a very convenient way to switch between standard time and daylight saving time without having to manually reconfigure all or several events.

## Days

The days on which the event should be started. This cannot be modified for the default event. One or more days of the week - or all days of the week - can be specified.

## Modifier

The setting of this field determines how the eventbase (see "Tag" above) should be interpreted in regards to the starting time (see "Start time" below) of the event.

Add eventbase (+)

Adds the eventbase to the starting time of the event. This is the default.

Ignore eventbase (\*)

Ignores the eventbase.

Subtract eventbase (-)

Subtracts the eventbase from the starting time of the event.

## Start time

The starting time of the event expressed in 24-hour notation (HH:MM). The start time of the default (@) event is called the eventbase. See "Tag" above for more information about the eventbase.

## Length

The length, or duration, of the event expressed in 24-hour notation (HH:MM). The default length for external events is one minute (00:01). Once an event has lapsed, it will end and FD will return to the underlying event (see "Overlapping events" below); the underlying event is usually the default event.

## Errorlevel

This field must contain a value in the range 31-255 for external events; it determines the errorlevel with which FD will terminate when the external event is started. For mail events, this field must contain zero (0) or a value in the range 31-255; it determines the errorlevel used when FD terminates after having received mail. If zero is specified, the default setting ([Mailer.BBS/Errorlevels/Received mail](#)) is used.



*Note that this setting does not specify whether or not FD **should** exit when mail has been received.*

## Min.cost

This setting is only applicable to mail events, and specifies the minimum cost-per-minute value for FD to allow a system to be qualified during the event. This does not affect systems for which messages with Immediate (Imm) exist. A value of zero (the default) specifies no minimum cost-per-minute.

## Max.cost

This setting is only applicable to mail events, and specifies the maximum cost-per-minute value for FD to allow a system to be qualified during the event. This does not affect systems for which messages with Immediate (Imm) exist. A value of -1 (the default) specifies no maximum cost-per-minute.

## Behavior

See below.

## Retry delay

This setting is only applicable to mail events and is used to override the default retry delay setting ([Mailer.Miscellaneous.Retry delay](#)). A value of zero (the default) specifies that the default retry delay setting should be used.

## Busy retries

This setting is only applicable to mail events and is used to override the default busy retries setting ([Mailer.Miscellaneous.Busy retries](#)). A value of zero (the default) specifies that the default busy retries setting should be used.

## Completed today

This setting is only applicable to external events and indicates if the event has been started (completed, since an external event is considered to have been completed once it has been started) today. Changing this field to **No** will clear the **Last run** information from the event; thus making it possible for the event to be started again on the current day as applicable.

## Mail event behavior

This section describes the behavior settings for mail events. Mail event behavior settings affects how FD operates for the duration of the event.

### Allow users during event

This setting determines if FD should allow interactive access while the event is active. If this setting is **No** and a non-mail call is received, FD will terminate the call (disconnect).

### Exit when mail is received

This setting determines if FD should trigger an exit when mail is received during the event. A specific errorlevel can be configured for each event (see "**Errorlevel**", above).

### High priority (Crash/IMM) mail only

This setting specifies that FD should only process mail with high priority (Crash and Immediate) during the event. Messages without high priority status will be ignored.

### Allow file requests

This setting specifies if FD should allow remote systems to request files (see "File requests").


Note that the **DENY** route command can also affect how FD reacts to file requests. Please refer to "Mail routing" for more information about this.

### Pickup file requests

This setting specifies if FD should allow remote systems to request files when the remote system is the called system. This setting is typically set to **No** since the cost of the call is normally charged to the caller.


### Don't send file requests

This setting specifies that FD should prevent (outbound) file requests from being sent during the event. If this setting is **Yes**, FD will not request any files from a remote system, whether or not FD placed the call.

 *This does not prevent file requests with Immediate (Imm) status from being sent.*


### Don't send non-mail file attachments

This setting specifies that FD should prevent non-mail file attachments from being sent during the event. This is typically useful in events where mail delivery is emphasized.

 *This does not prevent file attachments with Immediate (Imm) status from being sent.*


### Don't send mail file attachments

This setting specifies that FD should prevent mail file attachments from being sent during the event. This is typically useful in events where non-mail delivery is emphasized.

 *This does not prevent file attachments with Immediate (Imm) status from being sent.*


### Attempt to pickup waiting mail

This setting specifies that FD should attempt to pickup any mail, during outbound calls, that the remote system may have for it. If this setting is **No**, FD will terminate the call (disconnect) as soon as it has delivered its mail to the remote system.

 *Note that the **Don't send file requests** setting (above) is automatically set to **Yes** if pickup of waiting mail is disabled.*

## Allow nodes to pickup waiting mail

This setting specifies that FD should allow calling systems to pickup waiting mail. When this setting is **No**, FD will terminate the call (disconnect) as soon as it has received its mail from the remote system.

 Note that the **Allow file requests** setting (above) is automatically set to **No** if pickup of waiting mail by remote systems has been disabled.

## Prioritize outbound calls

This setting specifies that FD should ignore any retry delay settings for the event. This will result in outbound calls being placed very rapidly until all attempts have been exhausted or all mail has been successfully delivered.

Note that this can result in the system not being available to handle inbound calls.

## Delay before placing first call

This setting specifies that FD should delay before placing the first outbound call. FD will normally attempt to place the outbound call as soon as possible.

## Inbound only

This setting specifies that FD should not place any outbound calls during the event. The setting is typically used for events where many remote systems pickup mail.

It should be noted that this setting merely forces FD to hold applicable mail by default; the **UNHOLD** route command can be used to release mail.

 This does not prevent messages with *Immediate (Imm)* status from being sent.

## End event when no more mail to send

This setting specifies that FD should end the event when no more systems remain to be called. If new mail becomes available after the event has ended (prematurely), the event will be restarted. The setting is typically used when an event places access restrictions on the local system; for interactive or mail access. The setting is also frequently used to configure overlapping events (see below).

## Send to CM systems only

This setting specifies that FD should only allow systems with the **CM** flag present in their nodelist entry to be qualified during the event. Messages with *Immediate (Imm)* status are not affected by this setting.

## Send to non-CM systems only

This setting specifies that FD should only allow systems without the **CM** flag present in their nodelist entry to be qualified during the event. Messages with *Immediate (Imm)* status are not affected by this setting.

## Send to systems once only

This setting specifies that FD should only call a given system once during the event. If this setting is **No**, FD may place several outbound calls to the same system to deliver mail received during the event.

## Answer inbound calls

This setting determines how FD should handle inbound RING messages received from the modem. If this setting is **No**, FD will ignore RING messages received from the modem. Note that for this setting to be effective, the modem must not be configured to automatically answer inbound calls.

## Inactive

If this setting is **Yes**, the event is ignored by FD.



## External event behavior

This section describes the behavior settings for external events.

### Allow users during event

This setting determines if FD should allow interactive access while the event is active. Practically, this only affects the calculation of the "time until next event (where interactive access is not allowed)" value, which can be communicated to external programs such as BBS packages.

### Allow file requests

This setting determines if FD should allow file requests while the event is active. Practically, this only affects the calculation of the "time until next event" (where file requests are not allowed) value. This value is used by FD to determine which files, resulting from a file request, can be transmitted; it can also be communicated to external programs such as External Request Processors (ERP).


### Forced

It is possible for FD to skip an external event if FD is started after the event has lapsed (i.e. it is later in the day than the starting time plus the length of the event). This can occur if another external event or interactive call is taking more time than expected to complete, etc. If this setting is **Yes**, FD will start the event if it has been "missed".

For forced external events, FD uses the completed today/last run information to determine if the event has already been started. Furthermore, the length setting for forced external events is ignored since it is not needed.

## Overlapping events

Overlapping events is the term used to describe two or more events that start at the same time, or while another event (except the default event) is running. Overlapping events are typically used when specific systems have to be called using events that in some way restrict access to the local system. By using overlapping events, the system can be configured to apply such restrictions in the minimum amount of time.

 *If two (or more) events are set to start at the same time, the same day(s), with the same length, and without the **End event when no more mail to send** (see above) setting, the behavior of FD is undefined.*

Below is an example of overlapping events. The first event, with a tag of P, is used to poll a specific system and restrict access to the system to allow the poll to complete as quickly as possible. The second event, with a tag of M, is the event to which FD will fall back as soon as the first event has been completed.

```

Event P
03:00-04:00
Allow users during event:      No
Allow file requests:          No
Prioritize outbound calls:    Yes
End event when no more mail to send: Yes
Send to systems once only:    Yes

```

```

Event M
03:00-04:00
Allow users during event:      Yes
Allow file requests:          Yes
Prioritize outbound calls:    No
End event when no more mail to send: No
Send to systems once only:    No

```

Note that the above example also needs the corresponding route file definitions to have any effect.

Below is another example of overlapping events. This time, a three hour mail event is interrupted once an hour by an external event; this can be used to perform some sort of activity that generates new outbound mail.

```

Event M
03:00-06:00

Event X
04:00-04:01
Allow users during event:      No
Allow file requests:          Yes
Forced:                        Yes

Event X
05:00-05:01
Allow users during event:      No
Allow file requests:          Yes
Forced:                        Yes

```

Event X  
06:00-06:01  
Allow users during event: No  
Allow file requests: Yes  
Forced: Yes

## 10. MODEM CONFIGURATION

The term modem refers to the device through which FD communicates with the outside world; i.e. the *communications device*. This can be an asynchronous modem, a device driver emulating a modem (ISDN or LAN FOSSIL driver), an ISDN card, etc.

FD performs all communications with the modem through an interface called the FOSSIL. Device drivers that emulate physical modems sometimes implement the FOSSIL specifications in the same driver to minimize overhead; FD requires a response (positive acknowledgement) to its FOSSIL presence check before it will operate. For more information about the FOSSIL interface and FOSSIL drivers, please refer to "FOSSIL drivers".

Two sections of FDSETUP deal with most of the modem configuration for FD. One additional setting, used by the Terminal, is found in the [Terminal.Miscellaneous](#) section.

It should be noted that this chapter makes frequent references to "FOSSIL" and "FOSSIL driver". This applies only to the DOS version of FrontDoor as other versions (such as the OS/2 version) uses standard system calls to access the communications resources.

### Basic requirements

FD can communicate with a number of devices and emulated devices as indicated above. There are, however, some basic requirements that must be met by the device, or driver emulating the device, before FD will be able to use it for its communication with the outside world. Some modem manufacturers have managed to construct modems with reasonable (for FD) default settings, while other modems need additional configuration.

### Carrier detect (CD)

The modem **must** indicate the actual state of the carrier detect (CD) signal. Some modems are configured to always report that CD is present; this is not desirable when using the modem with FD since FD uses the carrier detect signal to determine if a call has been established and whether or not the call is active.

### Data terminal ready (DTR)

The data terminal ready, or DTR, signal is used by FD to control the modem in regards to the termination of a call. Although FD can be configured to use alternative methods to terminate a call, it will fall back to using the DTR signal as a last-resort mechanism when the modem no longer acknowledges commands or is otherwise not responding.

It is of the **utmost** importance that the modem is configured properly in regards to how it reacts to the DTR signal being altered by FD. When FD lowers the DTR signal, the modem must terminate a call in progress.

Some modems, including some models from well established manufacturers, have problems honoring the alteration of the DTR signal in specific situations; this is in particular a problem common to calls established for a fax transmission/reception and calls incorrectly established where the two modems have a different opinion of the speed at which the call was established.

### Commands

FD is ideally used with a modem compatible with the AT-command set. The basic requirement in this regard is that the modem is capable of returning an acknowledgement for a command sent to it by FD; e.g. if FD sends AT<CR>, the modem should respond with an acknowledgement in the form of an alphanumeric response, terminated by a <CR> (ASCII 13) character.

### Connect messages

It is furthermore desirable that the modem returns a speed figure in its connect indicator messages; i.e. **CONNECT 9600**, **CONNECT 33600**, **CONNECT 64000**, and so on.

Many modems can be configured to return two types, or both combined, of connect messages. These two types are often referred to as the DTE speed and the DCE speed respectively. If at all possible, the modem should be configured to return the DCE speed as part of the connect messages; as this more accurately reflects the speed at which the modems communicate.

### Flow-control

Flow-control is used to control the flow of data between a physical modem and the machine to which it is attached. This is specifically needed to prevent the machine from sending data to the modem faster than the modem can process the data, and vice versa.

Many modems are capable of two basic types of flow-control (as well as no flow-control): **XON/XOFF**, and **CTS/RTS**. These are often referred to as software and hardware flow-control respectively. Software flow-control typically uses specific characters (i.e. **XON** and **XOFF**) to implement flow-control.

If flow-control is used, it must **not** in any way modify or react to specific data sent to the modem by FD; for a physical modem, this means that software flow-control cannot be used.

## Basic device settings

It is recommended that the communications device be configured to:

- Not echo data sent to it by FD (this is usually accomplished with **ATE0**)
- Return Caller ID information on a separate line (if applicable)
- Returns result codes (this is usually accomplished with **ATQ0**)
- Returns verbose rather than numeric result codes (this is usually accomplished with **ATV1**)

## Configuration options

The **Modem** menu in FDSETUP is where most modem configuration options are accessed from. The [Default settings](#) option configures settings stored in SETUP.FD, the [ML] [Task specific](#) option allows the configuration of task-specific settings when more than one copy of FD operates from the same SETUP.FD file.

[ML] The task-specific options are stored in MDCFGnnn.FD in the SYSTEM directory. If no task-specific file can be located, FD will use options stored in SETUP.FD. It should be noted that if a task-specific file exists for the current task, it can **only** be modified by using the [Task specific](#) option.

## Hardware

Settings related to the physical communication between FD and the attached modem.

### Serial port


Specifies the port to which the communications device is attached.

### DOS version

Although it is common that port numbers are logical in their numbering (1=COM1, 2=COM2, etc.), this setting actually specifies the port plus one. For example, if this setting is configured as one (1), FD attempts to communicate with the FOSSIL driver on port zero (0); if configured as four (4), FD attempts to communicate with the driver on port three (3).

### OS/2 version

For the OS/2 version of FrontDoor, this setting is used to construct the device name with which FD will communicate. The number entered here is appended to the word "COM" to make up a device name in the range "COM1" through "COM255".

 *It should be noted that FD does not make any attempts to prevent other programs or processes from accessing the device.*

### Locked port

Specifies that the FOSSIL driver (DOS) or communications driver (non-DOS) has been configured to use a constant speed; the modem must also be configured to use a constant speed (DTE speed) for this to work. Use of constant speeds is practically a defacto standard when FD is used in conjunction with modems capable of communicating at speeds above 2400 BPS.

### Maximum BPS rate

Specifies the default, and maximum, speed (DTE speed) at which FD should communicate with the modem. The FOSSIL interface only allows for a limited number of speeds for the communication between the application (FD) and the modem; this is one of **300, 1200, 2400, 4800, 9600, 19200, or 38400** BPS.

One could argue that this setting should allow for 57600 and 115200 BPS in versions other than the DOS version. It is, however, our experience that the communications driver has been locked at the required speed in such situations.

 *This setting cannot be modified if the **Locked port** setting is configured as **Yes**.*


### Reset modem to connect speed

Specifies that FD should transmit the **Escape code** string, set the port speed, and finally transmit the **Return on-line** string to the modem; when an inbound call at ITU-T V.23 (split speed) is processed. Most modems do not require this procedure to properly handle V.23 connects.

### Lower DTR when busy

Specifies that FD should lower the DTR (data terminal ready) signal when it is not ready to accept an inbound call; this includes the processing of received mail, the launching of other programs, etc. If this setting is configured as **Yes**, FD will lower the DTR signal, which means that the modem will not answer inbound calls. This has the side-effect of calling systems not getting a **BUSY** response; instead, a **NO ANSWER** is most likely the result of a call to the local system when the DTR signal is lowered for a long period of time.

If this setting is configured as **No**, FD will instead transmit the **Off-hook** string when it is not ready to accept an inbound call. This will typically result in calling systems getting a BUSY message when calling the local system. When FD is once again ready to accept an inbound call, it transmits the **On-hook** string to the modem.

 *In some countries, it is illegal to take a modem off-hook without any actual communication taking place or being initiated.*


### Lower DTR to terminate call

Specifies that FD should lower the DTR (data terminal ready) signal when it terminates a call. The DTR signal is lowered for a short period of time, and once the CD (carrier detect) signal is no longer present, FD raises the DTR signal. This is the recommended, and the fastest, method of terminating calls.

If this setting is configured as **No**, FD will instead transmit the **Escape code** string, followed by the **On-hook** string to terminate a call.


### Toggle DTR before dialing

Specifies that FD should lower the DTR (data terminal ready) signal, pause for a short period of time, and finally raise the DTR signal, before placing outbound calls. While this increases the possibility of an outgoing call colliding with an inbound call, it may be required by some modems to reset properly, etc.

 *It is highly recommended that this setting is configured as **No**, unless the modem requires that the DTR signal is altered as described above prior to making outbound calls.*

### Carrier detect mask (CDMASK)

[ML] Specifies the bitmask to be used by the DOS version of FD when querying the FOSSIL driver for the state of the CD (carrier detect) signal. This setting should be configured as **128** unless the documentation for the FOSSIL driver states otherwise.

 *This setting is only available in the DOS version.*

### Connect messages

Settings related to the messages returned by the modem to indicate that a connection has been established. For most environments, it is sufficient to configure the **Prefix** setting.

It should be noted that connect messages are case sensitive; furthermore, only a partial match is required. For example, the string **CONNECT** matches **CONNECT**, **CONNECTION**, **CONNECT 9600**, **CONNECT 64000**, etc.

### Custom..

Allows for up to five custom messages, and the corresponding connect (DCE) speed, to be configured. These are intended for situations where the connect speed cannot be determined by FD, using the **Prefix** setting.

For example, some modems return **CONNECT<CR>** to indicate a connection at 300 BPS. Should that be case, a custom message can be configured as **CONNECT|** with a corresponding DCE speed setting of 300 BPS. The character following **CONNECT** is a pipe, or vertical bar, character.

### Fax

Specifies the message returned by the modem when an incoming fax transmission has been established.

### Prefix

Specifies the string appearing as the initial sequence of characters in all other messages indicating that a connection has been established. This should be configured as **CONNECT** for all but a few modems.

### Status messages

Settings related to the messages returned by the modem to indicate that a change of status has occurred.

It should be noted that status messages are case sensitive; furthermore, only a partial match is required. For example, the string **NO DIAL** matches **NO DIAL**, **NO DIALTONE**, **NO DIAL TONE**, etc.

In addition to the below strings, FD automatically recognizes the **RRING**, **RINGING**, **CONNECTING**, **ALERTING**, **CALL SENT**, **DIALING**, **PROTOCOL:**, **COMPRESSION:**, **AUTOSTREAM:**, and **MODULATION:** messages returned by some modems to report call progress; i.e. these messages do not need to be taken into consideration as they are automatically handled by FD.

### Error

Specifies the string returned by the modem when an error has been detected in a command string transmitted to it by FD. This should be configured as **ERROR** for all but a few modems.

## Busy

Specifies the string returned by the modem when an outbound call failed to establish a connection due to the line being busy. This should be configured as **BUSY** for all but a few modems.

## No Carrier

Specifies the string returned by the modem when an outbound call failed to establish a connection due to a timeout or inability to communicate with the remote modem. This should be configured as **NO CARRIER** for all but a few modems.

## Ok

Specifies the string returned by the modem to indicate positive acknowledgement of a command string transmitted to it by FD. This should be configured as **OK** for all but a few modems.

## Ring

Specifies the string returned by the modem to indicate an inbound call. This should be configured as **RING** for all but a few modems.

## No Dialtone

Specifies the string returned by the modem to indicate that a dial tone could not be detected when FD attempted to place an outbound call; this is typically an indication of an inbound call, or that the modem is not connected to the (telephone) network. This should be configured as **NO DIAL** for all but a few modems.

## No Answer

Specifies the string returned by the modem when an outbound call failed to establish a connection due to a timeout (no answer). This should be configured as **NO ANSWER** for all but a few modems.

## Voice

Specifies the string returned by the modem when an outbound or inbound call resulted in a voice call. This should be configured as **VOICE** for all but a few modems.

For inbound calls, FD can be configured to terminate with a specific errorlevel ([Mailer.BBS/Errorlevels](#)) when this string is received from the modem.

## Command strings

Settings related to the commands that FD transmits to the modem at specific times. Certain characters appearing in command strings and answer control strings are interpreted by FD as having special meaning, they are as follows:

	<CR>	(Pipe, or vertical bar, character)
v	Lower DTR signal	(Lowercase V)
^	Raise DTR signal	(Caret)
~	Pause for one (1) second	(Tilde)
`	Pause for half (0.5) a second	(Grave accent)

## Escape code

Specifies the escape sequence required by the modem to go from data mode to command mode. This string is used by FD if the **Reset modem to connect speed** setting is configured as **Yes**, and/or if the **Lower DTR to terminate call** setting is configured as **No**. This should be configured as ~+++~ for all but a few modems.

## Return on-line

Specifies the command sequence required by the modem to go from command mode to data mode when a connection has already been established. This string is used by FD if the **Reset modem to connect speed** setting is configured as **Yes**. This should be configured as ~ATO| for all but a few modems.

## On-hook

Specifies the command sequence required by the modem to place the modem on-hook (hang up). This string is used by FD if the **Lower DTR when busy** and/or the **Lower DTR to terminate call** settings are configured as **No**. This should be configured as ^ATM1H0| for all but a few modems.

## Off-hook

Specifies the command sequence required by the modem to place the modem off-hook. This string is used by FD if the **Lower DTR when busy** setting is configured as **No**. This should be configured as ATM0H1| for all but a few modems.

## RinginAbort

Specifies after how many **RRING** or **RINGING** messages FD should abort an outbound call attempt.

## Dial

Specifies the command to transmit to the modem when FD places an outbound call. The sequence of data transmitted by FD is as follows:

```
<Dial><Prefix><Number><Suffix>
```

This should be configured as **AT** for all but a few modems.

## Prefix

Transmitted after the **Dial** command (above) but before the number when FD places an outbound call. This should be configured as **DT** for all but a few modems; alternatively, if pulse dialing must be used, this setting should be configured as **DP**.

## Suffix

Transmitted after every number when FD places an outbound call. This should be configured as | (the pipe, or vertical bar, character) for all but a few modems.

## Delay

Specifies the delay - in 1/10 second increments - between strings transmitted to the modem by FD. Most modems require this setting to be in the range **4-8**; modems capable of handling command data rapidly typically work with a setting of **1-3**. For modems that require extreme delays between commands, this setting may need to be configured as high as **10-15**.

## Init..

Specifies up to three modem initialization strings. For modems with NVRAM (non-volatile random access memory) storage, it is recommended that principal modem configuration parameters are stored into NVRAM; and FD being configured to transmit **ATZ** in **Init-1**, followed by minor configuration alterations in **Init-2**, and possibly **Init-3**.

If FD is configured to handle the answering of inbound calls, it is recommended that the initialization of the modem disables auto-answer mode (typically, **ATS0=0** accomplishes this).

## TerminIt

Specifies an additional modem initialization string for the Terminal. This string is transmitted after the **Init** string configured in the [Terminal.Miscellaneous](#) section.

## Down

Specifies the commands that FD should transmit to the modem when it terminates with no call in progress.

## Attention

Specifies the shortest possible command sequence for FD to transmit to elicit an **OK** response (as configured in [Status messages.Ok](#)) from the modem. This should be configured as **AT** for all but a few modems.

## Answer control

Settings related to answer control, which includes commands to transmit to the modem to answer an inbound call.

Answer control, or manual answer, is the recommended method to handle inbound calls. This ensures that the modem cannot answer an inbound call until FD is ready to handle the call. For this to be effective, the auto-answer mode should be disabled (this is typically accomplished with the **ATS0=0** sequence).

Certain characters appearing in command strings and answer control strings are interpreted by FD as having special meaning, they are as follows:

	<CR>	(Pipe, or vertical bar, character)
v	Lower DTR signal	(Lowercase V)
^	Raise DTR signal	(Caret)
~	Pause for one (1) second	(Tilde)
`	Pause for half (0.5) a second	(Grave accent)

## Manual answer

Specifies if, and how, FD should handle the answering of inbound calls. If this setting is configured as **No** (not recommended), the auto-answer mode must be enabled for the communications device.

If this setting is configured as **Yes (counter)**, FD will transmit the **Force answer command..** string(s) when the specified (see below) number of **RING** messages (as configured in [Status messages.Ring](#)) have been received from the communications device.

If this setting is configured as **Yes (timer)**, FD will transmit the **Force answer command..** string(s) when the specified (see below) time has elapsed since the **RING** message (as configured in [Status messages.Ring](#)) was received from the communications device.

### Force answer command..

Specifies the commands required to instruct the modem to answer an inbound call. This should be configured as **ATA| (Force answer command-1)** for all but a few modems.

### Answer delay/Answer after ring #

Specifies the delay (in 1/10 second increments) or number of rings after which FD should transmit the **Force answer command..** string(s).

### Enable LDFRS

Specifies that data following the ring signal received from the modem should be logged. This is typically used in environments where Caller ID information is returned by the communications device. This information can be passed on to an external application such as a BBS package (see "BBS interface" for more information).

### "NO DIALTONE" is "BUSY"

Specifies that **NO DIALTONE** (as configured in [Status messages.No Dialtone](#)) should be treated like **BUSY** (as configured in [Status message.Busy](#)) during outbound calls.

If this setting is configured as **Yes**, FD will simply treat the **NO DIALTONE** message as if **BUSY** had been received from the modem. If this setting is configured as **No**, FD will assume that the **NO DIALTONE** message is an indication of an inbound call (i.e. call collision) and transmit the **Force answer command..** string(s). The **Manual answer** setting must be configured as **Yes** for this to work.

### Answer calls during init

Specifies that FD should honor and process a **RING** message (as configured in [Status messages.Ring](#)) received from the modem while FD is attempting to initialize it. If this setting is configured as **No**, FD will simply ignore the **RING** message(s) while it is attempting to initialize the modem.

### Fax

Specifies whether or not the internal fax receiver should be activated when an inbound fax transmission is reported by the modem. FD can process inbound fax transmissions only from modems conforming to the ZyXEL fax mode.

## Modem manager

The [Manager.Modem](#) option in FDSETUP is used to configure dial control commands. These commands are used to setup the modem with a specific configuration based on the system, or the capabilities of the system, being called.

Dial control configuration information is stored in MODEM.FD, located in the SYSTEM directory. Task-specific dial control configuration is stored in MODEMnnn.FD (where **nnn** is 1-255). If no task-specific dial control configuration can be located, MODEM.FD is used (if it exists).

Dial control is in particular useful when FD is being used with multi-capability modems such as ISDN adapters with modem emulation and modems supporting a number of proprietary and non-proprietary communications protocols. Dial control can also be used to prevent FD from calling specific systems.

The modem manager screen displays a list of the currently configured dial control strings. The list is divided into three columns: dial control number, string to match, and the string to send/action to take when a match is made. If an entry has been set **Inactive**, a lowercase **i** is displayed between the entry number and the string to match columns.

## Navigating

The selection bar is moved with the **UP** and **DOWN** keys. Pressing the **HOME** key will move the selection bar to the first event displayed on screen; pressing the **END** key will move the selection bar to the last event displayed on screen. The **PGUP** and **PGDN** keys can be used to move the selection bar one page up and one page down, respectively. To display the first event in the event file, press **CTRL+PGUP**; to display the last event in the event file, press **CTRL+PGDN**.

## Configuration

The **INS** (Insert) key is used to add an entry to the modem manager list. The default location for a new entry is at the end of the list (i.e. appended). Since FD will process the entries from top to bottom, it is sometimes necessary to move an entry closer to the top of the list; this is accomplished with **F2** (Move).




## String to match

The string with which FD attempts to make a match based on the data present in the nodelist database for the system being called. Certain characters allow an entry to match a range of data. If no special characters are used, FD attempts to match the string against the nodelist flags and the address of the system being called.

Some examples follow:

```
X75           Systems with the X75 nodelist flag
X75 V34       Systems with the X75 and the V34 flags
!X75         Systems without the X75 flag
!X75 V34     Systems without the X75 flag, but with the V34 flag
!X75 !V34    Systems without the X75 and V34 flags
=9600        Systems with a (nodelist) speed of 9600 BPS
!=9600       Systems without a (nodelist) speed of 9600 BPS
>0           Systems with a (nodelist) speed of 0 BPS or higher
=2400 ZYX CM Systems with 2400 BPS and the ZYX flag and the CM
              flag
\!MO         Systems with the !MO nodelist flag
!\!MO        Systems without the !MO nodelist flag
255:3046/1   The 255:3046/1 system
!255:3046/1  Any system except 255:3046/1
```

 Note the use of the ` character, which allows literal use of special characters.

## String to send/Action

Specifies the string that FD should transmit to the modem, or the action to take, when a match is made. If an action is to be specified, the field is simply left empty. Once the entry has been added, the **F3** key is used to specify the action to take when a match is made.

Action is one of **(Do not dial)** or **(Stop scanning and proceed with call)**. The second action-type is typically used to force FD to stop scanning the remaining entries once a match has been made. For example:

```
V34           ATB0 |
V34           (Stop scanning and proceed with call)
```

would transmit **ATB0**<CR> to the modem and then stop scanning for further matches.

# 11. FOLDERS

Folders are primarily used to store and categorize messages; they can also be used for message archiving purposes. Folders are sometimes referred to as *areas*. Only one folder must be defined for the FrontDoor programs to work, this is the System NetMail folder. FM is the only FrontDoor program that uses the folder configuration; stored in the file FOLDER.FD, which is located in the SYSTEM directory.

## Folder types

Three types of folders exist: **Conference Mail** folders, **Local** folders, and [ML] **NetMail** folders.

### Conference Mail

A Conference folder contains conference mail (conference messages); it is said to "hold a conference". A conference is a distributed forum where one or more topics are discussed. A Conference is a very powerful and flexible way of maintaining communication and exchange of information between groups of people. Conference mail is sometimes referred to as *EchoMail*. An external application, referred to as a *Conference Mail Processor* is used in conjunction with FD to distribute conferences.

Messages in a Conference folder have two addressing fields in the header: Sender name, and recipient name.

Messages in a Conference folder cannot have files attached to them.

Messages in a Conference folder cannot have multiple recipients (i.e. carbon copies). They can, however, be addressed to **All** or **\***, which is often used in conferences to indicate that the message is intended for anyone with access to the conference.

Messages in a Conference folder normally have an ending identification line, called *Origin Line*. An example of an origin line follows:

```
---
* Origin: Definite Solutions (255:3046/1)
```

The line with the three dashes is called a *Tear Line*, and is an indication that the end of the message has been reached. The tear line is optional and need not appear in conference messages.

The text in the origin line can contain any (or no) text, but it must be followed by the address of the system where the message originated. Some examples of text in an origin line:

```
Definite Solutions - Stockholm, Sweden
XYZ Corporation - Green Valley, CA, USA
XYZ Corporation - John Doe in the field
```

### Local

A Local folder is typically used to access a folder defined in a BBS (Bulletin Board System) as a local-only folder or area. They are useful for administrators who do not want to login to the BBS to read and write messages.

They can also be used for conferences in a LAN where all participants of the conference are located on the same LAN.

Messages in a Local folder have two addressing fields in the header: Sender name, and recipient name.

Messages in a Local folder can have files (such as documents and images) attached to them.

Messages in a Local folder cannot have multiple recipients (i.e. carbon copies).

### NetMail

A NetMail folder typically contains messages that are direct person-to-person correspondence.

Messages in a NetMail folder have four addressing fields in the header: Sender name, sender address, recipient name, and recipient address.

Messages in a NetMail folder can have files (such as documents and images) attached to them.

Messages in a NetMail folder can have multiple recipients (i.e. carbon copies).

The System NetMail folder is a NetMail-type folder.

## Configuration

The folder manager is accessed from the [Editor.Other folders](#) option in FDSETUP. The folder manager screen displays a list of the currently configured folders. The list is divided into five columns: folder number, folder status, users allowed to access the folder, password protection indicator, and the title or physical location of the messages in the folder.

### Navigating

The selection bar is moved with the **UP** and **DOWN** keys. Pressing the **HOME** key will move the selection bar to the first folder displayed on screen; pressing the **END** key will move the selection bar to the last folder displayed on screen. The **PGUP** and **PGDN** keys can be used to move the selection bar one page up and one page down, respectively. To display the first folder in the folder file, press **CTRL+PGUP**; to display the last folder in the folder file, press **CTRL+PGDN**.

## Adding folders

New folders can be added by pressing the **INS** (Insert) and **F10** keys. If **F10** is used, settings for the new folder are copied from the folder on which the selection bar is positioned.


## Modifying folders

To modify the folder on which the selection bar is positioned, press the **ENTER** key.

The **SPACE** key can be used to display the status settings of a folder without first selecting to edit the folder.

## Deleting folders

To delete the folder on which the selection bar is positioned, press the **DEL** (Delete) key. This will not physically remove the folder from the folder file; it will simply mark the folder for deletion. When the folder file is written (saved), entries marked for deletion will not be saved. Entries marked for deletion are indicated with an asterisk (\*) between the folder number and the folder status columns. If you change your mind, simply press the **DEL** key again to remove the deletion marker.

 *Deleting a folder does not remove any messages stored in the folder.*

## The Add/Edit folder form

This window is displayed if you choose to add a new folder or edit an existing folder. The window has seven options. Depending on the type of folder (see above), some options are not applicable. The keys used to navigate between folder (see above) are used to navigate between the various options. The **ENTER** key is used to modify an option.

### Status

The status and type of the folder. See below for a description of the available options.

### Origin

Specifies the default origin line (see above) that should be used for messages created locally. This is only applicable to Conference Mail-type folders. FDSETUP allows the configuration of up to 20 origin lines ([Editor.Origin lines](#)).

### Title

Specifies the title of the folder; this is displayed when the user chooses to access a new folder in FM. Applicable \$[] macros can also be used to specify the title.

### Path/Board

Specifies the physical location of messages in the folder.

For the JAM storage type, this specifies the full pathname to the JAM message base, extension excluded; e.g. C:\FD\MSG\JAM\ISDN. Applicable \$[] macros can also be used to specify the path.

For the .MSG storage type, this specifies the directory where messages are stored for the folder; e.g. C:\FD\MSG\MSG\ISDN\. Applicable \$[] macros can also be used to specify the path.

For the HMB storage type, this specifies the board number in which messages are stored for the folder; this is a value in the range 1-200.

For more information about the various storage types, please refer to "Mail storage".


### Users

Specifies which of the users, configured in [Global.Users](#), should have access to the folder. For users with **User** access, a folder will only appear in the folder list (displayed in FM) if they have access to the folder.

 *Users with **Supervisor** or **Administrator** access are not affected by this setting.*

### Password

Specifies the password required to access the folder. This forces FM to prompt users with **Administrator** or **User** access to enter the specified password before allowing access to the folder.

 *Users with **Supervisor** access are not affected by this setting.*

## Use AKA

Specifies the default system address that should be used as the originating (sender) address for messages created locally. This is only applicable to Conference Mail-type and NetMail-type folders. For Conference Mail-type folders, this specifies the address that will appear in the origin line (see above).

## Folder status

The folder status settings determine the type of a folder, how messages are physically stored, various access restrictions and folder defaults. Some settings are cannot be combined, as noted below.

### Restricted

This setting affects users with **Administrator** or **User** access. If configured as **Yes**, FM will only allow access to messages with Private (Pvt) status if the messages are addressed to or from the user. Public messages (messages without Private status) can be read by anyone with access to the folder.

If a folder is configured with **Restricted** status, FM requires that the user has **Supervisor** access before allowing access to the Survey function.

### ConflInfo


This setting is only applicable for **Conference** folders and specifies that FM should add an origin line to new messages.

### Lock ConflInfo

Specifies that a user with **Administrator** or **User** access should not be able to select the origin line to be used when new messages are created in the folder.

### Export Ok

Specifies that messages may be exported (to a text file, for example) and printed from the folder.

 *Users with **Supervisor** access are not affected by this setting.*

### Hudson MsgBase

Specifies that the folder uses the Hudson Message Base (HMB) format for physical message storage. This is not supported for **NetMail** folders.

If neither of the JAM MsgBase and Hudson MsgBase settings have been specified, FM assumes that the folder uses the .MSG Message Base format for physical message storage.

For more information about the various storage types, please refer to "Mail storage".

### Translate


Specifies that the editor translation tables ([Editor.Xlat.In](#) and [Editor.Xlat.Out](#)) should by default be enabled for the folder.

### Private

Specifies that FM should by default set the Private (Pvt) status for new messages. This is typically used with **Local** folders.

### Read-only

Specifies that the folder is read-only; i.e. new messages cannot be created in the folder, nor can existing messages be deleted by means of the [Delete message](#) function.

 *Users with **Supervisor** access are not affected by this setting.*

### NetMail reply

Specifies that replies, using the [Reply to Message](#) function, made to messages in the folder should be written as private, or NetMail, replies instead of to the folder in which the original message resides.

### No check

Specifies that FM should skip (not process) the folder when the [Folder scan](#) function is used. This is in particular useful for folders that store messages on removable media such as floppy disks.

## "New" if any

Specifies that FM should indicate, after the [Folder scan](#) function has completed, that the folder contains new messages if the folder contains **any** messages. If this setting is configured as **No**, FM will only indicate that there are new (unread) messages in the folder if it contains messages with a higher number than the **lastread** (see below) message number.

## Force CR

Specifies that FM should insert a hard line break, i.e. a <CR> (ASCII 13), when it performs word wrapping. This is typically used in folders with the **Newsgroup** status (see below). If this setting is configured as **No**, FM will not insert a hard line break when it performs word wrapping; which results in paragraphs that can be automatically "reflowed" when the message text is displayed.

## Conference

Specifies that the folder is a **Conference** folder (see above).

## Newsgroup

Specifies that the folder is a **Newsgroup** folder. This is only applicable for **Conference** folders. Messages in **Newsgroup** folders do not have a specific recipient. This type of folders is typically used in conjunction with an external application that works as a gateway between FrontDoor and the Internet.

## NetMail

[ML] Specifies that the folder is a NetMail folder (see above).

## Local

Specifies that the folder is a Local folder (see above).

## Separator

Specifies that the entry is to be used as a folder separator (see below).

## Folder separators

Folder separators are used to insert separators at specific places in the folder list. When the folder list is sorted, by using the **F1** key in the folder manager, FDSETUP will only sort entries between separators. If no separators exist, the entire folder list is sorted in ascending alphabetical order. Although folder separators are configured in the folder manager, they are not folders per se; they cannot be selected as the active folder in FM.

A folder entry with **Separator** status cannot have any other status. The only data used from a folder with Separator status are the **Title** and **Users** settings. The **Users** setting determines to which users the separator should be displayed. The **Title** contains the actual text displayed to the user when FM displays the list of folders.

If the **Title** is left empty, FM will simply insert a thin line as the separator, stretching horizontally across the entire folder list. If only one character is specified in the **Title**, FM will use that character instead of a thin line. If the contents of the **Title** is longer than one character, FM will simply display it as the separator. Two additional characters, however, exist.

If the first character is a > (greater than) or < (less than) character, and followed by one or more characters, FM will display the text following the first character, left and right padded respectively, with a thin line, horizontally stretched across the folder list.

## Lastread

The Lastread message number is the term used to refer to the message that was last accessed by the user in a given folder.

For folders configured with JAM MsgBase or Hudson MsgBase status, one lastread message number per user is maintained. For other folders (.MSG message base), only one lastread message number is maintained – this is a limitation enforced by the .MSG message base format, and not a limitation in FM.

When the user later returns to a folder, FM will attempt to display the message that was displayed, or "read", the last time the user accessed the folder.

For more information about the various storage types, please refer to "Mail storage".

## 12. MAIL SECURITY

This section describes various issues related to mail security and overall system integrity in the FrontDoor environment; in particular as far as interaction with remote systems is concerned.

Mail security in the FrontDoor environment primarily involves FD, as it is the application mainly responsible for handling the interaction with remote systems.

Seven aspects of mail security will be described:

- Secure vs. unsecure mail sessions
- Automated distribution (conferences, etc)
- The nodelist
- File and service requests
- Automatic forwarding of mail (messages and files)
- Automatic time synchronization
- FDSERVER

The security manager, used to configure session passwords and various other session-related sessions, is described towards the end of this section.

### Secure vs. unsecure mail sessions

A secure session is the term used to describe a mail session between two systems that have exchanged some sort of private validation ID, such as a password; i.e. a session password. An unsecure session is, similarly, a mail session between two systems that have not exchanged this validation ID.

A password (validation ID) is typically associated with a specific (system) address. Although it is possible to use the same password for several systems, this is **not** the recommended approach. In the case of systems with multiple addresses, it is common, and recommended, that the password is associated with all of the addresses presented by the system. Although it is not required that all addresses presented by a remote system be protected with a password, those addresses that are protected must be protected with the same password.

It is recommended that files received during secure sessions be separated from files received during unsecure sessions ([Global.Filenames.Files](#) and [Global.Filenames.SecFiles](#)). This allows special care to be taken before automatically processing data received during unsecure sessions.

The above described method of separation also allows for special handling of the directory used during unsecure sessions. In a LAN environment, this directory could for example be limited in the amount of space it is allowed to occupy, thus preventing unknown systems from sending files that could otherwise completely fill up the available storage space.

[ML] FD can also be configured to require that all sessions be secure ([Mailer.Miscellaneous.Mail from "unprotected" systems](#)). This, in effect, forces FD to disconnect any call that do not result in a secure session before any files and/or messages are exchanged.

It should be noted that in all cases except one, session passwords are transmitted "clear text" (i.e. without an attempt to garble or encrypt the password). The only type of session negotiation method that does not exchange passwords "clear text" is the **EMSI/MD5** type.

### Automated distribution

The automated distribution of conferences is also affected by the various aspects of mail security. Although the most common use for automated distribution is conferences containing messages, other distribution concepts also exist; such as conferences where files are distributed, etc.

For all types of distribution, it is recommended that systems with which such distribution takes place, are configured with a password. This allows FD to place the relevant files in the directory used for secure sessions and the applications used to handle the processing of distributed data to only process that directory automatically.

### The nodelist

Mail security applies to the nodelist in two specific aspects.

When FD places an outbound call to a system, in order to establish a mail session, it assumes that the nodelist integrity is well maintained and that the telephone number specified for a given system will result in that system being called. FD makes no attempt to validate that the remote system actually presents the address used when placing the outbound call. FD does, however, require that no password errors (mismatch) occurs. It should also be noted that the [Mailer.Miscellaneous.Mail from..](#) settings only affect **inbound** mail sessions.

For inbound sessions, the contents of the nodelist database alone categorize the calling system as listed (known) or unlisted (unknown). Configuring an address with a password in the security manager does not affect the listed/unlisted status of a system.

### File and service requests

Although inbound file and service requests do not normally present a potential security problem, it is very important that the concepts involved with these two functions are fully understood.

File requests handled by FD can be restricted and protected in a number of ways (see "File requests"). The possibility to configure FD to only allow/accept inbound requests during secure sessions, and the ability to protect specific files and directories with an additional password, are two powerful ways to ensure system integrity. Furthermore, files can **only** be requested from those directories specified in [Mailer.File requests.List](#) and [Mailer.File requests.SecList](#) (secure sessions) when FD handles inbound file requests.

When an external request processor is used to handle inbound requests, FD does not, however, have any control over the security aspects of file requests. Similarly, when a request is made for a service to be invoked (see "Service requests"), FD does not have any control over the resulting data (if any) transmitted to the remote system. Nor does FD have any control over the actions taken by an external program invoked as a request processor or an external service.

## Automatic forwarding of mail

When mail destined for a remote system is received from another system, the mail is called transit (non-local) mail. FD will by default not forward transit mail.

The route commands **FORWARD-FOR**, **FORWARD-TO**, **FILES-FOR**, and **FILES-TO** control to and from which systems FD should forward mail automatically. There is no method by which the contents of mail can be used to determine if it should be forwarded or not; the only distinction that can be made is whether or not a message has one or more file attachments or no file attachments.

For more information about the above route commands, please see "Mail routing".

## Automatic time synchronization


FD can be configured to automatically synchronize the local system time with that of another system. This is done after a mail session has completed, provided certain criteria is met (maximum time difference, etc).

It is recommended that a remote system not be configured as a time source unless the system is considered to be reliable in all aspects as well as configured with a password in the security manager. Though no or little physical harm to the system could come from the use of an unreliable time source, the operational integrity and reliability of the system could be affected.

## FDSERVER

The FDSERVER interface (see "FDSERVER" section) allows external programs to be invoked to perform certain tasks not directly handled by FD.

It should be noted that FD has no control over the programs it invokes through an FDSERVER request. It is possible that such a program will cause the system on which FD is operating to lock-up, or otherwise malfunction. Access to the FDSERVER interface should therefore be strictly limited.

 *The FDSERVER interface is by default disabled.*

## Security manager

The [Manager.Security](#) option in FDSETUP is used to configure session passwords and other aspects of mail security.

Session passwords and other related settings are stored in PASSWORD.FD, located in the SYSTEM directory. This file is used by all tasks (i.e. there are no task-specific files).

The security manager screen displays a list of the currently configured passwords and other related settings. The list is divided into a number of columns: session security entry number, system address, and password, followed by several session-related settings. If an entry has been set **Inactive**, a lowercase **i** is displayed between the entry number and the system address columns.

## Navigating

The selection bar is moved with the **UP** and **DOWN** keys. Pressing the **HOME** key will move the selection bar to the first entry displayed on screen; pressing the **END** key will move the selection bar to the last entry displayed on screen. The **PGUP** and **PGDN** keys can be used to move the selection bar one page up and one page down, respectively. To display the first entry in the file, press **CTRL+PGUP**; to display the last entry in the file, press **CTRL+PGDN**.

## Adding entries

New entries can be added by pressing the **INS** (Insert) and **F10** keys. If **F10** is used, settings for the new entry are copied from the entry on which the selection bar is positioned.

## Modifying entries

To modify the entry on which the selection bar is positioned, press the **ENTER** key. If you just want to toggle the **Inactive** flag of an entry, simply press **F1** when the selection bar is positioned on the selected entry.

## Deleting entries

To delete the entry on which the selection bar is positioned, press the **DEL** (Delete) key. This will not physically remove the entry from the file; it will simply mark the entry for deletion. When the file is written (saved), entries marked for deletion will not be saved. Entries marked for deletion are indicated with an asterisk (\*) between the entry number and the system address columns. If you change your mind, simply press the **DEL** key again to remove the deletion marker.

## The security manager fields

The various fields (columns) and their meaning will now be described.

### System

Specifies the address of the system for which the following settings apply.


### Password

Specifies the password required to be presented by the remote system before FD will accept the above (system) address. This password is also presented by FD when it calls the system. It should be noted that FD treats passwords received from remote systems case insensitively. FD will, however, transmit the specified password "as is", without case conversion.

It is recommended, but not required, that passwords are limited to printable, seven bit ASCII characters.

### Mail

Specifies that FD should accept inbound sessions from the system listed in the above (system) address field. This does not affect outbound sessions. If this setting is configured as **No** for a given system, FD will immediately terminate an inbound call (hang up) if the specified address is presented by the calling system.


 *Configuring this setting to **No** can be used to prevent sessions, on a permanent basis, with a remote system that presents a specific address (by accident or deliberately). This is in particular useful when certain addresses are used internally on the system for specific purposes. Optionally, the **DENY** route command (above) can be used with a similar effect.*

### FREQ

Specifies that FD should honor/allow inbound file requests from the system listed in the above (system) address. If this setting is configured as **No** for a given system, FD will under no circumstances allow the remote system to request files.

### ZZap

Specifies that FD should allow the ZedZap (a Zmodem variant) file-transfer protocol to be used during sessions negotiated using the FTS-6 (YooHoo) session protocol. If this setting is configured as **No** for a given system, FD will only allow DietIFNA file-transfers.

 *This setting only affects sessions negotiated using the FTS-6 session protocol.*

### EMSI

Specifies that FD should attempt to negotiate an EMSI session with the given system. Some software may have problems to handle inbound sessions from systems wanting to use the EMSI session protocol, in which case this can be disabled on a system-by-system basis. This setting only affects outbound sessions.

### FTS6

Specifies that FD should attempt to negotiate an FTS-6 session with the given system. FD will first attempt to negotiate an EMSI session before it attempts to negotiate an FTS-6 session, if it is allowed to.

This setting only affects outbound sessions.

### FTS1

Specifies that FD should attempt to negotiate an FTS-1 session with the given system. FD will attempt to negotiate an EMSI session, an FTS-6 session, and finally an FTS-1 session, in that order; as applicable.

This setting only affects outbound sessions.

### TSRC

Specifies that the remote system should be used as a time synchronization source, or time source. This allows FD to automatically synchronize the system time to that of the remote. FD will not synchronize the time with a remote system if more than 30 minutes differ between the local time and the time presented by the remote system (i.e. the remote time).



One additional setting, [Mailer.Miscellaneous.Allow time synchronization w/o UTC](#), can also be used to enhance the security of automated time synchronization.

## Entry synchronization

The [Synchronize](#) (**TAB**) function in the security manager will configure all entries with the same password with the same settings (**Mail**, **FREQ**, **ZZap**, **EMSI**, **FTS6**, **FTS1**, and **TSRC**).

## 13. SEMAPHORE FILES

A semaphore is a file that by its presence, or absence, signals an action to be taken by a given program. Semaphores are also used by programs to signal a specific state. Semaphore files are typically of zero-length (zero bytes); zero-length files do not normally occupy any physical disk space, even though they occupy a directory entry in most operating systems.

Some semaphores are specific to FD, others to FM; all semaphores are, however, checked for and created in the semaphore directory unless otherwise noted. The semaphore directory is configured in FDSETUP ([Global.Filenames.Semaphore](#)) for [ML]. If the semaphore directory has not been specified, and for [SL], the SYSTEM directory is used.

To create a zero byte semaphore file from the OS prompt, use:

```
REM><SemaphoreFilename>
```

A list of semaphores used and supported by FrontDoor are listed below; **nnn** text is the task number (0-255 without any padding). For [SL], **nnn** is always zero (0).

File	FDALIVE.nnn
Versions	All
Description	Indicates that FD is operating and active. This file is touched at least once every 30 seconds by FD, even when it is frozen. The file is removed when FD terminates or a user invokes an external program (including FM and OS shells) from within FD. It is not removed when the Terminal is in use.
File	FDINTERM.nnn
Versions	All
Description	Indicates that FD is currently in Terminal (Emulator) mode. This file is removed once the user leaves the Terminal.
File	FMALIVE.nnn
Versions	All
Description	Indicates that FM is operating and active. This file is touched at least once every 30 seconds by FM, even when it is frozen. The file is removed when FM terminates or a user invokes an external program (including OS shells) from within FM.
File	FDINSESS.nnn
Versions	All
Description	Indicates that FD is currently in a mail session.
File	FDFREEZE.nnn
Versions	All
Description	Forces a specific task to freeze. FD scans for this file periodically and if detected, it closes all open files, except its overlay file, and lowers DTR. The FOSSIL driver is also deinitialized.  FD will not honor this file while a mail session is in progress. It will, however, act upon it as soon as it has completed the mail session. This semaphore is not checked for when the Terminal is active.
File	FDFREEZE.ALL
Versions	All
Description	This semaphore has the same function as above, with the exception that it forces all active mailers to freeze instead of a specific mailer.
File	FDFROZEN.nnn
Versions	All
Description	Indicates that a specific mailer is in a frozen state.

File	FMFREEZE.nnn
Versions	All
Description	Same as FDFREEZE.nnn, but affects FM instead of FD.
File	FMFREEZE.ALL
Versions	All
Description	Same as FDFREEZE.ALL, but affects FM instead of FD.
File	FMFROZEN.nnn
Versions	All
Description	Same as FDFROZEN.nnn, but for FM.
File	FDCANSES.nnn
Versions	All
Description	Forces FD to terminate the call/session in progress. If FD is currently sending or receiving a file, the call will not be terminated until the file has been transmitted/received. Once the call has been terminated, this file is removed by FD.
File	FDRENUM.nnn
Versions	All
Description	Indicates that the System NetMail Folder is being renumbered (or otherwise updated) by an application. No applications may modify messages in the System NetMail Folder if this semaphore is present.  FM creates this file (FDRENUM.nnn) when it is renumbering the System NetMail Folder. How FD reacts to this semaphore depends on what it is currently doing.  If FD is processing the System NetMail Folder, it will act as if the FDFREEZE.nnn semaphore was present. Otherwise, it will prevent any mail sessions from taking place (i.e. ignore inbound calls and not place any outbound calls) as well as any rescans; until the file has been removed.
File	FDSCAN.nnn
Versions	All
Description	Indicates that FD is currently processing the System NetMail Folder. No applications may modify messages in the System NetMail Folder if this semaphore is present unless it is guaranteed that they will not be included by FD in a packet, i.e. Sent, Received, or Locked messages.
File	FDINEXIT.nnn
Versions	All
Description	Indicates that FD has dropped to an external program such as a BBS while a call is in progress. This file is used by FD when it "recycles" and compared with the timestamp of rescan semaphores, etc. to determine if any changes have been made to the System NetMail Folder while the external program was executing.
File	FDNOEXIT.NOW
Versions	All
Description	Prevents FD from triggering an exit when mail has been received.
File	FDNOUSER.NOW
Versions	All
Description	Prevents interactive (non-mail) callers from being passed on to a BBS or similar program, even if FD has been configured to allow interactive access.

File	FDNOSCAN.NOW
Versions	All
Description	Prevents FD from rescanning the System NetMail Folder.
File	FDRESCAN.NOW
Versions	All
Description	Forces FD and FM to rescan the System NetMail Folder (unless FDNOSCAN.NOW is present). See below for additional notes regarding this semaphore.
File	ROUTE <sup>nnn</sup> .FD
Versions	All
Description	While not a semaphore file per se, FD will monitor the timestamp of the route file and if a change is detected, it has the same effect as if FDRESCAN.NOW would have been updated (see above). Additionally, if a change of the file's timestamp is detected, FD will tokenize it into ROUTE <sup>nnn</sup> .FD@ (see "Mail routing").
File	FDXIT <sup>nnn</sup> .eee
Versions	All
Description	Forces FD (with task number NNN) to terminate with an errorlevel indicated by EEE (0-255). If a mail session is in progress, FD will complete it prior to exiting. The semaphore is removed as soon as FD has acted upon it.
File	FDXITANY.eee
Versions	All
Description	Similar to the FDXIT <sup>nnn</sup> .eee semaphore with the exception that no task number is specified. The first mailer to detect this semaphore will act upon it and remove the semaphore once it has done so.
File	FDINMAIL.NEW
Versions	All
Description	Similar to the FDXITANY.eee semaphore with the exception that it does not specify a task number nor errorlevel. The first mailer to detect this semaphore will act as if it has received mail in an inbound session. The semaphore is removed as soon as FD has acted upon it.
File	FDNOCALL. <sup>nnn</sup>
Versions	All
Description	Prevents FD from placing outbound calls.
File	FMRESCAN.NOW
Versions	None
Description	<b>This is no longer supported</b> (see "FDRESCAN.NOW", below).
File	FMNEUNET. <sup>nnn</sup>
Versions	All
Description	Indicates that FM has created one or more messages in the System NetMail Folder.
File	FMNEWLOC. <sup>nnn</sup>
Versions	All
Description	Indicates that FM has created one or more messages in a Folder with Local status.

File	FMNEWCNF.nnn
Versions	All
Description	Indicates that FM has created one or more messages in a Folder with Conference status.

File	FDQPACK.nnn
Versions	All
Description	Indicates that FD is currently packing the static queue (STQ).

File	FDTIMSNC.nnn
Versions	All
Description	Created by FD when it has synchronized the time with a remote system.

File	FDNCALIV.NOW
Versions	All
Description	Indicates that FDNC is currently running. This semaphore is never updated by FDNC while the program is running. If this semaphore exists when FDNC is starting, the program will terminate with an error message.

## FDRESCAN.NOW

This semaphore has several purposes and the result of its presence differs depending on its location. If FD detects a change to this semaphore in the semaphore directory, it will rescan the System NetMail Folder, as well as the STQ, and process outbound mail.

This semaphore is also used to signal a change in .MSG-type folders. FD will create/update this semaphore in the directory of the System NetMail Folder when new mail has been unpacked after a mail session.

If FM detects a change to this semaphore in the folder (.MSG-style) that is currently active, it will rebuild its list of messages. FM does not monitor this file in the semaphore directory.

## 14. FILE REQUESTS

A file request, in the simplest of terms, is a method by which data (typically one or more files) can be fetched from a given system. *Inbound file requests* is the term used when a remote system sends the local system a request for one or more files; *outbound file requests* is the term used when the local system sends a remote system a request for one or more files.

The file request concept can be extended to running external programs to perform a specific service, this is called *service requests* (see "Service requests").

Before FD will honor (accept) inbound file requests, it must be configured with a number of options; including which directories should be accessible, during what times inbound requests should be honored, etc. Most of these configuration options are found in FDSETUP ([Mailer.File requests](#)). Since service requests are handled through the file request interface, they are also affected by the file request configuration settings.

### Configuration

The [File requests](#) option presents four choices, they will now be described, along with the options they, in turn, present.

#### Filenames

These options specify five external files used by FD when processing inbound file requests. The files are plain ASCII (text) files with all lines terminated by a <CR><LF> (ASCII 13, ASCII 10) pair. With the exception of the file specified for the **Message** option, empty lines are ignored, and any text behind a semi-colon (;) is treated like a comment (ignored).

#### List

The file specified here contains a list of [directories](#) that should be scanned for the requested files. One directory (complete path) per line is expected by FD; this is not a filemask.

All files in the specified directories will be available for request by remote systems. No other directories than those specified in this file (and possibly those listed in the file specified for the **SecList** option, below) will be searched.

This file is used for secure and unsecure sessions. An example follows:

```
C:\FD\FILES\FOSSIL\           ;FOSSIL drivers
C:\DRIVERS\OS2\              ;OS/2 drivers
C:\DRIVERS\LINUX\           ;Linux drivers
C:\DRIVERS\WIN\              ;W3x, W95, and WNT drivers
C:\FD\FILES\TXT\             ;Text files
```


#### SecList

This file is similar to **List** (above), with the exception that it is only used for secure sessions. This allows additional directories to be available for file requests made during secure sessions.

#### Alias

The alias file is used to define a requested name (file) to result in none or more files being sent to the requesting system. Alias definitions are also referred to as *magic files*, or *magic filenames*. The alias file is also used to define service requests (see "Service requests").

One advantage of using alias definitions for a specific file, or a specific set of files, is that the requesting system does not need to know the actual local name of the file(s); another advantage is that the directory in which the files are located do not have to be listed in the **List** or **SecList** files (above).

 *Alias definitions are searched before any directories specified in **List** and **SecList** are processed.*

This file is used for secure and unsecure sessions. An example follows:

```
LatestOS2Driver C:\DRIVERS\OS2\OS2DVR.EXE ;Latest OS/2 driver
```

This would result in C:\FD\FILES\DRIVERS\OS2\OS2DVR.EXE being sent when FD processes an inbound file request for **LatestOS2Driver**. The alias definition (**LatestOS2Driver** in the above example) is not treated case sensitively when FD compares it against the requested file(s). A common definition in the **Alias** list is **FILES**, resulting in a list of all available files being sent to the requesting system.

Another example follows:

```
LatestOS2Driver C:\DRIVERS\OS2\OS2DVR.EXE ;Latest OS/2 driver
AllOS2Drivers  C:\DRIVERS\OS2\*. *      ;All OS/2 drivers
AllDrivers     C:\DRIVERS\OS2\*. * C:\DRIVERS\WIN\*. * ;All drivers
```

The filename that is transmitted to the remote system can be modified by specifying the name that should be transmitted after the actual filename:

```
News           C:\FD\FILES\TXT\NEWS.391,NEWS.TXT ;Latest news
```

This would result in C:\FD\FILE\TXT\NEWS.391 being sent, with the name NEWS.TXT, when FD processes an inbound file request for **News**. Caution should be taken to use filenames that the remote system can handle; the 8+3 (nnnnnnn.eee) construct used in DOS should always work.

Note that if more than one file is specified (e.g. by using wildcards) in an alias definition, and a specific filename to use is also specified, all files sent to the remote will be sent using the same filename:

```
News          C:\FD\FILES\TXT\NEWS.* ,NEWS.TXT      ;Latest news
```

This would result in all files matching C:\FD\FILES\TXT\NEWS.\* being sent, with the name NEWS.TXT, when FD processes an inbound file request for **News**.

An alias definition can also be specified in such a way that FD automatically locates the most recent file matching the given filemask. This allows a generic name to be used without having to manually update the alias definition:

```
LatestOS2Driver +C:\DRIVERS\OS2\*.EXE          ;Latest OS/2 driver
```

This would result in the most recent file (note the + character in immediately preceding the filemask) matching C:\DRIVERS\OS2\\*.EXE being sent when FD processes an inbound file request for **LatestOS2Driver**.

Another special prefix, the pipe or vertical bar (|) character, can be used to create an empty file. These are typically used as semaphore files (see "Semaphore files").

An example follows:

```
DoRescan      |C:\FD\SEM\FDRESCAN.NOW          ;Create FDRESCAN.NOW
```

This would "touch" (update) the timestamp of C:\FD\SEM\FDRESCAN.NOW, or create the file if it does not exist, when FD processes an inbound file request for **DoRescan**.


As has been shown (above), more than one file specification can be used for an alias definition. Thus, the following definition:

```
GetData       C:\DBASE\NATLIDX.ZIP |C:\DBASE\DIDFREQ.SEM
```

would result in C:\DBASE\NATLIDX.ZIP being sent, and C:\DBASE\DIDFREQ.SEM being updated or created, when FD processes an inbound file request for **GetData**. This construct could be used by an external application to check if the above file (NATLIDX.ZIP) has been requested, and if so, perform maintenance or removal of the file, etc.

## SecAlias

This file is similar to **Alias** (above), with the exception that it is only used for secure sessions. This allows additional alias definitions to be available for file requests made during secure sessions.

 *Alias definitions are searched before any directories specified in **List** and **SecList** are processed.*

## Message

In the event that FD cannot satisfy an inbound file request for one reason or another, it will return a message to the remote system indicating why the file request(s) could not be satisfied.

If a filename has been specified for the **Message** option, FD will include the contents of the specified file when it creates its *failed request message*.

## Request limits

These settings specify restrictions that FD will enforce when processing inbound file requests.

Ultimately, the behavior settings of the current event (see "Events") determine if FD will honor inbound file requests.

## Allowed systems

This setting specifies which systems, in general, should be allowed to request files from the local system. The valid options are: **Any**, **None**, and **Listed in nodelist**. The last choice allows only those systems listed in the nodelist database to request files.

## Stop after 1st match (Exp)

This setting specifies if FD should stop searching for (more) matching files after it has found one file matching an explicit request, i.e. a request for a filename without wildcards. If this setting is **No**, FD will continue searching the directories specified in **List** and **SecList** (see above) for further matches.

## Stop after 1st match (WC)

This setting is similar to the above setting but specifies how FD should behave after a match has been made when the requested file contains one or more wildcards.

### Maximum match (files)

This setting specifies the maximum number of (matching) files FD should allow a remote system to request during one session. If a file specified in an alias definition (see above) is requested, it is counted as one file, regardless of the number of files the alias definition actually expands to. If this setting is zero (0), FD will not use it to limit the amount of data that can be requested.

### Maximum time (minutes)

This setting specifies the maximum allowed transfer time of requested files during one session. FD uses the connection speed to estimate the transfer time. If this setting is zero (0), FD will not use it to limit the amount of data that can be requested.

### Maximum size (Kb)

This setting specifies the maximum number of kilobytes (1024 bytes) FD should allow a remote system to request during one session. If this setting is zero (0), FD will not use it to limit the amount of data that can be requested.

### Minimum speed (BPS)

This setting specifies the minimum connection speed for which FD should allow file requests. If the connection speed is less than the value specified here, FD will not allow inbound file requests during the session.

### Limited request hours

This setting specifies that FD should only allow inbound file requests during specific times of the day.

#### Start time

If **Limited request hours** (above) has been enabled (**Yes**), this setting determines the time at which FD will begin allowing file requests. The start time is expressed in 24-hour notation (HH:MM).

#### End time

If **Limited request hours** (above) has been enabled (**Yes**), this setting determines the time at which FD will stop allowing file requests. The end time is expressed in 24-hour notation (HH:MM).

#### Days

If **Limited request hours** (above) has been enabled (**Yes**), this setting determines on which days of the week FD will allow file requests.

### Request processor

An external request processor (ERP) is basically a drop-in replacement for the internal mechanism used to process inbound file requests. The primary difference is that it is an external program and can thus be easily replaced and updated. Other advantages include being able to access proprietary database formats used by some BBS packages, and to handle searches for files located on media that does not respond well to the file searching approach used by FD (such as CD-ROM).

When an external request processor is used, FD will only process service requests (see "Service requests"), and assume that the request processor handles the remaining tasks involved with supporting inbound file requests.

### Program

This is the program, and its parameters, that will be invoked by FD to handle inbound file requests. A number of special parameters can be used to force FD to supply the program with information about requested files, the location of certain system files, etc. The documentation of the external request processor should list the required parameters.

See "OS/2 version specifics" for more information about how to specify external programs for the OS/2 version of FrontDoor.

### Enabled

This setting specifies if the external request processor should be invoked by FD to handle inbound file requests. If this setting is **No**, FD will handle inbound file requests internally.

### Swapping

This setting specifies if the DOS version of FD should attempt to swap as much of itself out of memory as possible before invoking the external request processor. Unless the external request processor uses very little memory, this setting should typically be **Yes**.

### Request security

FD will by default allow any system to request files from the local system, as applicable by the various configuration options above and current event restrictions.



FD can, however, be configured to require a specific password to be presented by the remote system before access is given to certain directories and/or files; this allows sensitive files to be made available for file request only to those systems presenting the correct password.

The request security option presents a full-screen interface for configuring file request security settings. The **Filename/Directory** field contains an alias definition, a filename, directory, or unique portion thereof. The **Password** field is the password FD should require to be presented before it will allow access to the specified file or directory; the password is not case sensitive. Inactive entries are ignored by FD.

To protect an alias definition, the name of the alias should be specified in the Filename/Directory field.

FD will use the first entry in the request security list matching a requested file; this is only of importance when using incomplete filename specifications or directory names in the **Filename/Directory** field.

Some examples follow:

GetData	GetDataPassword
C:\FD\ C:\FD\SYSTEM\ C:\FD\SYSTEM\ C:\FD\	PasswordOne PasswordTwo

this would protect the file or alias **GetData** with the password **GetDataPassword**. Any file located in C:\FD\ or a sub-directory thereof is protected by the password **PasswordOne**. The last entry will be ignored because FD will match any file from C:\FD\ with the second entry.

In order for the third entry above to be of any use, the list has to be arranged as follows:

GetData	GetDataPassword
C:\FD\SYSTEM\ C:\FD\ C:\FD\	PasswordTwo PasswordOne

this would allow a different password to be required for files in C:\FD\SYSTEM\, or a sub-directory thereof. For other files in the C:\FD\ structure, the third entry would be used.

When an external request processor is used, it is the responsibility of that program to handle file request security; FD will only handle security issues relevant to service requests in this situation.

## 15. SERVICE REQUESTS

A service request is identical to a file request in all aspects except two: service requests are used to invoke an external program to perform some sort of service, service requests are furthermore handled by FD regardless of if an external request processor is used to handle file requests.

### Definition

A service request is defined in the alias list (see "File requests"). To distinguish a service request definition from a normal alias definition, the > (greater than) character is used; much like other special prefixes mentioned above are used to indicate a special alias definition.

A service request definition consist of three parts:

```
<Alias> ><Program>[ ^<Action>]
```

An example of a very simple service request:

```
FetchInboundDir >DIR C:\FILES\NET\*.* >C:\FD\X.BAK ^-C:\FD\X.BAK
```

This would invoke the **DIR** command with C:\FILES\NET\\*.\*>C:\FD\X.BAK as the parameter. When the DIR command has completed, FD will transmit C:\FD\X.BAK to the remote system, and then remove the file (C:\FD\X.BAK). Note the > (greater than) character immediately preceding the DIR command, this character is what indicates that FD should handle this as a service request.

### Alias

The name of the alias - this is what the remote system must request for the service request to be invoked.

### Program

The program, and its parameters, that will be invoked when an inbound file request for the specified alias is processed by FD. This field must be prefixed by a > (greater than) character, immediately followed by the name of the program. It is important that an extension is specified if a batch (.BAT for DOS and .CMD for OS/2, or .BTM for 4DOS/4NT/4OS2) file is used since it has to be invoked by using the command processor (e.g. COMMAND.COM, CMD.EXE, 4DOS.COM, etc).

A number of special parameters can be used to force FD to supply the invoked program with information about requested files, the location of certain system files, etc. The FrontDoor Developer's Kit (FDDEV) contains a detailed explanation of the special parameters available to service requests.

See "OS/2 version specifics" for more information about how to specify external programs for the OS/2 version of FrontDoor.

### Action

The contents of this field (if present), determines what FD should do when <Program> has completed. The use of this field is optional. If it is not specified, FD will not send any files to the remote system when the service request has completed. The <Action> field is divided into three sub-fields: <Caret><DeleteOption><Filemask>.

The <DeleteOption> sub-field determines what FD should do with the files matching <Filemask>.

### Caret

The caret (^) character.

### DeleteOption

One of the - (minus), + (plus), or ? (question mark) characters.

Using a + (plus) character as the <DeleteOption> specifies that FD should not remove the files matching <Filemask> after they have been sent to the remote system.

Using a - (minus) character as the <DeleteOption> specifies that FD should remove the files, matching <Filemask> after they have been sent to the remote system. If the transfer of the files fails (i.e. the session is prematurely terminated for some reason), FD will still remove the files.

Using a ? (question mark) character as the <DeleteOption> specifies that FD should remove only those files, matching <Filemask>, successfully sent to the remote system.

### Filemask


A filemask specifying which files FD should send to the remote system when processing an inbound file request for the specified alias (i.e. the service request).

## Security

Since service requests are closely related to file requests, they are protected by the same security mechanisms as file requests. Service requests should, however, be used with extreme caution, in particular with regards to the integrity of the program invoked when a service request is requested by a remote system. It is very important that these programs terminate properly and do not leave the system in an unstable operational state.

## 16. FDSERVER

FD supports an external access interface called FDSERVER. This interface is similar in capacity to the service requests interface (see "Service requests"). The FDSERVER function, however, is primarily intended for remote system maintenance.

 *The FDSERVER function is by default disabled and should only be enabled after it is understood in its entirety.*

The function is activated by FD when it detects a message addressed to **FDSERVER** (case insensitive) on the local system that does not have Received (Rcvd) or Lock status. The message can be sent from another system or created locally. It is important to keep in mind, however, that the FDSERVER function can only be activated when FD is not currently in a mail session.

### FDSERVER requests

Messages addressed to FDSERVER on the local system are called *FDSERVER requests*. An FDSERVER request is best described as a controlled OS shell where external programs and commands can be invoked.

### Format

All non-empty lines in the body (text section) of the request message are considered to be programs or commands that should be processed by FD. Internal commands (see below) are preceded by a % (percent) character.

See "OS/2 version specifics" for more information about how to specify external programs for the OS/2 version of FrontDoor.

### Limitations

Some limitations are placed on the contents of an FDSERVER request, these will now be described.

Programs that require local keyboard input should not be invoked from a request.

Batch (.BAT for DOS and .CMD for OS/2, and .BTM for 4DOS/4NT/4OS2) file labels are not supported.

Programs invoked from a request should never alter the integrity of the system or leave the system in an unstable operational state.

### Specific tasks

Applicable requests addressed to FDSERVER will be processed by the first FD that detects the request. It is possible to specify which task should handle an FDSERVER request by addressing the message to "FDSERVER <task>" in the message's To: field. For example, a message addressed to **FDSERVER 2** on the local system will only be processed by task two (2).

 *Only one FD can process FDSERVER requests at a given time.*

### Rescan

When all FDSERVER requests have been processed by FD, it will rescan the contents of the System NetMail Folder.

### Internal commands

All internal commands begin with a % (percent) character and are treated case insensitively.

#### %END

Terminate processing of the currently processed request. This is not required unless the message body also contains non-FDSERVER text.

#### %SEMAPHORE

Followed by one or more filenames (excluding path), separated by spaces, specifies that FD should create/update the specified semaphores (see "Semaphore files"). The specified filename(s) may not contain wildcards. For example:

```
%SEMAPHORE FDNOCALL.1 FDNOCALL.2
```

would create/update the two semaphores FDNOCALL.1 and FDNOCALL.2 in the semaphore directory.

#### %CHD

Followed by a path, specifies that FD should change the currently active drive and/or directory to the specified drive and/or directory. When FD has completed the processing of the request, the current drive and directory will be restored to its startup path. For example:

```
%CHD M:\MAIL\REPORTS
```

would change the drive to **M:** and the directory to **\MAIL\REPORTS**.

## %DEBUG

Followed by **ON** or **OFF**, specifies that FD should log (**ON**) each processed line to its log file.

## %LOG

Followed by a log message, specifies that FD should add the message to its log file; the **&** (ampersand) log symbol is used. For example:

```
%LOG Running report generator
```

would produce output similar to the below text in the log file:

```
& 11.01.26 Running report generator
```


## %KILLMSG

Specifies that FD should remove the FDSERVER request (message) once it has been successfully processed. The default is to simply stamp the request with Received (Rcvd) status once it has been processed.

If FD encounters a request with an incorrect password, the request will simply be stamped with Rcvd (Received) status.

## Enabling FDSERVER

The FDSERVER function is enabled by specifying an FDSERVER password in FDSETUP ([Mailer.FDServer](#)). The password is not case sensitive; the password is specified in the Re: (Subject) field of FDSERVER requests.

 *Note that the FDServer window will not be automatically closed when a password has been specified. This is to allow the display of the current status of FDSERVER (enabled/disabled).*

## 17. SCRIPTS

Scripts provides an alternative method to calling a specific system directly by dialing its telephone number. Scripts can be used in a number of ways; including handling the actual mail session, but are typically used to establish a connection between two systems when simply dialing a telephone number is not sufficient.

Scripts can also be used in the Terminal to establish a terminal session with a given service such as an internet service provider (ISP) or dial-up bulletin board system (BBS).

In the simplest of definitions, the commands available in the FrontDoor script language is a simple programming language used to control how FD interacts with data that is received from the communications device.

Script files by default have an extension of .SCR and are located in the SYSTEM directory. Script files used in the Terminal do not need to be located in the SYSTEM directory.

Each line in a script file is either a comment, a command, or data for a command. Text following a semi-colon (;) is considered a comment. Empty lines are ignored but can be used in place of comments. Adding empty lines or comments to separate commands makes it easier to read and manage the file, but does not affect how FD or the Terminal interprets it. Script files are ASCII (text) files with all lines must be terminated by a <CR><LF> (ASCII 13, ASCII 10) pair. The script language and its commands are case insensitive unless otherwise noted.

### Commands

Following is a list of script commands with their description. The availability information is used to indicate in what versions of FD a specific command is available, and also if the command is available when the script is used in the Terminal.

Command	SEND <STRING>
Availability	All
Description	Sends a series of characters to the communications device. Everything following the <b>SEND</b> command on the same line will be sent. Control characters may be specified using mnemonics (see "Mnemonics" below). In addition, the special characters supported for communications device control strings (see "Modem configuration") v ^ `   and ~ are supported. The string will be sent exactly as specified, with no case conversion.
Command	SENDNOXLAT <STRING>
Availability	All
Description	Similar to the <b>SEND</b> command (above) with the exception that v ^ `   and ~ have not special meaning and are sent verbatim ("as is").
Command	PROVOKE <STRING>
Availability	All
Description	Sends the specified string, with an interval of one second, until <u>any</u> character is received from the communications device, or until a timeout occurs (see " <b>TIMERSET</b> " below); or until the script is interrupted by the user. Control characters may be specified as with the <b>SEND</b> command (above).
Command	WAIT <SECONDS>
Availability	All
Description	Waits for the specified number of seconds before continuing. The maximum value for <SECONDS> is 6000 (100 minutes).
Command	WAITFOR <STRING1> <STRING2> <STRINGn>
Availability	All
Description	Waits until one or more of the specified strings are received, or until a timeout occurs (see " <b>TIMERSET</b> " below). Each string must be separated by a pipe or vertical bar ( ) character. Control characters may be specified by using mnemonics (see "Mnemonics" below). Of the specified strings, only the first will signify success; the remaining strings will immediately terminate the script with failed status. The string comparison <u>is</u> case sensitive, and requires an exact match.

Command	CASE / ENDCASE
Availability	All
Description	<p>Starts and ends a <b>CASE</b> construct, respectively. <b>CASE/ENDCASE</b> is a more flexible variant of the <b>WAITFOR</b> command (see above). Each line after <b>CASE</b> must start with a string of data to expect, followed by a colon and one or more script commands, or a label jump directive (see "Labels" below). The <b>CASE</b> construct is ended when the <b>ENDCASE</b> command is encountered on a separate line. A <b>CASE</b> construct cannot be nested (i.e. a <b>CASE</b> construct cannot contain another <b>CASE</b> construct).</p> <p>When a matching string is received from the communications device, the command on the same line will be executed. If the command consists of a label jump instruction, the script will continue from the specified label position. If it is one or more script commands, they will be executed, and the script will continue from the line following the <b>ENDCASE</b> command, unless the executed command(s) terminates the script.</p> <p>The string comparison is case sensitive, and requires an exact match. A short example follows:</p> <pre> CASE CONNECT      : session ;Comments BUSY         : &gt;redial ;Connect               : &gt;redial ;Busy, jump to REDIAL               : label               : &gt;redial ;Note the use of double               : quotes VOICE        : fail    ;Nobody we can talk to @NOCARRIER  : fail    ;Carrier lost @DEFAULT     : fail    ;Timeout ENDCASE </pre> <p>When specifying a string to match containing spaces, it should be enclosed in double-quotes (""); see the example above ("NO CARRIER").</p> <p><b>@NOCARRIER</b> is used to test the presence of a carrier signal (CD) in a <b>CASE</b> construct. <b>@DEFAULT</b> is used to specify a default course of action if a timeout occurs in a <b>CASE</b> construct (see <b>TIMERSET</b> command).</p>

Command	PURGEIN
Availability	All
Description	Purges pending input data not yet processed but received from the communications device.

Command	PURGEOUT
Availability	All
Description	Purges pending output data not yet transmitted to the communications device.

Command	SETPORT <BAUD> <DATABITS> <STOPBITS> <PARITY>
Availability	All
Description	<p>Sets the communications device to the specified parameters. &lt;BAUD&gt; can be any value of 300, 1200, 2400, 4800, 9600, 19200 and 38400; at no time will the baudrate be set to a higher value than the highest supported speed of the called system (as applicable). &lt;DATABITS&gt; is seven (7) or eight (8). &lt;STOPBITS&gt; is one (1) or two (2). &lt;PARITY&gt; is NONE, ODD, or EVEN. In addition, a value of minus one (-1) indicates that the previous setting for the given parameter should be retained.</p> <p>It should be noted that this command has no effect if the communications device has been configured with a constant DTE speed (see "Modem configuration"), as is the case with most high-speed devices in use today.</p>

Command	LINESPEED <BPS>
Availability	[ML]
Description	Sets the actual connect speed figure used by FD and the Terminal to estimate transfer times, etc. <BPS> may be any value in the range 75-2000000.

Command	DIAL <NUMBER>
Availability	All
Description	Sends <NUMBER>, preceded by the dial command specified in the modem section of FDSETUP, to the communications device. Control characters may be entered as with the <b>SEND</b> command.
Command	NODEDIAL <ADDRESS>
Availability	[ML]
Description	Similar to the <b>DIAL</b> command (above) with the exception that instead of specifying a telephone number, a system address is specified. FD will fetch the telephone number from the nodelist database. If the specified address could not be found, or the associated nodelist entry does not have a valid telephone number, the script will terminate.
Command	TIMERSET <SECONDS>
Availability	All
Description	Sets the time for fatal timeouts while waiting to receive data from the communications device. The default setting is 120 seconds (two minutes). The maximum value is 3000 seconds (50 minutes); the minimum value is zero (0).  When the WAITFOR command is used, the last used TIMERSET command determines the maximum amount of time FD will wait to receive the specified data from the communications device. In the event of a timeout, the script will terminate with failed status.
Command	RETRYCOUNT <RETRIES>
Availability	All
Description	Provides a means of incrementing and checking a predefined retry count variable. If the current retry count exceeds <RETRIES>, the script is terminated with failed status, otherwise the retry count is incremented with one (1). The retry count does not include the first attempt.
Command	CLEARCOUNT
Availability	All
Description	Clears the predefined retry count variable (see above), resetting it to zero (0).
Command	ENDNODE
Availability	All
Description	Terminates a node block (see "Node blocks" below).
Command	SESSION
Availability	All
Description	Terminates the script with success status. If the script is used in FD, the result will be that mail session initiation is attempted. It is not necessary to use the <b>SESSION</b> command in a script file used in the Terminal.
Command	FAIL
Availability	All
Description	Terminates the script with failed status. If the script is used in FD, the result will be that no mail session initiation is attempted.



Command	SESSIONOK
Availability	[ML], not in Terminal
Description	Forces FD to act as if it had completed a successful mail session (the successful sessions statistics are updated). If a <b>POLL</b> route command (see "Mail routing") was the reason for the call attempt, the poll is considered a success. This command is typically used in scripts that do <u>not</u> use the <b>SESSION</b> command to signal to FD that it should begin session initiation with the remote system.
Command	SESSIONFAIL
Availability	[ML], not in Terminal
Description	Forces FD to act as if it had completed a failed mail session (the failed sessions statistics are updated). If a <b>POLL</b> route command (see "Mail routing") was the reason for the call attempt, the poll is considered incomplete. This command is typically used in scripts that do <u>not</u> use the <b>SESSION</b> command to signal to FD that it should begin session initiation with the remote system.
Command	DISCONNECT
Availability	[ML]
Description	Unconditionally terminates a call (if any) from within the script. Script execution will resume as soon as the carrier (CD) signal has been lost; the script lowers the DTR signal to disconnect.
Command	SEENDBREAK
Availability	[ML]
Description	Transmits a short BREAK signal to the communications device.
Command	LongBREAK
Availability	[ML]
Description	Transmits a long BREAK signal to the communications device.
Command	DEBUG <ON> or <OFF>
Availability	All
Description	Sets the state of debug mode. When debug mode is enabled, all characters received from the communications device while waiting for data will be displayed. When debug mode is disabled, FD will only display data that matches one of the strings it is waiting for. Similarly, when debug mode is enabled, all strings sent to the communications device will be displayed; when debug mode is disabled, FD will only display <b>Sending string</b> . See <b>QUIET</b> below for more information on how to affect script progress display.
Command	QUIET <ON> or <OFF>
Availability	[ML]
Description	Used to control if FD displays script progress information such as Sending string, Setting port, etc. See <b>DEBUG</b> above for more information on how to affect script progress display.
Command	DISPLAY <STRING>
Availability	[ML]
Description	Displays the specified string on the screen. A <CR><LF> pair is always appended to the string. Script mnemonics (see "Mnemonics") are not supported (i.e. they will be displayed without translation).

Command	CLS
Availability	[ML]
Description	Clears the script window.
Command	NEWMAIL
Availability	[ML], not in Terminal
Description	Forces FD to act, once the script has completed, as if it has received compressed mail. This is typically used to force FD to exit to process mail.
Command	RESETTIMER
Availability	[ML]
Description	Resets the on-line timer displayed in the bottom right-hand corner of the script window.
Command	LOG <SYMBOL> <STRING>
Availability	[ML]
Description	Adds <STRING> to the log, using the <SYMBOL> symbol. For example: <pre>LOG + Calling FTP server</pre> would produce output similar to the below text in the log file: <pre>+ 11.01.26 Calling FTP server</pre>
Command	IFBAD <LineToExecute>
Availability	[ML]
Description	Executes the command(s) listed on <LineToExecute> (which is the line immediately following the <b>IFBAD</b> command) if an <b>UPLOAD</b> , <b>DOWNLOAD</b> , or <b>UPLOADMAIL</b> (see below) command failed.
Command	ZMODEM1K
Availability	[ML]
Description	Forces the Zmodem transmitter to use a maximum data sub-packet size of 1024 bytes (one kilobyte). This can be used in conjunction with the <b>UPLOAD</b> and <b>UPLOADMAIL</b> commands to limit the maximum Zmodem block size.
Command	ZMODEM8K
Availability	[ML]
Description	Forces the Zmodem transmitter to use a maximum data sub-packet size of 8192 bytes (eight kilobytes). This can be used in conjunction with the <b>UPLOAD</b> and <b>UPLOADMAIL</b> commands to limit the maximum Zmodem block size.  The default is to use 1024-byte (one kilobyte) blocks when Zmodem is used to transmit file(s) from within a script.
Command	ZMODEMBADESC
Availability	All
Description	Controls data escaping for the Zmodem file transfer protocol (transmitter). This command is used for troubleshooting purposes only, and should not be used unless suggested by support staff.

Command	ZMODEMREALESC
Availability	All
Description	Controls data escaping for the Zmodem file transfer protocol (transmitter). This command is used for troubleshooting purposes only, and should not be used unless suggested by support staff.
Command	DOWNLOAD <PROTOCOL> <PATH>
Availability	[ML]
Description	Receives one or more files from the remote system into the directory specified in <PATH>, using the protocol specified in <PROTOCOL> which must be one of X, T, S, or Z (Xmodem, Telink, SEALink, and Zmodem respectively). <PATH> must contain a complete filename for Xmodem transfers and a valid directory for Zmodem, SEALink, and Telink transfers.
Command	UPLOAD <PROTOCOL> <FILEMASK>
Availability	[ML]
Description	Transmits the files matching <FILEMASK> to the remote system, using the protocol specified in <PROTOCOL> which must be one of X, T, S, or Z (Xmodem, Telink, SEALink, and Zmodem respectively). <FILEMASK> may contain wildcards for all protocols.
Command	UPLOADMAIL <PROTOCOL>
Availability	[ML], not in Terminal
Description	Transmits mail to the remote system, using the protocol specified in <PROTOCOL> which must be one of X, T, S, or Z (Xmodem, Telink, SEALink, and Zmodem respectively). This will force FD to behave as if it had called the system directly to deliver outbound mail.  The command can only be used once within a script, and once used, the effect of using the <b>SESSIONOK</b> , <b>SESSION</b> , and <b>FAIL</b> commands is somewhat altered. The <b>SESSIONOK</b> and <b>SESSION</b> commands will terminate the script with success status and perform post-session processing. The <b>FAIL</b> command will terminate the script with fail status, but will also perform post-session processing.
Command	UPLOADMAILSKIPOK
Availability	[ML], not in Terminal
Description	This command is typically use in conjunction with the <b>SESSIONOK</b> command to replace the use of the <b>UPLOADMAIL</b> command when a script is only used to pickup mail. By using a combination of the <b>UPLOADMAILSKIP</b> and <b>SESSIONOK</b> commands, it is possible to force FD to consider a route-generated POLL (see "Mail routing") as successful when the script is only used to pickup mail.
Command	SEMAPHORE <FILE1> <FILE2> <FILEnn>
Availability	[ML]
Description	Specifies that FD should create/update the specified semaphores (see "Semaphore files"). The filename(s) may not contain wildcards and must include complete path specifications (i.e. no directory is assumed). The macro <b>\$(SEMPATH)</b> can be used to easily create/update semaphores in the semaphore directory.
Command	DELETEFILE <FILE1> <FILE2> <FILEnn>
Availability	[ML]
Description	Removes the specified file(s) which must be complete filenames without any wildcards. It is not considered an error if one or more of the specified files does not exist.

Command	IFEXIST <FILEMASK> <LABEL>
Availability	[ML]
Description	Jumps to the specified label (see "Labels" below) within the current script if one or more files matching <FILEMASK> exists. <LABEL> should not contain a leading > (greater than) character.
Command	IFNOTEXIST <FILEMASK> <LABEL>
Availability	[ML]
Description	Jumps to the specified label (see "Labels" below) within the current script if no files matching <FILEMASK> exists. <LABEL> should not contain a leading > (greater than) character.
Command	EXEC <PROGRAM>
Availability	[ML]
Description	Runs the specified program (and parameters). FD will close all of its open files (except for the overlay file) and deinitialize the communications driver before attempting to run the external program. See "OS/2 version specifics" for more information about how to specify external programs for the OS/2 version of FrontDoor.
Command	IFERRORLEVEL <ERRORLEVEL> <LABEL>
Availability	[ML]
Description	Jumps to the specified label (see "Labels" below) within the current script if the last errorlevel returned is equal to or higher than <ERRORLEVEL>.  Values 0-255 are return codes from the program while 256 and above are used to indicate an error returned from the operating system; e.g. <b>File not found</b> has an error code of two (2), to check for this error, the <ERRORLEVEL> field should contain 257.  This command is typically used in conjunction with the <b>EXEC</b> command. <LABEL> should not contain a leading > (greater than) character.

## Labels

The versatility of the script language is further enhanced by the use of so-called labels to execute different parts of the script depending on a specific situation. A label is used to define a position in the script, so that it may be used as a jump/conditional destination. A label can consist of any one word starting with a letter A-Z preceded by a single colon (:); a label cannot, however, have the same name as a script command.

At the position in the script where a jump to a specific label should be made, the name of the label preceded by a > (greater than) character is inserted. The preceding colon (:) used to define a label is not used in any other place except when the label is defined.

An example follows:

```
:redial
SEND ATDT12345<CR>
CASE
  CONNECT      : session
  BUSY         : >redial
  @DEFAULT     : fail
ENDCASE
```

this defines the label **REDIAL**, which is later used in the **CASE** construct if **BUSY** is returned by the communications device.

Another example:

```
:redial
SEND ATDT12345<CR>
>donext
```

this defines the label **REDIAL**, sends the specified number to the communications device, and then jumps to the **donext** label (presumably defined elsewhere in the script).

## Node blocks

A node block is the term used to describe a special type of label. A node block is constructed similarly to a normal label, with the exception that the label is made up of a system address. A node block is terminated with the **ENDNODE** command (see above). All commands listed in the node block will be processed only if the address specified at the beginning of the node block matches the address of the system that is being called.

An example follows:

```
: 255:3046/100
  SEND ATDT12345<CR>
ENDNODE
: 255:3046/200
  SEND ATDT67890<CR>
ENDNODE
```

this would issue the **SEND ATDT12345** command if 255:3046/100 was the system being called and the **SEND ATDT67890** command if 255:3046/200 was the system being called.

## Mnemonics

As mentioned above, several commands accept the use of mnemonics to transmit control characters to the communications device. The following mnemonics (listed with their corresponding ASCII value to the right of the mnemonic) are recognized:

<NUL>	0	<DC1>	17
<SOH>	1	<DC2>	18
<STX>	2	<DC3>	19
<ETX>	3	<DC4>	20
<EOT>	4	<NAK>	21
<ENQ>	5	<SYN>	22
<ACK>	6	<ETB>	23
<BEL>	7	<CAN>	24
<BS>	8	<EM>	25
<HT>	9	<SUB>	26
<LF>	10	<ESC>	27
<VT>	11	<FS>	28
<FF>	12	<GS>	29
<CR>	13	<RS>	30
<SO>	14	<US>	31
<SI>	15	<SP>	32
<DLE>	16	<COLON>	58
		<SEMICOLON>	59

## Macros

In addition to the standard FrontDoor macro construct **\$(MACRONAME)**, several script-specific macros exist that can be used in script files; these script-specific macros will now be described.

Macro	@DEFAULT
Availability	CASE construct
Description	Used to supply a default course of action in the event a timeout occurs in a <b>CASE</b> construct. The <b>@DEFAULT</b> macro is used in the above example for a <b>CASE</b> construct.

Macro	@NOCARRIER
Availability	CASE construct
Description	Used to test for the presence of a carrier signal (CD) in a <b>CASE</b> construct. If a carrier signal is not present, the specified commands are executed. The <b>@NOCARRIER</b> macro is used in the above example for a <b>CASE</b> construct.

Macro	\$(LASTSTR)
Availability	[ML]
Description	Expands to the last string processed by the <b>WAITFOR</b> command or a <b>CASE</b> construct. This macro is typically used to log and/or display the last string received from the communications device.

Macro	[\$SYSNUM]
Availability	[ML]
Description	Expands to the telephone number of the system being called (i.e. when the script was invoked). The telephone number will be in the format FD would have used if the system had been called without using the script file. This macro is typically used to log and/or display the number of the system being called.
Macro	[\$DIALNUM]
Availability	[ML]
Description	Expands to the last telephone number sent/dialed with the <b>DIAL</b> or <b>NODEDIAL</b> commands. This macro is typically used to log and/or display the last telephone number used in the script.
Macro	[\$SYSADDR]
Availability	[ML]
Description	Expands to the address of the system being called (i.e. when the script was invoked). This macro is typically used to log and/or display the network address of the system being called.
Macro	[\$LASTERRORLEVEL]
Availability	[ML]
Description	Expands to the errorlevel returned by the last <b>EXEC</b> command that was used. If no <b>EXEC</b> command has been used, this macro expands to zero (0). This macro is typically used to log and/or display the return value of the last EXEC command..

## Examples

Some example scripts are included below. Please note that they are intended as a reference and starting point only.

### Alternating telephone numbers

This script is intended to be used when calling a system that has several telephone numbers.

```

;
; This script can be used to call a system with multiple telephone
; numbers. The script is constructed to alternate between two
; numbers, but can easily be adapted to handle as many telephone
; numbers as needed.
;

debug off                ;Disable debug output
cls                      ;Clear script display
display Calling $[SYSADDR] ;Display the system being called
clearcount              ;Clear retry counter
timerset 60             ;Wait max 60 sec for a response

:dialA                   ;Dial first number
wait 2                  ;Wait for two seconds
SEND ATDT55630102<CR>   ;Send "ATDT55630102<CR>" to modem
purgein                 ;Get rid of pending data
CASE                    ;Wait for response
  CONNECT      : >dosess    ;Jump to dosess
  BUSY         : >dialB     ;Jump to next number
  "NO "       : >dialB     ;Jump to next number
  ERROR       : >dofail    ;Jump to dofail
  RING<CR>    : >dofail    ;Jump to dofail
  @default    : >dialB     ;Timeout, jump to next number
ENDCASE

```

```

:dialB                                ;Dial second number
retrycount 4                          ;Fail if we've been here 5 times
wait 2                                 ;Wait for two seconds
SEND ATDT55630103<CR>                 ;Send "ATDT55630103<CR>" to modem
purgein                               ;Get rid of pending data
CASE                                   ;Wait for response
  CONNECT      : >dosession            ;Jump to dosess
  BUSY         : >dialA                ;Jump to next number
  "NO "        : >dialA                ;Jump to next number
  ERROR        : >dofail               ;Jump to dofail
  RING<CR>     : >dofail               ;Jump to dofail
  @default     : >dialA                ;Timeout, jump to next number
ENDCASE

;continued

:dosess                                ;We got CONNECT
log + Got ${LASTSTR}                  ;Add connect message to log file
wait 2                                 ;Wait for two seconds
purgein                               ;Get rid of pending data
session                               ;Let FD handle session, script OK!

:dofail                                ;We didn't get connect, fail
log + Failed to connect                ;Add status message to log file
fail                                   ;Terminate script with fail

```

## Checking for custom semaphores

This script is intended to be used to check for a custom semaphore file prior to allowing a call to a given system. If the semaphore exists, the script simply adds a message to the log file and fails.

```

;
; This script can be used to check for a custom semaphore prior to
; allowing a call to a given system. If the semaphore exists, the
; script simply adds a message to the log file and exits (with fail
; status)
;

ifexist C:\FD\SEM\CUSTOM.SEM semfail ;Checks for file CUSTOM.SEM

debug off                              ;Disable debug output
cls                                     ;Clear script display
display Calling ${SYSADDR}             ;Display the system being called
timer set 60                           ;Wait max 60 sec for a response

wait 2                                 ;Wait for two seconds
SEND ATDT55630102<CR>                 ;Send "ATDT55630102<CR>" to modem
:waitagn                               ;Label used for "OK" response
CASE                                   ;Wait for response
  CONNECT      : >dosess              ;Jump to dosess
  OK           : >waitagn              ;Ignore OK by repeating CASE..
  BUSY         : fail                 ;Fail (terminates script)
  "NO "        : fail                 ;Fail (terminates script)
  ERROR        : fail                 ;Fail (terminates script)
  RING<CR>     : fail                 ;Inbound call, terminate script
  @default     : fail                 ;Fail (terminates script)
ENDCASE

:semfail                               ;Semaphore exists, fail
log + Semaphore detected, failed        ;Add status message to log file
fail                                   ;Terminate script with fail

:dosess                                ;Add connect message to log file
log + Got ${LASTSTR}
wait 2                                 ;Wait for two seconds
purgein                               ;Get rid of pending data
session                               ;Let FD handle session, script OK!

```

## Appendix A: GLOSSARY

Active field	Certain input screens, such as the message header dialog box, contain a number of input fields where you enter data. The active field is the field that is currently being used to store the data that you enter.
Address	The unique combination of <b>Zone:Net/Node.Point</b> , identifying an individual site (system).
AKA	Alternative address (" <b>A</b> lso <b>K</b> nown <b>A</b> s").
ARQ	Automatic Repeat Request; a general term for error control protocols which feature error detection and automatic retransmission of defective blocks of data.
ASCII	American Standard Code for Information Interchange; used to represent letters, numbers, and special characters such as \$, !, and /.
Auto Answer	A feature of most modems, allowing them to answer inbound calls automatically, without the intervention of software or other hardware.
AVATAR	An flexible and extremely fast terminal emulation protocol designed by George A. Stanislav. The FrontDoor Terminal supports the AVATAR/0+ (AVT/0+) level of this protocol. AVATAR stands for <i>Advanced Video Attribute Terminal Assembler and Recreator</i> .
BBS	See <i>Bulletin Board System</i>
Bit rate	The number of binary digits or bits transmitted per second (BPS). Communication channels using telephone links are established at set bit rates, commonly 9600, 14400, 28800, and 33600 BPS.
BPS	The bits (binary digits) per second rate.
Bulletin Board System	A Bulletin Board System, or BBS for short, is a system to which users can connect via a dial-up connection, a Local Area Network or via the Internet. It often consists of different areas, e.g. message groups, file areas, on-line games, and chat rooms.
Caller ID	Information identifying the calling party. This is typically generated by the communications/telephony network for use by devices and applications.
Carrier detect	A control signal line of the RS-232C standard interface typically used to indicate that two devices (such as modems) have established a connection.  Forced carrier is the term used to describe the case when a communications device has been configured to always assert carrier detect, regardless of the true state of the connection; this is <b>not</b> desirable when using the device in conjunction with FD.
CD	See <i>Carrier detect</i>
Clear to send	A control signal line of the RS-232C standard interface indicating that the communications device (such as a modem) is ready to receive data from the data terminal (computer). The clear to send signal is used to implement hardware flow control between the data terminal and the communications device (CTS/RTS handshaking).
CnfMail	See <i>Conference Mail</i>
Conference	A conference is a discussion forum where a certain topic is discussed, for instance Cooking, Computer programming, Politics, Product support, etc. A conference can either be open to everyone, or restricted to a closed group of participants. All messages in a conference are public, even if they are addressed to a specific recipient. This means that all participants of the conference are able to read all messages. To send a private message, use the NetMail folder. All messages in a conference are stored together in a folder.
Conference Mail	Mail that is sent from one person and then distributed by means of a conference with more than one participant (see <i>Conference</i> ).
Conference Mail Processor	An external application used to process conference mail. It is responsible for placing conference messages received from remote systems into their proper folders and for exporting messages written locally in Conference-type folders. The Conference Mail Processor creates file attachments, which are delivered by FD to the appropriate remote systems.
Confirmation Receipt	A confirmation receipt is an indication that the recipient of a message has read it. All systems do not support or allow confirmation receipts, which means that the recipient may have read the message, even if you have not received a confirmation receipt.
ConfMail	See <i>Conference Mail</i>



CPS	Characters per second; an expression used to measure the speed of file and data transfers.
Crossposting	The process of saving ("posting") a message to more than one folder.
CTS	See <i>Clear to send</i>
Data communication equipment	Equipment used to establish and control a data link between two geographical locations, often by using the telephone network. This is typically a modem or ISDN adapter.
Data terminal equipment	The device that generates/creates or is the final destination of data; typically a computer.
Data terminal ready	A control signal line of the RS-232C standard interface indicating that the data terminal (computer) is ready to use a communications device. This signal is often used to instruct a communications device to terminate a connection (hang-up).
DCD	See <i>Carrier detect</i>
DCE	See <i>Data communication equipment</i>
DTE	See <i>Data terminal equipment</i>
DTR	See <i>Data terminal ready</i>
EchoMail	See <i>Conference Mail</i>
E-Mail	Electronic mail.
EMSI	Electronic Mail Standard Identification. A standard describing a method by which two mailers (such as FD) determine which features should be used to exchange mail and files; EMSI is a <b>very</b> flexible <i>handshake protocol</i> favored by FD over FTS-1 and FTS-6 to negotiate mail sessions with other systems.
Flow control	A mechanism that compensates for differences in the flow of data input to and output from a device, such as a modem.
FOSSIL	An acronym for <i>Fido, Opus, SEAdog Standard Interface Layer</i> . This refers to a driver, or an interface to a driver, providing some basic functions based around communications and the IBM PC interrupt 14H vector.
FTS-1	FidoNet Technical Standard #1. A standard describing a method by which two mailers (such as FD) determine which features should be used to exchange mail and files; this is often called the FTS-1 <i>handshake protocol</i> .
FTS-6	FidoNet Technical Standard #6. A standard describing a method by which two mailers (such as FD) determine which features should be used to exchange mail and files; this is often called the FTS-6 or YooHoo <i>handshake protocol</i> . FTS-6 is more flexible and faster than the FTS-1.
Hardware flow control	Flow control implemented by means of using hardware signals such as CTS and RTS.
IEMSI	Interactive EMSI. Used to automatically logon with a Terminal program to an interactive service such as a BBS.
LAN	Local Area Network. A LAN is often used to connect a number of computers at an office with each other, to make it possible to share resources such as disk drives, modems, and printers.
Mail packet	A mail packet, or bundle, is a collection of one or more messages combined into one file for transmission.
Mailer	A program responsible for sending, receiving, storing, and forwarding of mail. FD is the mailer in the FrontDoor package.
Modem	MODulator/DEModulator; a device that transmits and receives data through a communications channel such as radio or telephone lines. It modulates, or transforms, digital signals from a computer into the analog form that can be carried successfully on a telephone line. It also demodulates signals before passing them on to the receiving computer.
NetMail	Mail that is sent from one person to another person, i.e. person-to-person correspondence.
Network Address	See <i>Address</i>

Origin line	<p>Messages in a Conference Folder normally have an ending identification line, called <i>Origin Line</i>. An example of an origin line:</p> <p>* Origin: Definite Solutions (255:3046/1)</p> <p>The text in the origin line can contain any (or no) text, but it must be followed by the address of the system where the message originated. Some examples of text in an origin line:</p> <p>Definite Solutions - Stockholm, Sweden  XYZ Corporation - Green Valley, CA, USA  XYZ Corporation - John Doe in the field</p>
OS/2	Powerful 32-bit multi-tasking operating system from IBM.
Parity	An error-detection method that checks the validity of a transmitted character. Parity checking has been surpassed by more reliable and efficient forms of block-checking, including Xmodem-type protocols and the ARQ protocol. The same type of parity must be used by two communicating computers, or both may omit parity. When parity is used, a parity bit is added to each transmitted character. The bit's value is 0 or 1, to make the total number of 1's in the character even or odd, depending on which type of parity is being used (Odd, Even, Mark, Space, None, etc).
PGM	Program Generated Message; an indication that the message was generated by an application rather than a person. Replying to such messages without modifying the recipient information of the new message typically results in a message that nobody on the destination system will read; at least not within a reasonable amount of time.
Primary Address	The first address configured in FDSETUP ( <a href="#">Global Address.Address.Main</a> ).
Primary AKA	See <i>Primary Address</i>
Protocol	A system of rules and procedures governing communications between two or more devices or programs. Protocols vary, but communicating devices and programs must follow the same protocol in order to exchange data. The format of the data, readiness to receive or send, error detection, and error correction are some of the operations that may be defined as protocols.
Request to send	A control signal line of the RS-232C standard interface indicating that the data terminal (computer) is ready to receive data from the communications device (such as a modem). The request to send signal is used to implement hardware flow control between the data terminal and the communications device (CTS/RTS handshaking).
RTS	See <i>Request to send</i>
SEAlink	A sliding-windows 8-bit only file transfer protocol based on Xmodem, developed by System Enhancement Associates (SEA).
Software Flow Control	See <i>XON/XOFF</i>
Start/Stop bits	The signaling bits attached to a character before the character is transmitted during asynchronous transmission.
Static queue	A single-file database containing entries that specify files to send and fetch, as well as systems to call. By using external software, such as conference mail processors, that supports the static queue, the speed of mail processing can be improved considerably.
STQ	See <i>Static queue</i>
Tear line	The tear line is a line located at the end of the messages, just before the origin line, and begins with three dashes (---), sometimes followed by a short program notice. This line is added by most message editors, such as FM, but is not required.
Undialable	A system which is listed in the FD undialable manager with three check marks (">>>") is said to be undialable; i.e. FD will not call such a system. The concept of undialable systems is intended to protect against repeated failures to establish a successful mail session with a given remote system.
WAN	Wide Area Network. A WAN is used to connect computers at different locations to each other.
Word length	The number of bits in a data character other than parity, start, or stop bits.
XC	See <i>Crossposting</i>
Xmodem	The first of a family of error control software protocols used to transfer files between computers. Xmodem is in the public domain and was originally designed by Ward Christensen in 1977.
XON/XOFF	Standard ASCII control characters used to tell an intelligent device to stop/resume transmitting data. This is often referred to as Software Flow Control.
YooHoo	See <i>FTS-6</i>
ZedZap	A variant of the Zmodem file-transfer protocol.

**Zmodem**

A full streaming file-transfer protocol with optional 7-bit transparency and variable size data frames, designed and placed in the public domain by Omen Technologies, Inc. under contract for Telenet Corporation.

## Appendix B: FOSSIL DRIVERS

The word FOSSIL is an acronym for *Fido, Opus, SEAdog Standard Interface Layer*. This refers to a driver, or an interface to a driver, providing some basic functions based around communications and the IBM PC interrupt 14H vector.

**This section of the documentation only relates to the DOS version of FD.**

The DOS version of FD uses (and requires) a FOSSIL driver when it interacts with the device responsible for handling the physical communication with the outside world; the communications device. The device need not be attached to the same machine as the machine FD is running on. As long as the FOSSIL driver can properly communicate with the device, and FD can properly communicate with the FOSSIL driver, a functional path of communication exists.

One could argue that it would be desirable for FD to have the capability of direct communication with a modem attached to the same machine. This is a valid point, but one that is easily countered by pointing out the awesome flexibility that is provided through the FOSSIL driver. FD can use, and is being used with, virtually any type of device, provided that there is a FOSSIL driver available to support that device.

 *FD (and FM, if using a serial printer) requires a FOSSIL compatible with the FOSSIL revision level 5 specifications.*

### X00

X00 is a FOSSIL driver suitable for use in a DOS environment; [ML] it is included in the FrontDoor package. X00 supports a variety of communications hardware (UARTs) and works well in some multi-tasking environments such as DESQview. X00 can be installed as a device driver and as a TSR. The ability to use it as a TSR allows it to be unloaded when it is no longer needed.

X00 is developed by Ray Gwinn (USA).

### Loading X00

As previously mentioned, X00 can be loaded as a device driver (CONFIG.SYS) and as a TSR (e.g. AUTOEXEC.BAT). To load X00 as a TSR, X00.SYS is simply renamed to X00.EXE and then loaded with the same parameters, etc. as if it was loaded as a device driver.

To load X00 for use with a modem that is not set to use a constant (DTE) speed, the following can be used:

```
DEVICE=X00.SYS E T=512 R=2048      (CONFIG.SYS)
or
X00 E T=512 R=2048                (AUTOEXEC.BAT, or another batch file)
```

To load X00 for use with a modem on COM1 that is set to use a constant (DTE) speed of 115200 BPS, the following can be used:

```
DEVICE=X00.SYS E B,0,115200 T=512 R=2048  (CONFIG.SYS)
or
X00 E B,0,115200 T=512 R=2048            (batch file)
```

A number of other options are supported by X00, please refer to the (text/ASCII) file X00USER.DOC for more information about these options.

No specific X00 settings are required to be configured for use with FrontDoor.

### ADF

ADF, or AnDan Software FOSSIL, is a FOSSIL driver suitable for use in a DOS or Windows 3.x environment. ADF is a TSR and cannot be loaded as a device driver in CONFIG.SYS.

ADF is developed by Scandinavian Digital Systems (Sweden); the latest version can be found on the Definite Solutions web site and BBS.

No specific ADF settings are required to be configured for use with FrontDoor.

### BNU

BNU is a FOSSIL driver suitable for use in a DOS environment. BNU supports a variety of communications hardware (UARTs) and works well in some multi-tasking environments such as DESQview. BNU can be installed as a device driver and as a TSR. The ability to use it as a TSR allows it to be unloaded when it is no longer needed.

BNU was developed by David Nugent (Australia). Our information indicates that it is no longer being actively developed. The latest release version (1.70) can, however, be found on the Definite Solutions web site and BBS.

No specific BNU settings are required to be configured for use with FrontDoor.

### SIO (OS/2)

SIO is a serial communications driver for the OS/2 operating system and its Virtual DOS Machines (VDM), versions 2 and above.

The SIO drivers replace the serial communications drivers supplied with OS/2 (COM.SYS and VCOM.SYS); SIO furthermore includes a FOSSIL interface driver (VX00.SYS) which is used when running applications (such as FD) requiring FOSSIL support in a Virtual DOS Machine.

The SIO drivers also includes a virtual modem driver (VMODEM), allowing programs such as FD to communicate over the Internet and other IP-based networks.

The default SIO/VSIO/VX00 settings are sufficient for use with FrontDoor. It should be noted that VX00.SYS must be loaded for FOSSIL support to be present. VX00.SYS can be loaded either in CONFIG.SYS, thus making FOSSIL support available to all VDMs, or for each individual VDM as required.

SIO is developed by Ray Gwinn (USA); the latest version can be found on the Definite Solutions web site and BBS.

## WinFOSSIL (Windows 9x)

WinFOSSIL is a 32-bit FOSSIL driver for the Windows 9x operating system.

The default WinFOSSIL settings are sufficient for use with FrontDoor. It should be noted that the **Enable FOSSIL** setting must be enabled for the applicable port; if it is not enabled, the FOSSIL support required by FrontDoor will not be activated. It is recommended, but not required, that the **Release timeslice when no port activity detected** setting is disabled (not enabled).

WinFOSSIL is developed by Woodruff Software Systems (USA); the latest version can be found on the Definite Solutions web site and BBS.

## WinFOSSIL for Windows NT

WinFOSSIL for Windows NT is a 32-bit FOSSIL driver for the Windows NT operating system.

The default WinFOSSIL settings are sufficient for use with FrontDoor. It should be noted that the **Enable FOSSIL** setting must be enabled for the applicable port; if it is not enabled, the FOSSIL support required by FrontDoor will not be activated. It is recommended, but not required, that the **Release timeslice when no port activity detected** setting is disabled (not enabled).

WinFOSSIL for Windows NT is developed by Woodruff Software Systems (USA); the latest version can be found on the Definite Solutions web site and BBS.

## ISDN

This section primarily focuses on ISDN devices that are shipped with a CAPI driver/interface. Most ISDN adapters ("plug-in cards/boards") are shipped with CAPI drivers. ISDN devices that emulate AT-command set compatible modems typically do not need specific drivers (other than a standard, suitable FOSSIL driver) to be used with FD.

cFos/DOS is an ISDN CAPI FOSSIL driver. cFos/2 is an ISDN CAPI OS/2 modem device driver. cFos/Win is an ISDN CAPI Windows MultiPort COMM driver.

The cFos family of products is developed by Lueders/Winkler GbR (Germany). The latest version of the respective product below can be found on the Definite Solutions web site and BBS.

### cFos/DOS

cFos/DOS is a FOSSIL driver for use in a DOS environment in conjunction with the CAPI driver(s) supplied with the ISDN device. cFos is loaded as a TSR after the applicable CAPI drivers have been loaded. cFos basically emulates an AT-command set compatible modem.

The default cFos settings are sufficient for use with FD. It is, however, recommended that the following settings be written to the cFos profile:

```
X8S9.3=1S10.0=1S10.3=0E0V1
```

It should be noted that cFos has a feature that allows it to automatically reject inbound calls where the Caller ID of the calling party is not presented/available.

### cFos/2

See cFos/DOS.

### cFos/Windows

See cFos/DOS.

### cFos/NT

See cFos/DOS.

## Other FOSSIL drivers

A number of additional FOSSIL drivers, such as DGFOSSIL (dedicated DigiBoard FOSSIL driver) and Stomper (for accessing modems over a LAN) exist.

# Appendix C: PLATFORMS

The DOS version of the FrontDoor programs run well on most DOS-compatible platforms and in environments with DOS support.

**This section of the documentation only relates to the DOS version of FrontDoor.**

As a general recommendation, the DOS version of the FrontDoor programs should have at least 500 Kb of available RAM. If LIM/EMS and/or XMS memory is available, FM, FD, and FDNC can make use of it; 2048 Kb (2MB) is recommended.

*If sufficient LIM/EMS memory is made available, the various programs can store the entire overlay file (.OVR) in LIM/EMS memory; this will remove the requirement of having to read segments of the overlay file from disk.*

## Local Area Networks

The FrontDoor programs have been tested in a number of LAN environments including Novell Netware, LAN Manager, OS/2 LAN Server, LANtastic, and Microsoft Networks.

No special settings are required for the FrontDoor programs to be used in LAN environments. It is, however, recommended that the FrontDoor executables and overlay files (.OVR) be flagged as read-only.

For LAN environments with support for "purgeable" directories, such as Novell Netware, it is recommended that the following directories in the FrontDoor configuration be set as such:

- [Global.Filenames.Packets](#)
- [Global.Filenames.Semaphore](#)
- [Global.Filenames.TempPath](#)

## DOS

No special settings are required for the FrontDoor programs to be used in a DOS environment. It is recommended that file sharing support (SHARE) be present.

## OpenDOS

No special settings are required for the FrontDoor programs to be used in the OpenDOS environment.

## DESQview

No special settings are required for the FrontDoor programs to be used in a DESQview environment. It is recommended that file sharing support (SHARE) be present. The following (DESQview) settings are recommended:

<a href="#">Writes text directly to screen:</a>	N
<a href="#">Displays graphic information:</a>	N
<a href="#">Virtualize text/graphics:</a>	N
<a href="#">Uses serial ports:</a>	N
<a href="#">Requires floppy diskette:</a>	N
<a href="#">Text pages:</a>	1
<a href="#">Graphics pages:</a>	0
<a href="#">Close on exit:</a>	N
<a href="#">Uses its own colors:</a>	Y
<a href="#">Runs in background:</a>	Y
<a href="#">Uses math coprocessor:</a>	N
<a href="#">Keyboard conflict:</a>	0
<a href="#">Share CPU when foreground:</a>	Y
<a href="#">Share EGA when foreground/zoomed:</a>	Y
<a href="#">Can be swapped out:</a>	N
<a href="#">Protection level:</a>	0

The FrontDoor programs have been proven to run with the following memory settings in the **Advanced Options** window of the DESQview program setup:

<a href="#">System memory (in K):</a>	2
<a href="#">Maximum Program Memory size:</a>	400
<a href="#">Script buffer size:</a>	1000
<a href="#">Maximum EMS/XMS/VCPI/DPMI:</a>	(leave blank)

## OS/2

No special settings are required for the DOS version of the FrontDoor programs to be used in an OS/2 environment. It is recommended that OS/2 Warp 3 or OS/2 Warp 4 (or higher) be used as the multi-tasking capabilities in these versions is better than that of OS/2 2.x. FrontDoor has not been tested with OS/2 versions prior to 2.0.

For OS/2 Warp 3, a fixpack (FP) level of 26 or above is recommended (but not required). For OS/2 Warp 4, fixpack level 5 or above is recommended. Due to two bugs in the general availability (GA) version of OS/2 Warp 4, FrontDoor should not be used with OS/2 Warp 4 unless at least fixpack level 3 has been applied.

FM may appear to exhibit odd behavior under OS/2 in some environments. When writing text, it will sometimes appear as if characters disappear or that existing characters are not replaced by text entered from the keyboard. This is not a fault in FM; this behavior has been reported with driver software from a number of different VGA display adapter manufacturers, which leads to the conclusion that there is a problem with OS/2 not properly detecting an update to the display memory in some situations. This behavior has only been reported in windowed DOS sessions (i.e. not while running FM in a full-screen DOS session) under OS/2.

For use with normal modems, it is recommended that SIO (see "FOSSIL drivers") be installed. For use with ISDN adapters using CAPI drivers, it is recommended that cFos/2 be installed.

The following are recommended settings for the **DOS Settings** configuration option for OS/2 DOS boxes (VDMs) running FrontDoor programs:

<u>Audio adapter sharing:</u>	None
<u>DOS Background execution:</u>	On
<u>DOS High:</u>	On
<u>DOS RMSIZE:</u>	640
<u>DOS UMB:</u>	On
<u>DPMI DOS API:</u>	Auto
<u>EMS Frame location:</u>	Auto
<u>EMS Memory limit:</u>	2048
<u>HW Nosound:</u>	Off
<u>HW ROM to RAM:</u>	On
<u>HW Timer:</u>	Off
<u>Idle seconds:</u>	0
<u>Idle sensitivity:</u>	75
<u>INT during I/O:</u>	Off
<u>Mouse exclusive access:</u>	Off
<u>Session priority:</u>	1
<u>Video 8514A XGA IOTRAP:</u>	On
<u>Video Fastpaste:</u>	On
<u>Video Mode restriction:</u>	None
<u>Video OnDemand memory:</u>	On
<u>Video Retrace emulation:</u>	On
<u>Video ROM emulation:</u>	On
<u>Video Switch notification:</u>	Off
<u>Video Window refresh:</u>	1
<u>XMS Memory limit:</u>	2048

## Windows 9x

No special settings are required for the FrontDoor programs to be used in a Windows 9x environment. It is recommended that file sharing support (SHARE) be present. For use with normal modems, it is recommended that WinFOSSIL (see "FOSSIL drivers") be installed. For use with ISDN adapters using CAPI drivers, it is recommended that cFos/Win be installed.

The following are recommended settings for the **Properties** configuration option for Windows 9x DOS boxes running FrontDoor programs:

### Program

Suggest MS-DOS mode as necessary (Advanced)

### Memory

<u>Total:</u>	640
<u>Initial environment:</u>	Auto
<u>Expanded (EMS) memory:</u>	2048
<u>Extended (XMS) memory:</u>	2048
<u>MS-DOS protected-mode (DPMI) memory:</u>	Auto

### Screen

Fast ROM emulation: Checked

Dynamic memory allocation:

**Checked**

## Misc

Exclusive mode (mouse):

**Not checked**

Always suspend (background):

**Not checked**

Idle sensitivity:


**Medium** (*slider in middle*)

## Windows NT

No special settings are required for the FrontDoor programs to be used in a Windows NT 4.x environment.

## Windows 3.x

No special settings are required for the FrontDoor programs to be used in a Windows 3.x environment. It is recommended that file sharing support (SHARE) be present.

 *Windows 3.x does not feature as good multi-tasking capabilities of DOS programs as Windows 95 and OS/2 and is therefore generally not considered suitable for running multiple DOS programs simultaneously.*



## Appendix D: MESSAGE STATUS

The status of a message affects how, when, and possibly if a message is delivered to its destination system, and ultimately, its recipient(s). A specific status is referred to as a flag, or status flag. To say that a message has Lock status is the equivalent of saying that the message has the Lock flag set.

### Status flags

The following is a list of status flags. For additional information about how some status flags can affect routing and mail delivery in general, see "Implied routing and qualification".

#### Private

(Pvt)

This indicates that the message is only intended to be read by the recipient of the message.

#### Crash (high) priority

(Crash)

Indicates the second highest message priority; after Immediate (Imm). These messages are typically delivered as soon as possible, but it is possible for the system to be configured in such a way that Crash messages are not sent until a specific time of day. The message will be sent as directly as possible to the destination system (see "DIRECT", below).

#### Remove message after sending

(Kill)

The message will be removed after it has been successfully transmitted. If the Kill flag is not set, the message will instead be tagged as **Sent** (see below) to indicate that the message has been sent.

#### Non-proportional (fixed) display

(NPD)

This flag is often used when the layout of a message should be maintained in an environment that uses proportional fonts to display message text. Most software in graphical environments does this. It is in particular useful if a message contains tables or column formatting.

#### Request return receipt

(Rcpt)

Indicates that the mailer software (e.g. FD) on the final destination system should generate a receipt when the message is received. Such receipts are not an indication that the message has been read by its recipient, only that it has arrived on the intended destination system.

#### Ask for confirmation receipt

(Conf)

Indicates that the mail reader software (e.g. FM) should generate a receipt to the sender of the message when it is read by its final recipient. Such receipts are typically an indication that the message has been read by its intended recipient.

#### Immediate priority

(Imm)

Indicates the highest message priority. These messages are typically sent "now" and are usually not subject to being held until a specific time of the day. The message will be sent as directly as possible to the destination system (see "DIRECT", below).

#### Direct

(Direct)

Indicates that the message should be sent as directly as possible to the destination system.

#### Hold for pickup

(Hold)

The message will be held for pickup by the destination system.

## File attachment

(File)

Indicates that the message has one or more files attached to it; i.e. file attachments.

## Truncate after sending

(Trunc/Sent)

Indicates that the file should be truncated (written to zero-length) after successful delivery. This flag is typically used by automated software and should not be used except for very specific reasons. ***A truncated file is very hard to recover!***

This flag is only valid for messages with one or more file attachments.

## Erase after sending

(Del/Sent)

Indicates that the file should be removed (erased) after successful delivery. This flag is typically used by automated software and should not be used except for very specific reasons. ***A removed file is hard to recover!***

This flag is only valid for messages with one or more file attachments.

## Request files

(FilReq)

Indicates that the message contains one or more file requests.

## Update file request

(UpdReq)

Indicates that the message contains one or more update file requests.

## Do not pack

(NoPack)

On some systems, external programs are used to compress many messages into one single file before transmission - this flag indicates that the message should not be processed ("packed") by such programs.

## Sent

(Sent)

Indicates that the message has been sent. Messages without the **Kill** flag (see above) will be stamped as **Sent** to indicate that they have been successfully transmitted/delivered.

## Received

(Rcvd)

Indicates that the message has been read by its intended recipient.

## Replied-to

(Replied)

Indicates that one or more replies have been written to the message.

## Lock

(Lock)

The message is locked from further processing; messages with Lock status will be ignored by FD.

## Local

(Local)

Indicates that the message was written (or generated, by a program) on the local system.

## Transmit file as

(TFA)

This flag cannot be set manually. It is an indication that the file attachment listed in the Re: field should be transmitted with a different name than its current name.

## Fax

(Fax)

This flag cannot be set manually. It indicates that the file attachment listed in the Re: field is a fax document.

## Transit

(Transit)

This flag cannot be set manually. It indicates that the message is passing through the system (i.e. it was received from a remote system, and it is destined for another remote system).

## Appendix E: .CCL FILES

CCL is short for *Carbon Copy List*; .CCL files are files with the .CCL extension. These files can be used in FM (the FrontDoor Editor) as fixed distribution lists; allowing the creation of messages with pre-configured recipients.

.CCL files are text (ASCII) files with one CC (Carbon Copy) recipient listed on each line. Empty lines are ignored but can be used in place of comments to separate lines. Adding empty lines or comments to separate entries makes it easier to read and manage the files, but does not affect how FM interpret their contents. All lines must be terminated by a <CR><LF> (ASCII 13, ASCII 10) pair and may not exceed 255 characters (including the two terminating characters) in length.

A line with a semi-colon (;) as its first non-space character is a comment; it is ignored by FM.

FM will default to the SYSTEM directory when it is attempting to locate .CCL files; but the files do not have to be stored in that directory.

### File format

The basic format of each line (except comments and empty lines) in .CCL files is as follows

```
<Username> , <Address> , <Status>
```

The same special format used for gateway addresses in NAMES.FD (see "NAMES.FD") can be used in .CCL files as well. The only exception is that the @<Gate>/? construct (note the question mark) is not supported in .CCL files.

### User name


The name of the CC recipient; e.g. **John Doe**. The contents of this field is inserted "as is" by FM if an address (see below) is also specified.

If no name is specified, FM will attempt to locate the specified address in the nodelist database; if a match is found, FM will use the name of the SysOp found in the nodelist database; if a match is not found, FM will use **SysOp** as the name.

It is possible to refer to an entry in the NAMES.FD file (see "NAMES.FD") by preceding the name with a single asterisk; e.g. **\*jdoe**.

### Address

The network address for the CC recipient.

 *This must be a complete (Zone:Net/Node[.Point]) address; where the .Point field is optional. No short-form addressing or default address resolution is supported.*

If no address is specified, FM will attempt to locate the specified user in the nodelist database, if more than one match was found, FM will present a list to the user to choose from.


### Status

The message status for the message generated by FM for this CC recipient. This field may contain zero or more directives separated by a space. The following directives are supported:

<b>Hidden</b>	Hidden recipient
<b>Blind</b>	Blind recipient
<b>P</b>	Private message status
<b>C</b>	Crash message status
<b>K</b>	Kill/Sent message status (remove message after successful sending)
<b>N</b>	Non-proportional (fixed) display message status
<b>G</b>	[ML] Request return receipt message status
<b>A</b>	[ML] Ask for confirmation receipt message status
<b>L</b>	Lock message status
<b>I</b>	Immediate priority (Imm) message status
<b>D</b>	Direct message status
<b>H</b>	Hold for pick-up message status
<b>Q</b>	Do not pack message status

If a directive is specified in lowercase (hidden, blind, p, c, k, etc), it instructs FM to remove the given treatment option/message status if it is set.

For more information about message status, see "Message status".

 *Certain combinations of directives are exclusive by nature; i.e. a message cannot have both Hold and Immediate priority status. The right-most directive will override preceding directives in the case of such conflicts.*

## Examples

The following example contains two CC recipients; both CC messages created by FM will have Immediate priority:

```
John Doe,255:3046/10,I  
James Doe,255:3046/49,I
```

The following example contains two CC recipients; one of the CC messages created by FM will have Immediate priority, the other will not. The second CC recipient refers to an entry in NAMES.FD:

```
John Doe,255:3046/10,I  
*jd,i
```

The following example contains one CC recipient which refers to an entry in NAMES.FD. The address specified below will override the address (if any) for the entry in NAMES.FD. The CC message created by FM will have Hold message status and Hidden CC treatment:

```
*jd,255:3046/103,Hidden H
```

## Appendix F: NAMES.FD

This is the name of a text (ASCII) file located in the FrontDoor SYSTEM directory that can be used to maintain a list of frequently used recipients and (optionally) addresses. This file is not required for any of the FrontDoor programs to function, but if used properly it can save a lot of typing and time.

Each line in NAMES.FD is either a comment or a macro definition. Empty lines are ignored but can be used in place of comments to separate lines. Adding empty lines or comments to separate entries makes it easier to read and manage the file, but does not affect how the various FrontDoor programs interpret its contents. All lines must be terminated by a <CR><LF> (ASCII 13, ASCII 10) pair and may not exceed 255 characters (including the two terminating characters) in length.

A line with a semi-colon (;) as its first non-space character is a comment; it is ignored by all FrontDoor programs.

### File format

The format of NAMES.FD is as follows

```
<Alias> , <Username> , <Address> [ , <Subject> ]
```

### Alias

The macro "tag" or identifier. This is what defines the actual macro and what the FrontDoor programs will search for when processing the file. This field may be empty, in which case the FrontDoor programs will display the text <Empty> when the NAMES.FD browser is invoked.

The contents of this field is not case sensitive.

### User name

The name field should contain the name to which the macro expands when used in the FrontDoor Editor (FM), which is the only FrontDoor program that makes use of this field.

This field may not be empty. If it is not intended to be used, it is recommended that this is set to a single space (ASCII 32) character.

The contents of this field is inserted "as is" unless a special format is indicated (see "Gateway addresses" below).

### Address

The network address for the macro. If this field is empty, the fourth (optional) field, described below, will be ignored.

### Subject

The fourth and optional parameter can be used to insert a default subject in the FrontDoor Editor (FM) and also when transmitting and requesting files from the console in FD.

## Gateway addresses

A special format can be used in the **Username** field to indicate a gateway address. When a gateway address is used in the FrontDoor Editor (FM), it will address the message to the gateway and insert information into the message body (text) with additional information about the intended recipient. The default text used for the name of the gateway is **UUCP**.

Gateway addresses are typically used with external mail gateways.

By putting a commercial "at" character (@) as the first character of the **Username** field (second field), FM is instructed to treat the macro differently than it would treat a normal macro.

Additionally, entries forcing FM to prompt for an Internet-style address can be created as outlined in the examples below.

## Examples

The following example allows \***DS** to be used when specifying recipient information for a message in FM. The leading asterisk is not specified in NAMES.FD; it is only used to instruct FM that the user wants to access a macro defined in NAMES.FD. **Definite Solutions** is placed in the To: field and **2:201/330** is placed in the destination address field.

```
ds,Definite<SPACE>Solutions,2:201/330
```

The following is similar to the above, but this example adds a fourth field (**Subject**) which will be inserted into the Re: (Subject) field:

```
ds,Definite<SPACE>Solutions,2:201/330,Technical<SPACE>support
```

The following example is also similar to the above, but instead of addressing the message to **Definite Solutions** on **2:201/330**, it will address the message to **UUCP** on the gateway system **255:3046/1** and place the text "[sales@defsol.se](mailto:sales@defsol.se)" in the message body when the macro is used from FM. Note that no references is made to the name of the gateway system (**UUCP**).

```
ds,@sales@defsol.se,255:3046/1
```

The following is similar to the above, but this example addresses the message to **INTERNET** on the gateway system. Note the forward slash (/) separating the name of the gateway system and the Internet-recipient.

```
ds,@INTERNET/sales@defsol.se,255:3046/1
```

Additionally, FM can be instructed to prompt the user for an Internet-recipient address; thus allowing a generic gateway entry to be added to NAMES.FD.

The following example allows **\*gateway** to be used when specifying recipient information for a message in FM. Use of the macro will address the message to **INTERNET** on the gateway system 255:3046/1 and instruct FM to prompt for the Internet-recipient:

```
gateway,@INTERNET/?,255:3046/1
```

## Appendix G: MAIL STORAGE

FrontDoor supports three types of physical storage methods for mail storage. Restrictions to the specific formats as featured in FrontDoor are noted below.

### **.MSG**

The .MSG format is a fairly simple storage format as far as design is concerned. One physical file is used to store one message, which is a disadvantage in environments where files occupy a fixed minimum amount of space (e.g. DOS with its minimum cluster size).

The System NetMail folder uses the .MSG format and is furthermore the only format supported by FM for NetMail-type folders.

### **JAM**

The JAM format is a database-like storage format. Each set of files is said to make on a "JAM base" (i.e. a folder). A JAM base is made up of files with the following extensions:

.JLR	Lastread information
.JHR	Message header information
.JDT	Message text information
.JDX	Base index information

Of the three formats described in this section, the JAM format is by far the most flexible in design and capabilities. FM supports Conference-style and Local-style folders using the JAM storage format.

### **HMB**

Also called the Hudson format, the HMB format is a database-like storage format made up of six files: LASTREAD.BBS, MSGHDR.BBS, MSGTXT.BBS, MSGIDX.BBS, and MSGTOIDX.BBS.

Unlike the JAM format, which uses one set of files (i.e. one database) per folder, the HMB database contains all messages in folders using the HMB format. A unique "board number" is configured for each folder, thus making it possible for applications to locate messages belonging to a specific folder.

The HMB format is the fastest of the three formats described in this section, but with some limitations as far as the number of messages (roughly 16000 messages is the practical limit) that can be stored, the total size of the message texts (roughly 16 MB), and the maximum number of folders that can be contained in the HMB database (200).



## Appendix H: SYSTEM MACROS

Throughout the FrontDoor environment, a special macro construct can be used in string fields. These macros are supported in user interaction as well as in configuration files. The macro syntax is as follows:

```
${macro}
```

where "macro" is the name of the macro, e.g. "FD", "USERNAME", etc. In most cases, these macros are used to refer to data external to FrontDoor, i.e. the contents of an environment variable. There are, however, situations where a macro is handled internally by the various FrontDoor programs.

### The basics

When **\${macro}** is encountered, a list of internal macros (described below) is first scanned. If no match was made in the internal macro list, the environment variables are scanned for a match. If no match was made with an environment variable, the **\${macro}** text is left intact.

It should be noted that recursive macros are supported. That is, **\${macro1}** may expand to a string containing the literal text **\${macro2}** (which is also expanded).

### Internal macros

The following macros are supported internally by FrontDoor (note that configuration data may include macros - the [Global.Filenames.Log file](#) option could for example be defined as **\${Syspath}FD\${Task}.LOG**).


Macro	LOGFILE
Description	The name of the log file used by FD.
Notes	This is only supported by FD.
Macro	ROUTEFD
Description	The full pathname of the (route) file used by FD to create its tokenized ROUTE <sub>nn</sub> .FD@ route file, e.g. ROUTE.FD, ROUTE1.FD, etc. If the route file for a specific task does not exist, FD expands this to <system path>\ROUTE.FD.
Notes	This is only supported by FD.
Macro	YYYY
Description	The current year (e.g. "1998").
Notes	None
Macro	YY
Description	The current year without the century portion (e.g. "98"). For the year 2001, this expands to "01", i.e. left-padded with a zero.
Notes	None
Macro	MM
Description	The current month (1-12). For months 1-9, this expands to "0<month>", i.e. left-padded with a zero.
Notes	None
Macro	DD
Description	The current day (1-31). For days 1-9, this expands to "0<day>", i.e. left-padded with a zero.
Notes	None
Macro	TASK
Description	The current task number (0-255).
Notes	For [SL], this always expands to a zero (0).

Macro	PADTASK
Description	The current task number (0-255). For tasks 0-9, this expands to "00<task>", for tasks 10-99, this expands to "0<task>" - i.e. left-padded with one or two zeros.
Notes	For [SL], this always expands to three zeros (000).
Macro	HEXTASK
Description	The current task number (0-255) expressed in hexadecimal notation (00-FF). This macro always expands to two characters.
Notes	For [SL], this always expands to two zeros (00).
Macro	INFILES
Description	The path used to receive files during non-secure mail sessions ( <a href="#">Global.Filenames.Files</a> ).
Notes	This is only supported by FD.
Macro	INSECFILES
Description	The path used to receive files during secure mail sessions ( <a href="#">Global.Filenames.SecFiles</a> ). If no secure path has been specified, this expands to the path used for non-secure sessions (see INFILES above).
Notes	This is only supported by FD.
Macro	SYSPATH
Description	The SYSTEM directory as defined in <a href="#">Global.Filenames.System</a> .
Notes	None
Macro	SEMPATH
Description	The path used as the "semaphore path". If no specific semaphore path has been specified in <a href="#">Global.Filenames.Semaphore</a> , SEMPATH expands to the same as SYSPATH.
Notes	For [SL], this always expands to the same as SYSPATH.

## Appendix I: COMMAND-LINE REFERENCE

This section describes command-line parameters applicable to the various programs. FDNC features additional command-line parameters not described in this section (see "FDNC"). Command-line parameters are specified following a dash (-) or a slash (/) and are not case sensitive except where noted.

Most of the described command-line parameters can also be specified in the FDOPT environment variable (see "Environment variables").

 Use of some parameters may cause the various programs to behave erratically and/or modify their behavior in a manner incompatible with other software.

### General

Parameter	NOEKBD
Description	Force use of standard (non-enhanced) keyboard calls.
Notes	Use of this parameter forces FD to include NOEKBD on the command-line when FM is invoked (from FD).
Parameter	MONOCRT
Description	Force use of colors suitable for monochrome and LCD displays.
Notes	[ML] (except for FDSETUP). Use of this parameter forces FD to include MONOCRT on the command-line when FM is invoked (from FD).
Parameter	NOSHADOW
Description	Prevents use of window shadows.
Notes	None
Parameter	NOCOMMIT
Description	Prevents the DOS commit call (INT 21H, function 68H) from being used; the duplicate handle method will instead be used when a program needs to flush/commit the buffers of an open file to disk.
Notes	Not applicable to FDSETUP
Parameter	NOMOUSE
Description	Prevents use of the mouse (and mouse driver). If mouse support is not desirable, use of this parameter will make the programs load, initialize, and terminate somewhat faster.
Notes	Not applicable to FDSETUP
Parameter	NOEMS
Description	Prevents LIM/EMS memory from being used for overlay file (.OVR) access. This parameter is typically used when the overlay file is stored on a RAM disk or similar fast media. Use of this parameter does not affect swapping when another program is invoked from the FrontDoor program.
Notes	Not applicable to FDSETUP
Parameter	NORES
Description	Prevents use of the redirection table when scanning for redirected devices such as network drives.
Notes	Not applicable to FDSETUP

Parameter	NOMULD
Description	Prevents the program from detecting the environment it is running in, such as a multi-tasking environment. This, in effect, disables internal support for multi-tasking environments.
Notes	Not applicable to FDSETUP
Parameter	FORCEHLT
Description	Forces the program to use the HLT (halt) instruction method to release time slices to the operating system.
Notes	Not applicable to FDSETUP
Parameter	FORCEINT28
Description	Forces the program to use the INT 28H method to release time slices to the operating system.
Notes	Not applicable to FDSETUP
Parameter	FORCEDPMI
Description	Forces the program to use the DPMI method (INT 2FH, function 1680H) to release time slices to the operating system.
Notes	Not applicable to FDSETUP
Parameter	NOVDMTITLE
Description	Prevents the program from modifying the title of the VDM ( <i>DOS box</i> ) in applicable operating environments.
Notes	Not applicable to FDSETUP
Parameter	NOPRNDEVIO
Description	Prevents FM and FD from performing any physical device I/O when printing message text. This option is typically used for troubleshooting the printing of messages.
Notes	Not applicable to FDSETUP; not applicable to the DOS version.
Parameter	NOWPOSEXEC
Description	Prevents FM and FD from attempting to create new session windows (for external programs) that overlap the window in which FM/FD is running.
Notes	Not applicable to FDSETUP and FDNC; not applicable to the DOS version.

## FDSETUP

Parameter	T<task number>
Description	Overrides TASK environment variable with specified <task number> (0-255).
Notes	[ML]
Parameter	C
Description	Overrides monochrome display mode; forcing color display mode. FDSETUP will attempt to detect which colors to be suitable based on the display equipment attached to the system.
Notes	None

Parameter	M
Description	Overrides color display mode; forcing monochrome display mode. FDSETUP will attempt to detect which colors to be suitable based on the display equipment attached to the system.
Notes	This has the same effect as using the MONOCRT parameter.

Parameter	NODUPBCK
Description	Prevents FDSETUP from scanning existing folders for a board number match (to detect duplicate board numbers) when adding new HMB storage type folders.
Notes	None

## FD

Parameter	MODEMDEBUG
Description	Enables extensive logging and display of data sent to the communications device as well as changes (performed by FD) in certain hardware signals such as DTR (data terminal ready).
Notes	None

Parameter	RDEBUG
Description	Enables extensive logging and display when FD is interpreting and applying its route commands (see "Mail routing").
Notes	None

Parameter	EMSIDEBUG
Description	Enables additional logging and display when FD is attempting to negotiate a mail session using the EMSI and EMSI/MD5 protocols.
Notes	None

Parameter	EMSIPKT
Description	Specifies that FD should write the contents of the remote system's EMSI session negotiation information to the file -EMSIPKT.nnn in the SYSTEM directory; the file is overwritten each time a session has been negotiated successfully using the EMSI protocol.
Notes	[ML]

Parameter	FTS6PKT
Description	Specifies that FD should write the contents of the remote system's FTS-6 session negotiation information to the file -FTS6PKT.nnn in the SYSTEM directory; the file is overwritten each time a session has been negotiated successfully using the FTS-6 protocol.
Notes	[ML]

Parameter	LOGINTRO
Description	Enables extensive logging and display of data received from the communications device prior to a mail session being negotiated during an inbound call.
Notes	This parameter should be used with care. When two modems connect at different speeds (i.e. when they cannot successfully negotiate a proper connection), use of this parameter can result in huge amounts of data (appearing mostly as line noise) being written to the log.

Parameter	NOTIMESYNC
Description	Prevents FD from synchronizing the local system time with a remote system, regardless of the <b>TSRC</b> setting in the security manager (see "Mail security").
Notes	None
Parameter	NOEMSIMD5
Description	Prevents FD from negotiating EMSI/MD5 sessions with remote systems. Use of this parameter does not affect the negotiation of EMSI sessions not using MD5 session validation.
Notes	This parameter should only be used in the case of incompatibilities with other software.
Parameter	NODOMAIN
Description	Prevents FD from inserting FTN-style domain information into its EMSI session negotiation information. Some mailer software cannot handle FTN-style domain information when it is negotiating sessions using the EMSI protocol.  Use of this parameter only affect sessions negotiated using the EMSI and EMSI/MD5 session protocols.
Notes	None
Parameter	NOYOOHOO
Description	Disables support for the FTS-6 session negotiation protocol.
Notes	None
Parameter	NOFTS1
Description	Disables support for the FTS-1 session negotiation protocol.
Notes	None
Parameter	NOEMSI
Description	Disables support for the EMSI and EMSI/MD5 session negotiation protocols.
Notes	None
Parameter	NOFTS1ZZ
Description	Prevents FTS-1 sessions from being negotiated with remote systems that present an address without a zone component. If this parameter is used and no zone component is presented by the remote system, FD will disconnect.  FD by default does not require the remote system to present a zone component in its network address during FTS-1 session negotiation. Use of this parameter only affect sessions negotiated using the FTS-1 session protocol.
Notes	None
Parameter	NOZAP
Description	Prevents FD from indicating ZedZap and Zmodem support when negotiating a mail session using the FTS-6 protocol. This typically results in FTS-6 sessions with the Xmodem/Telink/SEAlink file-transfer protocols being used.  Use of this parameter only affect sessions negotiated using the FTS-6 session protocol.
Notes	None

Parameter	NODZA
Description	Prevents FD from using the DirectZAP (a variant of Zmodem) file-transfer protocol during sessions negotiated using the EMSI and EMSI/MD5 session negotiation protocols.  FD will by default choose ZedZap, Zmodem, and DirectZAP, in that order, depending on the file-transfer protocol support as indicated by the remote system.
Notes	None
Parameter	EZMOD
Description	Specifies that FD should attempt to use the standard Zmodem file-transfer protocol (with 1024 byte data packets) for sessions negotiated using the EMSI, EMSI/MD5, and FTS-6 protocols.
Notes	None
Parameter	NOSLO
Description	Specifies that FD should attempt to prevent use of the Overdrive protocol option (SLO) when files are transferred using the SEALink file-transfer protocol.
Notes	None
Parameter	NORESYNC
Description	Specifies that FD should not use the RESYNC protocol option when files are transferred using the SEALink file-transfer protocol.
Notes	None
Parameter	NOCANSES
Description	Prevents FD from honoring the presence of the FDCANSES.nnn semaphore, used to cancel a session in progress.
Notes	[ML]
Parameter	FORCECOMMIT
Description	Specifies that FD should attempt to flush the buffers of the operating system for the (open) file being received each time FD writes to the file.
Notes	[ML]
Parameter	NODASH
Description	Specifies that dashed (-) should be removed from telephone numbers before they are transmitted to the communications device; e.g. <b>46-8-123456</b> would be transmitted as <b>468123456</b> if the NODASH parameter is used.
Notes	None
Parameter	NOMDM
Description	Prevents use of the modem manager (see "Modem configuration:Modem manager") when an attempt is made to establish an outbound connection.
Notes	None
Parameter	NOINTL
Description	Prevents FD from always inserting INTL (extended message information) data into messages it creates. Use of this parameter specifies that FD should only insert INTL data into messages when needed, based on the originating and destination addresses of the message.
Notes	Use of this parameter forces FD to include NOINTL on the command-line when FM is invoked (from FD).

Parameter	NOFSC54
Description	Prevents FD from inserting FSC54 (extended message information) data into messages it creates. FSC54 data is used to allow transparency between various locales (code pages, character sets, etc).
Notes	None
Parameter	NOUNPACK
Description	Prevents FD from unpacking NetMail messages from mail packets; this is typically used in conjunction with an external application which handles processing of all mail packets.  Use of this parameter disables the automatic tracking and handling of transit file attachments.
Notes	None
Parameter	IGNOREOTHERPKT
Description	Specifies that FD should only process (and possibly unpack) mail packets received during a mail session; this prevents FD from processing other files with the extension .PKT in its inbound file directories.
Notes	IGNOREOTHERPKT does not affect FD if NOUNPACK (above) is also used.
Parameter	NOISCR
Description	Prevents FD from removing the SoftCR character (ASCII 141) when unpacking and printing messages. The SoftCR character is typically added to messages by older software to indicate a logical (soft) line break in a paragraph of text.
Notes	Use of this parameter forces FD to include NOISCR on the command-line when FM is invoked (from FD).
Parameter	NOLOCK
Description	Specifies that FD should include the NOLOCK parameter on the command-line when FM is invoked (from FD).
Notes	None
Parameter	FOLDER
Description	Specifies that FD should include the FOLDER parameter on the command-line when FM is invoked (from FD).
Notes	[ML]
Parameter	FOLDERSCAN
Description	Specifies that FD should include the FOLDERSCAN parameter on the command-line when FM is invoked (from FD).
Notes	[ML]
Parameter	MSGSURVEY
Description	Specifies that FD should include the MSGSURVEY parameter on the command-line when FM is invoked (from FD).
Notes	[ML]



Parameter	USEICA
Description	Enables use of the ICA (inter-process communications area). This is a small area of (low) memory that can be used by TSR programs for limited communication with FD.
Notes	Use of the ICA is not supported on some systems. Use of this parameter forces FD to include USEICA on the command-line when FM is invoked (from FD). USEICA is only supported by the DOS version of FM and FD.
Parameter	NOSTQPACK
Description	Prevents FD from performing automated maintenance (removal of deleted and expired entries) of its static queue (STQ).
Notes	None
Parameter	PACKSTQ
Description	Specifies that FD should perform maintenance of its static queue (STQ).
Notes	None
Parameter	FORCERESCAN
Description	Specifies that FD should perform a complete rescan (scan the System NetMail folder and process its route commands) whenever it is started and when control is returned to FD after an OS shell has been invoked.
Notes	None
Parameter	NORAWEXTD
Description	Specifies that the Terminal should transmit "normal" (white) cursor key and other key sequences when the gray cursor keys and special keys are used in raw mode. This may be required by some "doorway" programs that do not support extended keyboard codes.
Notes	This is only applicable to the Terminal
Parameter	TERM
Description	Specifies that FD should invoke the Terminal at startup. Use of this parameter has the same effect as configuring the <a href="#">Mailer.Miscellaneous.Terminal-only (no Mail)</a> setting as <b>Yes</b> .
Notes	None
Parameter	M
Description	Specifies that FD should ignore the <a href="#">Mailer.Miscellaneous.Terminal-only (no Mail)</a> setting; i.e. start in mail-mode.
Notes	None
Parameter	AUTOVIDEO
Description	Specifies that FD should use the Auto video mode. Use of this parameter has the same effect as configuring the <a href="#">Mailer.Display.Screen size</a> setting as <b>Auto</b> .
Notes	None
Parameter	S
Description	Specifies that FD should ignore (not execute) forced events that it may have missed due to down-time. When this parameter is specified, FD will mark missed events as having been executed.
Notes	See "Events" for more information on forced events.
Notes	None

Parameter	SESSONDCD
Description	Specifies that FD should process an inbound call as soon as the CD (carrier detect) signal goes high (active).
Notes	[ML]
Parameter	NOFINDLOCK
Description	Specifies that FD should not create its System NetMail folder scan lock semaphore. The semaphore is otherwise used to attempt to limit the number of applications that scan the System NetMail folder simultaneously in LAN and similar environments.
Notes	[ML]
Parameter	NOSHAREIH
Description	Specifies that FD should maintain a separate inbound mail history database for each task (copy) running. FD will by default use only one inbound mail history database (INBOUND.HIS) for all tasks.
Notes	[ML]
Parameter	NOSHAREOH
Description	Specifies that FD should maintain a separate outbound mail history database for each task (copy) running. FD will by default use only one outbound mail history database (OUTBOUND.HIS) for all tasks.
Notes	[ML] It should be noted that use of this parameter may prevent a given task (FD) from being able to detect that a specific system has already been called by another task.
Parameter	ONLINE
Description	Specifies that a connection is active and that the Terminal should not attempt to initialize the communications device.
Notes	[ML] This is only applicable to the Terminal
Parameter	L:<password>
Description	Specifies that the keyboard should be locked (with the specified password) when FD is started.
Notes	None
Parameter	X<errorlevel>
Description	Specifies that FD should terminate with the specified errorlevel (0-255) as soon as no outbound calls remain to be made.
Notes	[ML]
Parameter	WINRESTORE
Description	Specifies that FD should save and restore the position of the session window it is running in at program termination and startup respectively.
Notes	Not applicable to the DOS version

Parameter	P,<port>,<speed>[,L]
Description	Specifies that FD should use the supplied communications port, overriding settings specified in FDSETUP. The specified port must be in the range 1-255; speed is one of 300, 1275, 1200, 2400, 4800, 9600, 19200, 38400, 57600, 64000, 115200, or 128000 BPS. The optional <b>L</b> component specifies that the port is locked (equivalent to configuring the <a href="#">Modem.Hardware.Locked port</a> setting as <b>Yes</b> ).
Notes	[ML]

## FM

Parameter	NOJAM
Description	Specifies that FM should not allocate additional memory required to support JAM storage-type folders (see "Mail storage"). This, in effect, disables JAM support in FM.
Notes	This is only available in the DOS version of FM.

Parameter	NOFSC54
Description	Prevents FM from inserting FSC54 (extended message information) data into locally created messages. FSC54 data is used to allow transparency between various locales (code pages, character sets, etc).
Notes	None

Parameter	NOISCR
Description	Specifies that FM should treat the SoftCR character (ASCII 141) as any other printable character instead of removing it when reading and printing messages. The SoftCR character is typically added to messages by older software to indicate a logical (soft) line break in a paragraph of text.
Notes	None

Parameter	NOINTL
Description	Prevents FM from always inserting INTL (extended message information) data into locally created messages. Use of this parameter specifies that FM should only insert INTL data into messages when needed, based on the originating and destination addresses of the message.
Notes	None

Parameter	USEICA
Description	Enables use of the ICA (inter-process communications area). This is a small area of (low) memory that can be used by TSR programs for limited communication with FM.
Notes	Use of the ICA is not supported on some systems.

Parameter	AUTOVIDEO
Description	Specifies that FM should use the Auto video mode. Use of this parameter has the same effect as configuring the <a href="#">Editor.Display.Screen size</a> setting as <b>Auto</b> .
Notes	None

Parameter	NOLOCK
Description	Specifies that FM should not require file locking (SHARE) support to be present.
Notes	None

Parameter	FOLDER
Description	Specifies that FM should display the folder list at startup (after any required user access validation has been completed).
Notes	[ML]
Parameter	FOLDERSCAN
Description	Specifies that FM should display the folder list at startup (after any required user access validation has been completed) and invoke the folder scan function. Use of this parameter overrides the <b>FOLDER</b> parameter above.
Notes	[ML]
Parameter	MSGSURVEY
Description	Specifies that FM should invoke the survey function at startup (after any required user access validation has been completed). Use of this parameter overrides the <b>FOLDER</b> and <b>FOLDERSCAN</b> parameters above.
Notes	[ML]

## Appendix J: ENVIRONMENT VARIABLES

The following environment variables are supported/used by the various programs as indicated below. Many of the command-line parameters described above can also be specified in the FDOPT environment variable below.

### FD

The contents of the FD environment variable is used by FrontDoor to locate its primary configuration file, SETUP.FD.

It is **highly recommended** that this environment variable be properly configured (set) on all machines and in all environments where any FrontDoor program is or will be used. The FD environment variable should point to the FrontDoor root directory. In the above structure, the FrontDoor root directory is C:\FD. To set this environment variable, add:

```
SET FD=C:\FD
```

to your AUTOEXEC.BAT (DOS) and CONFIG.SYS (OS/2) and other applicable system start-up files. If your FrontDoor root directory is something other than C:\FD, put the complete path (including the drive) after the equal sign.

### TZUTC

The TZUTC environment variable determines your geographical time zone's offset to UTC (GMT) time. A positive TZUTC setting indicates a geographical location east of UTC0000, a negative TZUTC setting indicates a location west of UTC0000. The format for the TZUTC environment variable is:

```
SET TZUTC=[+|-]hhmm
```

n systems. A list of the most commonly used time zones and their TZUTC setting equivalents is listed in "TZUTC reference".

### TASK

[ML] The TASK environment variable is primarily used by FD. It is, however, recommended that it is properly configured (set) on all machines and in all environments where any FrontDoor program is or will be used. The format for the TASK environment variable is:

```
SET TASK=<tasknum>
```

where <tasknum> is 0-255. FD requires that the TASK environment variable is set and that no other running copy of FD is using the same task number.

### FDOPT

The FDOPT environment variable is used to specify certain options for the various FrontDoor programs as applicable. One advantage of using FDOPT instead of command-line parameters is that all programs that can read the given FDOPT variable will be affected by its contents without the need to specify similar or identical command-line parameters to all FrontDoor programs.

Options specified in the FDOPT environment variable are separated by commas:

```
SET FDOPT=AUTOVIDEO,MSGSURVEY
```

### General

For all FrontDoor programs (as applicable), the following FDOPT settings are identical to the command-line parameters described above:

AUTOVIDEO, FORCEHLT, FORCEINT28, FORCEDPMI, NOFSC54, NOVDMTITLE, NOISCR, NOINTL, USEICA, NOMULD, NOEKBD, NOMOUSE, NOSHADOW, NOLOCK, NOWPOSEXEC, NOPRNDEVIO.

[ML] MONOCRT.

### FD

For FD, the following FDOPT settings are identical to the command-line parameters described above:

MODEMDEBUG, NOTIMESYNC, NOEMSIMD5, NOSTQPACK, NOEMSI, NOZAP, NOYOOHOO, NODOMAIN, NOFTS1, NOFTS1ZZ, FORCERESCAN, NORESYNC, NOSLO, NOMDM, RDEBUG, EZMOD, NODASH, NOUNPACK, IGNOREOTHERPKT, LOGINTRO, EMSIDEBUG, NORAWEXTD, PACKSTQ.

[ML] NOSHAREIH, NOSHAREOH, NOFINDLOCK, NOCANSES, SESSONDCD, EMSIPKT, FTS6PKT, FORCECOMMIT.

### FM

For FM, the following FDOPT settings are identical to the command-line parameters described above:

NOJAM.

[ML] FOLDER, FOLDERSCAN, MSGSURVEY.

## FDUSRLEV

[ML] Specifies the UIL (user interface level) and must be one of **Novice**, **Intermediate**, or **Advanced**. This variable is not used by FDSETUP.


## FMUSERNAME

[ML] Allows the user name, used when reading and writing messages, to be overridden. The usage format is as follows:

```
SET FMUSERNAME=Firstname_Lastname
```

Underscore ( \_ ) characters are replaced with spaces by FM. The contents of the FMUSERNAME variable is only used if the access level of the currently active user is **USER**. In the case of multiple users being configured in FDSETUP, FM will use applicable information from the selected user profile.

FM will only honor the presence of the FMUSERNAME variable if the [Editor.Miscellaneous.Allow FMUSERNAME](#) setting has been configured as **Yes**.

 *It should be noted that by allowing FMUSERNAME to be honored, a potential breach of system integrity exists; by using FMUSERNAME, it is simply a matter of specifying the name of an existing user (with an access level of USER) to be able to read the mail of that user and to write mail appearing as if it has been written by that user. This problem can be corrected by protecting all user entries in FDSETUP with a password.*

## FMUSERNUM

[ML] Specifies that FM should use applicable settings from the specified user profile (1-10) as configured in FDSETUP.

The usage format is as follows:

```
SET FMUSERNUM=<User_profile_number>
```

The contents of the FMUSERNUM variable is only used if the access level of the currently active user is **USER**. In the case of multiple users being configured in FDSETUP, FM will use applicable information from the selected user profile.

## FMUSERPOS

Specifies the absolute position (record number 1-65535) of the lastread information (see "Folders") used when accessing folders using the HMB storage type. This is primarily intended for interfacing FM with BBS software that supports the HMB storage format.

The usage format is as follows:


```
SET FMUSERPOS=<Lastread_information_slot>
```

## FMUSEROFS

Specifies the relative position (record number 1-65535) of the lastread information (see "Folders") used when accessing folders using the HMB storage type. This is primarily intended for interfacing FM with BBS software that supports the HMB storage format.

The usage format is as follows:

```
SET FMUSEROFS=<Lastread_information_slot>
```


 *The value specified in the FMUSEROFS variable minus one is added to the number of the currently used user profile; e.g. the formula is  $UserOffset+(CurrentUserNumber-1)$ . If FMUSERPOS (above) is used, FM will ignore FMUSEROFS.*

## FDOVR

This environment variable is only used by the DOS version of FD.

The FDOVR variable, if defined, specifies the location of the FD overlay file, FD.OVR. It can be used to force FD to access the overlay file from faster media, such as a RAM disk. If a RAM disk is used to store FD.OVR, LIM/EMS memory can be disabled (which can normally be used by FD to store its overlay file), thus saving memory if multiple copies of FD are running on the same machine.

To prevent FD from using LIM/EMS memory for its overlay file, the NOEMS command-line option or FDOPT setting can also be used.


 *Use of FDOVR is required in some environments where FD cannot determine the location of its overlay file.*

## FMOVR

This environment variable is only used by the DOS version of FM.

The FMOVR variable, if defined, specifies the location of the FM overlay file, FM.OVR. It can be used to force FM to access the overlay file from faster media, such as a RAM disk. If a RAM disk is used to store FM.OVR, LIM/EMS memory can be disabled (which can normally be used by FM to store its overlay file).

To prevent FM from using LIM/EMS memory for its overlay file, the NOEMS command-line option or FDOPT setting can also be used.


 *Use of FMOVR is required in some environments where FM cannot determine the location of its overlay file.*

## FDNCOVR

This environment variable is only used by the DOS version of FDNC.

The FDNCOVR variable, if defined, specifies the location of the FDNC overlay file, FDNC.OVR. It can be used to force FDNC to access the overlay file from faster media, such as a RAM disk. If a RAM disk is used to store FDNC.OVR, LIM/EMS memory can be disabled (which can normally be used by FDNC to store its overlay file).

To prevent FDNC from using LIM/EMS memory for its overlay file, the NOEMS command-line option or FDOPT setting can also be used.

 *Use of FDNCOVR is required in some environments where FDNC cannot determine the location of its overlay file.*

## Appendix K: UNDIABLE HANDLER

FD includes a feature referred to as the *undialable handler*. It is used to limit the number of unsuccessful attempts made by FD to establish an outbound mail session with remote systems. These unsuccessful attempts can be the result of a number of factors such as poor-quality telephone lines, the inability of the communications devices to successfully negotiate a connection, etc.

When FD cannot successfully establish or complete an outbound mail session with a remote system, it increments a counter called *resend retries*. When the resend retries have reached the maximum allowed value (as configured in [Mailer.Miscellaneous.Resend retries](#)), it will not make any further attempts to call the remote system until the event is restarted. If the cost-per-minute value for the remote system is equal to or higher than the [Mailer.Miscellaneous.Minimum undialable cost](#) value, the remote system is said to be a candidate for the undialable handler.

Once a remote system has been determined to be such a candidate, FD will scan the undialable database to see if the system already exists in it. If it does not exist, FD will add it to the database and set the undialable level to one (a single '>'). If the system does exist in the database, its undialable level is incremented by one; once the undialable level reaches three (">>>"), FD will no longer call the system until the database entry is either removed or promoted to a lower undialable level.

The following should be taken into consideration when configuring the above settings:

- ❑ The [Mailer.Miscellaneous.Resend retries](#) setting specifies **retries**, not attempts. Thus, with a setting of one, the maximum number of failed attempts allowed in an event is two; similarly, with a setting of zero, the maximum number of failed attempts allowed is one.
- ❑ FD will reset its attempt counters when it rescans the NetMail folder to prepare outbound mail.
- ❑ In environments where local calls are not free, the [Mailer.Miscellaneous.Minimum undialable cost](#) setting should be configured to zero to avoid repeated failures with "local" systems.

In specific situations, FD will add a remote system to the undialable database with an undialable level of three; making it undialable. These situations include:

- ❑ The inability to agree (with the remote mailer) on which file-transfer protocol should be used to exchange mail and files.
- ❑ The occurrence of a session validation failure (i.e. a password mismatch).
- ❑ The remote system does not present any valid system identification (address).
- ❑ The remote system does not respond to repeated attempts made by FD to detect the presence of another mailer; also known as "intelligent life".



## Appendix L: EXTERNAL MAIL INTERFACE

As previously mentioned (see "FDSETUP"), the external mail interface allows external programs to be launched when FD detects a specific sequence in the data received from the communications device.

By configuring FD to exit with a given errorlevel when a specific character sequence is received, it is possible to extend the capabilities of the system in regards to the type of calls that can be handled.

One common use for the external mail interface is to launch a UUCP client (e.g. UUCICO) when an inbound UUCP call is detected. This is done by configuring the calling UUCICO to transmit a specific character sequence; the sequence is recognized by FD as an external mail sequence which forces it to exit with a specific errorlevel, allowing the launch of a UUCP client.

Another popular use of the external mail interface is to allow remote maintenance of the system by means of a *Doorway*-type application which is launched by the batch file controlling FD when a specific character sequence is detected. Doorway-type applications allows full-screen access to the system through a terminal program such as the FrontDoor Terminal.

A few things should be kept in mind when configuring the external mail interface:

- ❑ Once FD has terminated with the specified errorlevel, it no longer controls the system. It is thus up to the controlling batch files and other applications to properly terminate and return control of the system to FD (this applies only to the DOS version of FD);
- ❑ When installing so-called *watchdogs* or *carrier monitors* to force the system to re-boot when a drop of carrier occurs (i.e. the call is terminated), it is important that the watchdog software is able to force a complete re-boot of the system. In many multi-tasking operating systems such as OS/2 and Windows NT, special care has to be taken to force the machine to shutdown and restart instead of just closing the task in which the watchdog is running.

### OS/2 version-specific notes

The external mail interface is implemented somewhat differently in the OS/2 version of FD than in the DOS version. Although the [Level](#) (errorlevel) option in the external mail configuration screen of FDSETUP is used to activate an entry, the OS/2 version will not exit with the specified errorlevel. As previously mentioned, the [Hot](#) option is not used by the OS/2 version of FD.

The OS/2 version of FD implements the external mail interface through an OS/2 batch file called EXTMAIL.CMD. FD assumes that the batch file is located in the current directory (i.e. the active directory at the time FD is started). When FD calls this batch file, it passes a parameter which makes it possible to distinguish the external mail configuration slot (1-10) that forced FD to execute the batch file, along with other useful parameters as described below:


```
<Slot> <Speed> <Port> <EvtTime> <Task> <ConnMsg> <CID> <PortHandle>
```

All parameters are separated by a single space (ASCII 32) character. Any spaces in the actual parameters are converted to underscore ( \_ ) characters. For <CID> which can contain more than one line of text, the line "breaks" are indicated by a = (equal sign) character.

An example follows:

```
2 64000 2 401 4 /X75/LAPB N/A 32
```

The above indicates an inbound call, triggered by a match with the string entered for external mail slot number two (2), on task four at 64000 BPS on COM port two (2) with 401 minutes remaining until the next event which does not allow interactive access. **/X75/LAPB** is the additional connect message data returned by the communications device. **N/A** is the <CID> information (none in this case). **32** is the COM port handle returned by OS/2 when FD opened the communications port.

 It is important to note that the COM port handle should not be closed by any application using it as this will prevent FD from using it further upon return from the external mail batch file.

## Appendix M: BATCH FILES

FD and FDNC can communicate certain events to the "outside world" by returning so called *errorlevels* to the program or batch file that was used to invoke them. These errorlevels can then be used to invoke other commands/programs depending on the event signalled by FD and FDNC.

In the case of FDNC (see "FDNC"), these errorlevels are often used to signal an error condition such as missing source files, etc.

To check the returned errorlevel in a batch (.BAT for DOS and .CMD for OS/2, or .BTM for 4DOS/4NT/4OS2) file, the following construct is used:

```
<program>
if errorlevel 10 goto ubreak
if errorlevel 1 goto badlev
goto done
```

where <program> is the name (and optionally the path) of the program to invoke (e.g. **FD**, **FDNC**, etc). Errorlevels are checked for in descending order; the higher the errorlevel, the earlier it should be checked for. The **if errorlevel..** construct translates to "if errorlevel equal to or higher than..". In the example above, the batch file would transfer control to the **badlev** label if <program> returned an errorlevel in the range one through nine (1-9).

### FDNC

The following errorlevels can be returned by FDNC:

Errorlevel	202
Description	FDNODE.CTL successfully compiled
Notes	Applicable to the /PHONECOMPILE parameter.
Errorlevel	201
Description	Nodelist successfully compiled
Notes	Applicable to the /COMPILE and /FORCECOMPILE parameters.
Errorlevel	200
Description	Nodelist not compiled (already up-to-date)
Notes	Applicable to the /COMPILE parameter.
Errorlevel	103
Description	Invalid source file format
Notes	Applicable to the /COMPILE and /FORCECOMPILE parameters.
Errorlevel	102
Description	Unable to access nodelist database
Notes	Applicable to the /COMPILE, /FORCECOMPILE, and /EXPORT parameters.
Errorlevel	101
Description	Invalid parameters for EXPORT command
Notes	Applicable to the /EXPORT parameter.
Errorlevel	100
Description	Invalid FDNODE.CTL
Notes	Applicable to the /COMPILE, /FORCECOMPILE, and /PHONECOMPILE parameters.
Errorlevel	7
Description	Invalid license information
Notes	None

Errorlevel	6
Description	FDNC is already loaded
Notes	Can occur if FDNC is loaded from a DOS shell of FDNC.
Errorlevel	5
Description	Another copy of FDNC is running
Notes	FDNC detected its alive semaphore, FDNCALIV.NOW, in the semaphore directory. This may be the result of a system crash while FDNC was running. If no other copy of FDNC is running, the semaphore can safely be deleted.
Errorlevel	4
Description	External error
Notes	Typically an indication of a problem accessing a file needed by FDNC.
Errorlevel	3
Description	User login error
Notes	None
Errorlevel	2
Description	Insufficient memory
Notes	None
Errorlevel	1
Description	Internal error
Notes	This should not occur during normal program operation. Please contact Definite Solutions or your place of support if FDNC is returning this errorlevel.
Errorlevel	0
Description	No error
Notes	None

## FD

The following errorlevels can be returned by FD (apart from special errorlevels configured for external mail, received mail, external events, and interactive callers):

Errorlevel	30-14
Description	Reserved for future use
Notes	None
Errorlevel	13
Description	Maximum number of active/nested events exceeded
Notes	None
Errorlevel	11
Description	Invalid license information
Notes	None
Errorlevel	10
Description	User break (user instructed FD to terminate)
Notes	This is not an error condition

Errorlevel	8
Description	FrontDoor cannot be loaded on top of itself
Notes	Can occur if FD is loaded from a OS shell of FD.
Errorlevel	7
Description	FOSSIL driver not detected (or not responding)
Notes	[DOS]
Errorlevel	7
Description	Unable to initialize communications hardware
Notes	FD could not open or initialize the communications hardware; typically the " <i>COM port</i> ". The communications hardware may be in use by other applications or not properly closed by a previously used application. [!DOS]
Errorlevel	6
Description	Invalid or incorrect FOSSIL driver
Notes	[DOS]
Errorlevel	5
Description	Unable to initialize modem
Notes	None
Errorlevel	4
Description	Modem is not responding
Notes	None
Errorlevel	3
Description	Insufficient diskspace to continue operation
Notes	None
Errorlevel	2
Description	External error
Notes	An error condition which prevents FD from continuing its operation.
Errorlevel	1
Description	Internal error
Notes	This should not occur during normal program operation. Please contact Definite Solutions or your place of support if FD is returning this errorlevel.
Errorlevel	0
Description	No error
Notes	This is not an error condition

## Appendix N: BBS INTERFACE


As outlined in the "Batch files" section, FD can communicate certain events to the outside world by returning so called errorlevels; this includes communicating to an external program that an interactive caller was detected. This is typically used to interface FD to a bulletin board system (BBS) package.

FD can be configured to prevent interactive access to the system, which in effect disables the BBS interface. This is done by configuring the [Mailer.Miscellaneous.Mail-only \(no BBS\)](#) setting as **Yes**, or by disabling support for interactive callers for specific events (see "Events").

The remaining aspects - as far as FD is concerned - of the BBS interface are configured in the [Mailer.BBS/Errorlevels](#) section of FDSETUP.

### DOS version

Only one errorlevel for interactive callers can be configured ([Mailer.BBS/Errorlevels.BBS](#)); this errorlevel should be checked for in the batch file (.BAT, or .BTM for 4DOS/4NT/4OS2) controlling FD and appropriate action taken to load the program responsible for handling interactive callers.

 *If the errorlevel has not been defined, FD will not permit interactive access through the BBS interface.*

To further enhance the BBS interface, FD can be configured to create a batch file ([Mailer.BBS/Errorlevels.Create .BAT file](#)) which contains various parameters and information relevant to the call in progress; including the connect message returned by the communications device, the port used to communicate with the device, etc. The batch file created by FD is called DOBBSnnn.BAT (where nnn is the task number, 0-255); the file is created in the current directory.

Below, the assumption is made that the batch file controlling FD is called RUNFD.BAT (or RUNFD.BTM).

### DOBBSnnn.BAT

The batch file created by FD (DOBBSnnn.BAT) contains a single line:

```
EXEBBS <Speed> <Port> <EventTime> <Task> <ConnectMsg> <CallerID>
```

All parameters are separated by a single space (ASCII 32) character. Any spaces in the actual parameters are converted to underscore (\_) characters. For <CallerID> which can contain more than one line of text, the line "breaks" are indicated by a = (equal sign) character.

An example follows:

```
EXEBBS 64000 2 401 4 /X75/LAPB N/A
```

The above indicates an inbound call on task four at 64000 BPS on COM port two (2) with 401 minutes remaining until the next event which does not allow interactive access. **/X75/LAPB** is the additional connect message data returned by the communications device. **N/A** is the <CallerID> information (none in this case).

Another example:

```
EXEBBS 28800 2 60 1 /ARQ _DATE_=0125_TIME_=1259_NMBR_=1234567890
```

The above indicates an inbound call on task one at 28800 BPS on COM port two (2) with 60 minutes remaining until the next event which does not allow interactive access. **/ARQ** is the additional connect message data returned by the communications device, the last parameter is the caller id information returned:

```
DATE          <CR><LF>
0125          <CR><LF>
TIME          <CR><LF>
1259         <CR><LF>
NMBR         <CR><LF>
1234567890   <CR><LF>
```

Note how these six lines have been concatenated into one line with the equal sign (=) separator above.

### EventTime

This parameter contains a numerical value in the range zero through 10080 (0-10080) and indicates the number of minutes remaining until an event which has been configured not to allow interactive access. When no such event exists, or it is more than seven days into the future, FD will indicate this by using **10080** as the value of this parameter; 10080 is the number of minutes in a week.

### Task

This parameter contains a numerical value in the range zero through 255 (0-255) and indicates the task number of the mailer (FD) that created the file. This is typically the same as the numerical part of the DOBBSnnn.BAT filename.

## ConnectMsg

This parameter contains any additional data returned in the connect message by the communications device. If no additional data was returned by the communications device, this parameter contains **/NONE**.

## CallerID

This parameter contains data returned by the communications device that FD did not recognize as a connect message. This is also referred to as *Data Following Ring Signal*, or **DFRS** for short. If no such data was received from the communications device, this parameter contains **N/A**.

The [Modem Answer control.Enable LDFRS](#) setting must be configured as **Yes** for FD to support this. If the setting is configured as **No**, this parameter will always contain **N/A**.

## EXEBBS.BAT

The EXEBBS.BAT file is responsible for running the BBS software. It is invoked from the DOBBSnnn.BAT file with a number of parameters as outlined above. Once the BBS software has terminated, control must be returned to the batch file controlling FD so that it can resume operation.

An example of the contents of EXEBBS.BAT follows:

```
@echo off
cls
echo.
echo Loading BBS software...
echo.
C:
CD \BBS
BBS.EXE -p%2 -b%1%5 -t%3
C:
CD \FD
RUNFD
```

The above would clear the screen; change to drive C:, directory \BBS; invoke the program BBS.EXE with a number of parameters; and when the BBS.EXE program terminates, restore the drive to C:, directory \FD; and finally load the RUNFD batch file.

Assuming that the DOBBSnnn.BAT file created by FD contained the following:

```
EXEBBS 64000 2 401 4 /X75/LAPB N/A
```

The above EXEBBS.BAT example would load the BBS.EXE program as follows:

```
BBS.EXE -p2 -b64000/X75/LAPB -t401
```

## Putting the pieces together

Assuming that the batch file controlling FD is called RUNFD.BAT, the execution flow is as follows:

```
RUNFD.BAT >> DOBBSnnn.BAT >> EXEBBS.BAT >> RUNFD.BAT
```

That is, FD terminates with an errorlevel indicating an interactive caller; this errorlevel is caught in the RUNFD batch file and is used to load the appropriate DOBBSnnn batch file (created by FD prior to it exiting); the DOBBSnnn batch file loads EXEBBS.BAT with a number of parameters which are used to load the actual interactive access/BBS program; finally, the EXEBBS batch file loads RUNFD.BAT, which loads FD.

In the above EXEBBS.BAT example, the last line in the file will load the RUNFD batch file. An alternative to this method exists by which the **CALL** command is used to call the DOBBSnnn batch file from RUNFD. Using the alternative method will result in the RUNFD batch file resuming execution at the statement following **CALL DOBBSnnn** when DOBBSnnn/EXEBBS terminates.

## Handling inbound voice calls

The BBS interface as described above can also be used to handle inbound voice calls. Handling voice calls this way differs only slightly from handling interactive calls. The errorlevel returned by FD is configured with the [Mailer.BBS/Errorlevels.Inbound Voice calls](#) setting. If this setting is configured with a valid errorlevel (31-255), FD will act as if an inbound interactive call was detected; the only difference is the errorlevel with which FD terminates.

If the BBS interface is used to handle inbound voice calls, it should be noted that some special care has to be taken with the EXEBBS batch file called by the DOBBSnnn batch file. The only distinction between an inbound voice call and an inbound interactive/BBS call is the errorlevel returned by FD. Thus, it is recommended that a separate EXEBBS.BAT file be created in a different directory to handle inbound voice calls. The RUNFD batch file should change to this directory prior to calling the DOBBSnnn file (which must be called with a complete path, since it will have been created in whatever the current directory was when FD was running).

The "External mail interface" can also be used to handle inbound (and outbound) voice calls.

## Handling inbound fax calls

In addition to handling inbound voice calls, the BBS interface as described above can also be used to handle inbound fax calls. Handling fax calls this way differs only slightly from handling interactive calls. The errorlevel returned by FD is configured with the [Mailer.BBS/Errorlevels.Inbound Fax calls](#) setting. If this setting is configured with a valid errorlevel (31-255), FD will act as if an inbound interactive call was detected; the differences are the errorlevel with which FD terminates, and the batch file referred to by DOBBSnnn.BAT.


When FD terminates with the errorlevel specified in the [Mailer.BBS/Errorlevels.Inbound Fax calls](#) setting, the DOBBSnnn.BAT file created by FD will contain a reference to EXEFAX instead of EXEBBS. The parameters with which EXEFAX is loaded from the DOBBSnnn batch file differs slightly from when EXEBBS is loaded:

```
EXEFAX <Speed> <Port> <ZeroPort> <Task> <ConnectMsg> <CallerID>
```

where <Port> is the COM port of the communications device one-based (1-255) and <ZeroPort> is the COM port of the communications device zero-based (0-254). It should be noted that the <Speed> parameter will in most cases contain zero (0).

## OS/2 version

Only one errorlevel for interactive callers can be configured ([Mailer.BBS/Errorlevels.BBS](#)); this errorlevel is not used by the OS/2 version of FD, but must be configured to a value greater than 30 for the BBS interface to be active.

 If the errorlevel has not been defined, FD will not permit interactive access through the BBS interface.

Unlike the DOS version, which creates a batch file that in turn calls another batch file with specific parameters, the OS/2 version of FD calls the "BBS batch file" directly. FD is suspended during the execution of the "BBS batch file".

FD executes the EXEBBS.COM file, in the current directory, with the following parameters:

```
<Speed> <PortNum> <EvtTime> <Task> <ConnMsg> <CID> <PortHandle>
```

All parameters are separated by a single space (ASCII 32) character. Any spaces in the actual parameters are converted to underscore (\_) characters. For <CID> which can contain more than one line of text, the line "breaks" are indicated by a = (equal sign) character.

An example follows:

```
64000 2 401 4 /X75/LAPB N/A 32
```

The above indicates an inbound call on task four at 64000 BPS on COM port two (2) with 401 minutes remaining until the next event which does not allow interactive access. /X75/LAPB is the additional connect message data returned by the communications device. N/A is the <CID> information (none in this case). 32 is the COM port handle returned by OS/2 when FD opened the communications port.

Another example:

```
28800 2 60 1 /ARQ _DATE_=0125_TIME_=1259_NMBR_=1234567890 32
```

The above indicates an inbound call on task one at 28800 BPS on COM port two (2) with 60 minutes remaining until the next event which does not allow interactive access. /ARQ is the additional connect message data returned by the communications device, the second last parameter is the caller id information returned as shown below, 32 is the COM port handle returned by OS/2 when FD opened the communications port.

Caller id information:

```
DATE          <CR><LF>
0125          <CR><LF>
TIME          <CR><LF>
1259         <CR><LF>
NMBR         <CR><LF>
1234567890   <CR><LF>
```

Note how these six lines have been concatenated into one line with the equal sign (=) separator above.

### EvtTime

This parameter contains a numerical value in the range zero through 10080 (0-10080) and indicates the number of minutes remaining until an event which has been configured not to allow interactive access. When no such event exists, or it is more than seven days into the future, FD will indicate this by using **10080** as the value of this parameter; 10080 is the number of minutes in a week.

### Task

This parameter contains a numerical value in the range zero through 255 (0-255) and indicates the task number of the mailer (FD) that created the file. This is typically the same as the numerical part of the DOBBSnnn.BAT filename.

### ConnMsg

This parameter contains any additional data returned in the connect message by the communications device. If no additional data was returned by the communications device, this parameter contains **/NONE**.


## CID

This parameter contains data returned by the communications device that FD did not recognize as a connect message. This is also referred to as *Data Following Ring Signal*, or **DFRS** for short. If no such data was received from the communications device, this parameter contains **N/A**.

The [Modem.Answer control.Enable LDFRS](#) setting must be configured as **Yes** for FD to support this. If the setting is configured as **No**, this parameter will always contain **N/A**.

## PortHandle

This parameter contains the (file) handle returned by OS/2 when FD opened the communications port.

 *It is important to note that the COM port handle should not be closed by any application using it as this will prevent FD from using it further upon return from the external mail batch file.*

## EXEBBS.CMD

The EXEBBS.CMD file is responsible for running the BBS software. It is invoked by FD, via the OS/2 command processor, with a number of parameters as outlined above. Once the BBS software has terminated, control must be returned to FD so that it can resume operation.

An example of the contents of EXEBBS.CMD follows:

```
@echo off
cls
echo.
echo Loading BBS software...
echo.
C:
CD \BBS
BBS2.EXE -p%2 -h%7 -b%1%5 -t%3
C:
CD \FD
```

The above would clear the screen; change to drive C:, directory \BBS; invoke the program BBS2.EXE with a number of parameters; and when the BBS2.EXE program terminates, restore the drive to C:, directory \FD; and terminate; which in effect returns control to FD.

Assuming that the FD invoked EXEBBS.CMD with the following parameters:

```
64000 2 401 4 /X75/LAPB N/A 32
```

The above EXEBBS.CMD example would load the BBS2.EXE program as follows:

```
BBS2.EXE -p2 -h32 -b64000/X75/LAPB -t401
```

## Putting the pieces together

Assuming that the batch file controlling FD is called RUNFD.CMD, the execution flow is as follows:

```
RUNFD.CMD >> FD >> EXEBBS.CMD >> FD >> RUNFD.CMD
```


That is, FD invokes EXEBBS.CMD, which invokes the BBS software. When the BBS software terminates, the EXEBBS.CMD file resumes its execution; when it in turn terminates, control is returned back to FD.

## Handling inbound voice calls

The BBS interface as described above can also be used to handle inbound voice calls. Handling voice calls this way differs only slightly from handling interactive calls. The [Mailer.BBS/Errorlevels.Inbound Voice calls](#) setting must be configured (31-255) for inbound voice calls to be handled (instead of being rejected).

The batch file invoked by FD to handle inbound voice calls is called EXEVOICE.CMD. It is called with almost the same parameters as the EXEBBS.CMD file (see above). The only difference is that instead of the <EvtTime> parameter, FD passes <PortNum> minus one (0-254).

The "External mail interface" can also be used to handle inbound (and outbound) voice calls.

 *It is important to note that the COM port handle should not be closed by any application using it as this will prevent FD from using it further upon return from the external mail batch file.*


## Handling inbound fax calls

The BBS interface as described above can also be used to handle inbound fax calls. The [Mailer.BBS/Errorlevels.Inbound Fax calls](#) setting must be configured (31-255) for inbound fax calls to be handled (instead of being rejected).

The batch file invoked by FD to handle inbound voice calls is called EXEFAX.CMD. It is called with the same parameters as the EXEVOICE.CMD file (see above).

The <Speed> parameter will in most cases contain zero (0).



 *It is important to note that the COM port handle should not be closed by any application using it as this will prevent FD from using it further upon return from the external mail batch file.*

## Appendix O: OS/2 VERSION SPECIFICS

This section outlines some specific differences and notes relevant to the OS/2 version of FrontDoor.

### Sharing SETUP.FD

The OS/2 version and DOS version of FrontDoor can share configuration files, such as SETUP.FD. It should, however, be noted that some DOS-version specific features can only be configured using the DOS version of FDSETUP.

### Executing external programs

Several configuration options in the FrontDoor environment require that the name of an external application is specified. In the OS/2 version, a number of different types of applications can be launched from within the FrontDoor programs. Certain *execution modifiers* can therefore be specified to give the user more control over how FrontDoor invokes these external programs. These modifiers are sequences of characters; they transparent to (ignored by) the DOS version.

#### Modifiers

Modifier	*B
Description	Start program in background
Notes	None
Modifier	*D
Description	Start program as DOS session (VDM)
Notes	None
Modifier	*F
Description	Start program in full-screen mode
Notes	FrontDoor will by default attempt to start the application in the same mode that it (FrontDoor) is running in.
Modifier	*H
Description	Start program in hidden mode
Notes	None
Modifier	*V
Description	Start program minimized (if applicable)
Notes	Requires that *X modifier is also used
Modifier	*^
Description	Start program maximized (if applicable)
Notes	Requires that *X modifier is also used
Modifier	*X
Description	Forces FrontDoor to bypass any load-type detection of the program to be started. The program will be started as a separate session instead of as a child process. Note that the extension of the program file (.EXE, .COM, etc) must be specified.
Notes	This modifier must be used for OS/2 PM applications.

#### Examples

Some examples of how to use the execution modifiers follow:

```
*X^^FDISKPM.EXE
```

would load the FDISKPM application (as a separate session) and attempt to maximize its window. The FrontDoor application will be suspended until FDISKPM terminates.

FDISK

would load the FDISK application (as a child process).  
The FrontDoor application will be suspended until FDISK terminates.

C:\FD\FM.EXE

would load the FM application.  
The FrontDoor application will be suspended until FM terminates.

\*X\*FFDISK.COM

would load the FDISK application (as a separate session) and attempt to run it as a full-screen session. The FrontDoor application will be suspended until FDISK terminates.

DIR /P

would run the (OS/2 internal) DIR command.  
The FrontDoor application will be suspended until DIR terminates.


## Additional notes

It should be noted that it is possible to launch DOS applications from the OS/2 version of FrontDoor without using the \*D modifier; simply specify the full pathname (including its extension) as the program to be loaded.

## Batch files instead of errorlevels

In the various places where the DOS version of FD exits with an errorlevel to implement an external interface to fax and voice applications, as well as BBS-type applications, the OS/2 version instead calls an external batch (.CMD) file. The reason is simply the way OS/2 handles the communications port.

Since FD is the first application to open the "COM port", OS/2 will effectively close the port if/when FD terminates. In those places where FD launches the external batch files, it passes the device handle to the communications port, for use by the external application(s). It should be noted that FD is suspended until these external applications terminate.

 *It is important to note that the COM port handle should not be closed by any application using it as this will prevent FD from using it further upon return from the external mail batch file.*

## The ABS2PM.DLL file

The ABS2PM.DLL file is a 32-bit OS/2 DLL, or *Dynamic Link Library*, used by FD, FM, and FDNC for windowed VIO (text-mode) sessions. It is used to provide minor features such as proper session window titling, window positioning (FD), etc. It is not required by any FrontDoor program; if it does not exist, none of the FrontDoor programs will complain.

The DLL is not used for full-screen sessions, nor is it used if FrontDoor is used in a non-graphical environment such as a pure-text OS/2 system.

The DLL (ABS2PM.DLL) should be placed in the directory where the FrontDoor executables (FD.EXE, etc) reside.

## Long filenames

The OS/2 version of FrontDoor does not make an attempt to implement complete support for long filenames. The various file selection boxes will display long filenames up to a certain length, but no guarantee is given that all types of long filenames will be supported.

When the OS/2 version of FD receives files with a long filename (i.e. a filename that does not match the 8+3 convention used by DOS), it will behave much like the DOS version and attempt to remap it to a name that fits within the 8+3 limits. Like the DOS version, the OS/2 version will, however, correctly pass the original filename of in-transit files to the final destination.

## Alternative communications driver

SIO is a replacement communications driver for OS/2. It comes packaged as "SIO" or "SIO/VSIO" and replaces COM.SYS and VCOM.SYS; the standard OS/2 communications drivers.

Unless there is a specific reason for not replacing the standard drivers, it is recommended that you obtain and install the SIO package as its performance and features greatly exceeds that of the standard drivers.

SIO is developed by Ray Gwinn (USA); the latest version can be found on the Definite Solutions web site and BBS.

## Appendix P: TZUTC REFERENCE

This section lists some geographical locations and their corresponding TZUTC setting. It should be noted that adjustments to the TZUTC setting may have to be made when changing from standard time to summer (daylight) time.

-1100	American Samoa
-1000	Hawaii
-0900	Alaska/Yukon
-0800	US/Canada, Pacific zone
-0700	US/Canada, Mountain zone
-0600	Belize, Costa Rica, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, US/Canada, Central zone
-0500	Colombia, Ecuador, Haiti, Panama, Peru, US/Canada: Eastern zone
-0400	Aruba, Canada: Atlantic zone, Bolivia, Chile, Netherlands Antilles, Venezuela
-0330	Newfoundland
-0300	Argentina, Brazil, Guyana, Paraguay, Suriname, Uruguay
-0100	Morocco
0000	Iceland, Ireland, Ivory Coast, Liberia, Mauritius, Portugal, Senegal, United Kingdom
0100	Albania, Algeria, Austria, Belgium, Bosnia & Herzegovina, Croatia, Czech Republic, Denmark, France, Germany, Hungary, Italy, Libyan Jamahiriya, Liechtenstein, Luxembourg, Malta, Netherlands, Nigeria, Norway, Poland, Slovakia, Slovenia, Spain, Sweden, Switzerland, Tunisia, Yugoslavia, Zaire
0200	Cyprus, Egypt, Estonia, Finland, Greece, Israel, Jordan, Latvia, Lithuania, Romania, South Africa, Turkey, Zambia, Zimbabwe
0300	Armenia, Bahrain, Bulgaria, Ethiopia, Georgia, Iraq, Kenya, Kuwait, Qatar, Russia, Saudi Arabia, Tanzania, Uganda, Ukraine, Yemen
0330	Iran
0400	United Arab Emirates
0500	Maldives, Pakistan
0600	Bangladesh
0700	China, Indonesia, Thailand
0800	Hong Kong, Malaysia, Philippines, Singapore, Taiwan
0900	Japan, Korea
1000	Australia
1200	Fiji, New Zealand

## Appendix Q: CONTACT INFORMATION

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<http://www.defsol.se/>

Please refer to our website (above) for additional information such as the [FrontDoor Developer's Kit](#) (FDDEV), the *FrontDoor Frequently Asked Questions* (FDFAQ) document, and more.

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