

Internet Rex User Manual

Version 1.19

Features

Universal agent

Internet Rex supports a wide variety of internet transfer protocols. Rex is not only a mail agent, but also supports FTP, tossing files to a directory for use on FTP servers and BinkP for connecting to BinkD servers.

Universal compatibility

Internet Rex supports all the major email file transfer clients. It can read and write messages which will be understood by TransX, Fidonet2Internet mailer, Allfix, GIGO, Watergate and more. Whatever your downlink is using, Rex can talk to it.

Native operating system support

Internet Rex is distributed with native executables for the four major BBS operating systems: DOS, OS/2, Windows (including Win95, Win98 and WinNT) and Linux. Native support means faster running programs and more seamless integration with the rest of your BBS system. In addition, Rex's configuration files are portable across operating systems: one set of files will work for all the versions of Rex available.

Frontend support

With 15 different frontend mailers recognised individually, Rex is sure to work with whatever frontend system you're running. The most popular frontends in the list include FrontDoor (all versions) and compatible mailers, Binkley and compatible mailers, D'Bridge, Platinum Xpress, PCBoard, ViaMail, Intermail, SGMail and more.

Reliable, secure transmission

Internet Rex includes functions that will ensure that, despite the sometimes unreliable internet, your mail will always arrive at its destination. Built-in encryption can also be used to make sure that no one else can access the mail you're sending except the intended recipient.

Feature rich

A flexible built in file request processor, a powerful FTP scripting language, limited netmail to email gating, firewall and network aware setup, automatic bundling and extraction of files: over and above the usual features you'd expect in an internet transport program, Rex adds extra functionality that lets you do more with your BBS and internet connection.

Introduction

“Where shall I begin, please your Majesty?” he asked.

“Begin at the beginning,” the King said, gravely, “and go on till you come to the end: then stop.”

- Lewis Carroll, *Alice's Adventures in Wonderland*

Welcome to the Internet Rex user manual. You have downloaded one of the most powerful BBS to Internet transport programs available, packed with features and useful tools. This manual will guide you through the setup, installation and use of Internet Rex with your frontend mailer and internet connection. Because of the wide range of features Rex includes, not all details on all of the possible configurations will be presented here; instead this manual tries to ensure that your installation is quick and easy and that you can get Rex up and running without problems. Some of the more advanced features are left to discussion in the Internet Rex technical manual, included with this distribution.

If this is the first time you've taken a look at Internet Rex, you should go through the installation and setup guides to get you started. Users already familiar with Rex can find information about some of the more advanced features of Rex in the getting to know Rex section of the manual.

Conventions

In order to make things easy to understand and let you find information quickly, a number of conventions are used throughout this manual. Text you would type into the computer will be presented in a “typewriter” style font. Text you should be typing yourself will be presented in **bold** typewriter font. For example:

```
C:\REX> rexcfg
```

☞ Important information will be signalled by a little pointer beside the information.

Field names (i.e. the highlighted parts of the menus that select what you'll be entering) will be represented in the text in *italics*. Field values (text you enter into the fields, or that you set the fields to) will be indicated by “quotes” around the values. Note that the “” signs don't actually form part of the value to be entered.

Wildcards

Rex uses a system of wildcards similar to what is used in most operating systems. In places where you're allowed to give wildcard information, Rex will let an asterisk (*) match against any string of characters, no matter how long. A question mark (?) can also be used to match against any one character. For example:

```
rex*           Matches: rex, rexw, rexp, rexls, rex.exe, rex.ovr  
               Doesn't match: re, relt, arex
```

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169:4*	Matches: 169:4100/101, 169:400/101, 169:4 Doesn't match: 169:5000/101, 169:1000/1, 169:2200/4.0
rex?	Matches: rexw, rexp, rexl Doesn't match: rex, rex.exe, rexls
169:4??/*	Matches: 169:420/101, 169:400/1.0, 169:444/1.1 Doesn't match: 169:4200/101, 169:40/1, 169:420.0

Operating systems

Internet Rex is available for four different operating systems. When there is information to be given which is specific to one of those operating systems, you'll see a notice of it to the side of the information.

DOS	This information applies to the DOS version of Rex only.
OS/2	This information applies to the OS/2 version of Rex only.
Win	This information applies to the Windows version of Rex only.
Linux	This information applies to the Linux version of Rex only.

Syntax

When giving commands and arguments to fields in Rex, a standard command syntax is used. This will let you tell which parameters are optional, which are required, and what options can be used in combination with others.

< >	Angle brackets are used to represent parameters that must be present for a given command.
[]	Square brackets are used to represent option parameters to a command. The options enclosed don't have to be present for a given command to work, but can be used to give additional information.
	The straight line is used to present a list of valid choices for a given parameter. You can choose from the list of parameters presented.
...	Ellipses are used to show that the previous choices (in either square or angle brackets) can be repeated as often as desired.

Brackets can be nested, so that their influence is exerted over whatever they contain.

Here are a few examples:

```
rex <-f filename>  
Valid choices would be:  
rex -f file.txt  
rex -f another.file
```

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Invalid choices would be:

rex

The <-f filename> is required.

rex -f file.txt file2.txt

Only one file can be specified after the -f.

rex [-f filename]

Valid choices would be:

rex

rex -f file.txt

Invalid choices would be:

rex -f file.txt file2.txt

There can still only be one file specified after the -f.

rex [-f filename | -s filename]

Valid choices:

rex

rex -f file.txt

rex -s file2.txt

rex [-f filename [filename]...]

Valid choices:

rex

rex -f file.txt

rex -f file.txt file2.txt

rex -f file.txt file2.txt file3.txt file4.txt

Support

“‘Tis not enough to help the feeble up,
But to support him after.”
- *Shakespeare, Timon of Athens*

We would like to make your use of Internet Rex as enjoyable and trouble-free as possible. To that end, if you're having problems with Internet Rex, please contact us through any of the following support methods.

Fidonet backbone conference

Internet Rex has a support echo on the Fidonet backbone. Here you can get help from the author and from other users of Internet Rex for whatever problem you might be having. The echo to subscribe to is **IREX**.

Email

You can reach the author for technical support by sending mail over the internet. Send messages to:
cruden@cs.ualberta.ca

Netmail

Internet Rex's main support BBS, Xanadu BBS, is reachable through a number of different nets:

Fidonet	1:342/806 or 1:342/820
BattleNet	169:4100/101
Sysop's TechNet	111:1200/11

Downloading

“Something hidden. Go and find it. Go and look behind the Ranges –
Something lost behind the Ranges. Lost and waiting for you. Go.”
- *Rudyard Kipling, The Explorer*

Internet Rex is distributed in native versions for DOS, Windows, OS/2 and Linux. You can tell the operating system and version of an Internet Rex distribution archive by its name. Match the archive name to the following:

irexV###.zip

The **###** is the version of Internet Rex. For instance, 100 would be version 1.00. The **V** is the operating system identifier. D is the DOS 16-bit version, E is the DOS 32-bit version, W is the Windows version, P is the OS/2 version and L is the Linux version. So the archive irexd100.zip would be Internet Rex version 1.00 for DOS 16-bit.

Internet Rex is available from a number of different sources. Choose the one easiest for you.

The world wide web (WWW)

Internet Rex's official homepage, with links for downloading is
<http://plaza.v-wave.com/InternetRex>

File Transfer Protocol (FTP)

Internet Rex's official FTP server is xanadu.v-wave.com. Internet Rex is available for download from the /irex directory. Old versions of Internet Rex are kept in the /irex/oldversions directory.

Download from BBS

The most recent version of Internet Rex will always be available for download online at the Internet Rex support BBS. That BBS is currently:

Xanadu BBS

Phone #s: 1-780-439-8364 or 1-780-433-3560

Accepting 2400 to 33600 baud callers 22 hours a day (from 4am to 2am, MST).

Telnet to: xanadu.v-wave.com

File request (FREQ)

Internet Rex can be file requested (FREQ'ed) from the Rex's distribution BBS. Currently that board is:

Xanadu BBS - Fidonet address 1:342/806 or 1:342/820

Downloading

The magic names to use when requesting Internet Rex are:

rexd	For the DOS 16-bit version.
rexe	For the DOS 32-bit version.
rexw	For the Windows (Win95, Win98, WinNT) version.
rexp	For the OS/2 version.
rex1	For the Linux version.

Email file request

You can send an email file request to the Internet Rex email **FREQ** server and have Internet Rex sent back to you in a file attached to an email message. To email **FREQ** Internet Rex, send mail to:

xanadu@v-wave.com

The subject should be **FREQ** and the body of the message should contain the line **FREQ <version>**. Replace **<version>** with the keyword representing the operating system you would like. The keywords are:

rexd	For the DOS 16-bit version.
rexe	For the DOS 32-bit version.
rexw	For the Windows (Win95, Win98, WinNT) version.
rexp	For the OS/2 version.
rex1	For the Linux version.

Installation

“A large number of installed systems work by fiat. That is, they work by being declared to work.”

- *Anatol Fiat*

Installing Internet Rex is simply a matter of extracting it from the archive it was distributed in. You should have received Internet Rex in a PKZip archive. To install Internet Rex, create a directory where you would like to keep Rex. A good place would be the IREX directory:

```
C:> mkdir IREX
C:> cd IREX
```

Then change to the directory you created and unzip the archive Internet Rex came in. For instance, if you downloaded Internet Rex 1.00 for DOS, the archive name would be IREXD100.ZIP. So you might type:

```
C:\IREX> pkunzip c:\irexd100.zip
```

pkunzip is the program to run to extract files from a PKZip archive: the name of the program will likely be different on different operating systems. Use whichever program is appropriate for your operating system.

If you are using PKWare's PKZip for your particular operating system, you should see the authenticity verification information after unzipping the file. This would look like this:

```
...
Testing: REXCFG.EXE      OK -AV
Testing: UPDATE.COM      OK -AV
Testing: UPDATE.DOC      OK -AV

Authentic Files Verified!   # TLH613
Charles Cruden
Khan Software
This is Internet Rex 1.00.
Get the latest version of Internet Rex from
  http://plaza.v-wave.com/InternetRex.
```

```
C:\IREX>
```

If you are using PKWare's PKZip and you don't see this authenticity information, be aware that the archive you've downloaded is not a copy of the original distribution file, and may have been modified.

Upgrading

If you already had a copy of Internet Rex installed, you'll have to do one more thing to ensure that the information you've already entered into Rex is entered into the new version. After unzipping the archive into your Rex directory as described above, change to that directory and run the update program. That is:

Installation

```
C:> cd IREX
C:\IREX> pkunzip c:\irexd100.zip
C:\IREX> .\update.com
```

update.com is a DOS program, so you should run this in a DOS window if you aren't running DOS itself. update.com may give you further instructions to upgrade your version of Rex.

Linux The update program for Linux is simply called update. When running it, be sure you are running the Rex update program and not something else in your path.

Also, because the Internet Rex bundles aren't created under Linux, the file permissions of the distribution may not be correctly set after extraction. Be sure to set them appropriately.

Getting started

Despite the wide range of features Internet Rex offers, you can get up and running with only very little information setup. This section will help you configure Rex so you can start uploading and downloading mail as quickly as possible. More advanced features will be presented in the Getting to know Rex section of this manual.

Once you've installed Internet Rex, you need to run the configuration program to let Rex know a bit about your system. This is done by changing to your Rex directory and running Rexcfg.

```
C:> cd IREX
C:\IREX> rexcfg
```

The config program is named differently in each operating system, so that Rex can be installed for many operating systems in the same directory.

OS/2 The config program for OS/2 is called `rexcfgp`.

Win The config program for Windows is called `rexcfgw`.

Linux The config program for Linux is called `rexcfgl`.

With the config program up and started, you should be presented with Rexcfg's main screen:

```
Internet Rex version 1.00 (Win95/WinNT 32-bit)
(C) Copyright 1997, 1998 Khan Software
```

Press F1 for help

```
General information
Rex's behaviour
Files, paths & programs
Address manager
Connecting to the net
Email setup
FTP setup
Connection defaults
Node manager
Queue editor
Logging options
Quit program
```

The Online Help System

Before getting into configuring parts of Rex, it's best to first get acquainted with Internet Rex's online help system. This system provides context sensitive help from anywhere within Rex to help you understand what each part of Rex does. You can access it at any time by hitting the **F1** function key.

If you enter the online help system at the main screen, you'll be presented with Rex's general help menu. As you read through the text there, you'll notice certain words are highlighted in different colours. One set of words is in blue on white, and others are in light

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blue. These are **help links**, a little like links in a web page. You can highlight different links using the left and right arrow keys, or by clicking on them with your mouse.

Linux Mouse support is not currently available in the Linux version of Rex.

If you click on the blue on white choice or hit enter while it's highlighted, you'll follow the link to a different help page, one that has information on the keywords in the link. For instance, if you let the help link sit on the words **enter** or **f1** at the top of the screen and hit the enter key, you'll go to the Help on help screen, explaining how to use the online help system. To go back to the main help screen, hit the **B** key to backup.

Larger help screens can be scrolled up and down using the up and down arrow keys. You can advance a whole page up or down using the page up and page down keys, or by clicking on the scroll bar at the right hand side of the screen.

Keys in the online help system

F1	Accesses the online help system from anywhere in the config program.
←, →	Change the current choice of help links.
↑, ↓	Scroll the current help page up or down one line.
PgUp, PgDn	Scroll the current help page up or down one screen.
Enter	Follows the current help link to its help screen.
B	Backs out of the current help screen.
I	Brings up an index of help topics.

Quick setup outline

To get Rex working for you as quickly as possible, there are just a few steps to go through to get everything configured:

1. Fill in general information about you and your BBS in the *General information* screen.
2. Configure how you want Rex to deal with netmail and processor performance in *Rex's behaviour*.
3. Tell Rex about the paths you've installed it to and the paths your mailer uses in *Files, paths and programs*.
4. Setup your system's netmail addresses in the *Address manager*.
5. Depending on what sort of transmission methods you'll be using, setup information about your email addresses in *Email setup* or about how you'd like FTP connections to work in *FTP setup*.
6. If you're using a dialup connection to the Internet, or a LAN connection under DOS, configure it in the *Connecting to the net* section.

Once those steps are taken, it's just a matter of adding in information about the nodes you'll be connecting to in the *Node manager* and you're set.

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General Information

The first choice in the menu after running Rexcfg is *General Information*. Choose this option, and you'll be presented with the following screen.

```
Internet Rex version 1.00 (Win95/WinNT 32-bit)
(C) Copyright 1997, 1998 Khan Software                Press F1 for help

[ ] General information

Sysop name
System name

User level                Beginner

Registration string
Registration key

This copy of Internet Rex is unregistered (2 nodes)

Quit program
```

The General information menu lets you enter general information about yourself into Rex. The user name field here will be used as part of the From: field when sending email messages and will help link your registration information to your name, so no one else can use your registration key. The system name identifies your BBS to Rex, again for use in email messages and in establishing BinkP sessions.

Because of the number of things that can be setup with Rex, there is a user level setting in this screen. Set this to your familiarity with Internet Rex by cycling through the different levels with the enter key. (Beginner is usually a good choice for someone just setting up Rex.) The more advanced the user level, the more options will be available for you to configure elsewhere in the program, the less Rex will try to configure itself. This provides you a bit more flexibility, but some of the options can cause unwanted results if not used carefully. When changing user levels, read the online help on new options to make sure you understand what they do.

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Rex's Behaviour

Internet Rex version 1.19 (Win95/WinNT 32-bit)
(C) Copyright 1997-1999 Khan Software
[] Rex configuration

Press F1 for help

Configure appearance	
Graphical tossing	Yes
With progress bar	Yes
Processor friendliness	Friendly
Kill empty netmail	No
Send crash/IMM mail	Yes
Send mail on hold	No
Send FREQs	No
Honour RRQs	No
Honour FREQs	No
RexFix processing	Disabled
Delete RexFix messages	n/a
TransX mode	Shuttle
Inbound file case	As sent
Swap to EMS/disk	Yes

This menu lets you configure the more program unique properties of Rex with respect to things like playing with the operating system and reading your outbound mail queue.

Operating system information

The operating system related choices are *Graphical tossing*, *With progress bar*, *Processor friendliness* and *Swap to EMS/disk*. *Graphical tossing* and *With progress bar* also setup how Rex will appear when it's actually run. *Graphical tossing* makes Rex use a more informative graphical representation of its actions when it's reading/writing inbound/outbound mail. Turning it off will reduce processor usage, but make things a little less interesting to watch while Rex is running. *With progress bar* can be turned on when graphical tossing is used: it makes Rex display progress bars while uploading and downloading files so you know how much is left to do. Again, this incurs a bit of a processor hit. Finally, *Processor friendliness* can be used to control even further how much processing time Rex takes. The more processor friendly you make Rex, the longer Rex will take to run, but the more time other programs will get to run while Rex is running. If you're running Rex at the same time as your BBS, giving more time to other programs will mean your users will notice less lag while Rex is running.

DOS DOS isn't a multitasking operating system (you can only run one program at a time). Because of that, the *Processor friendliness* setting won't have any effect on the running time of Rex in pure DOS, so feel free to set it to whatever level you like. This isn't the case if you're running the DOS version of Rex under a multitasking operating system (like in a DOS window under Windows, or in a window of DesqView).

The *Swap to EMS/disk* setting applies only to users of the DOS version of Rex. This controls whether Rex will swap itself out to EMS (or disk, if there isn't enough EMS memory) when running other programs. For most DOS users, setting this to "yes" will cause no problems, and will mean that the programs Rex tries to run (such as compressors/decompressors) will have a great deal more conventional memory to run with.

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On some systems, the EMS/disk swapping causes problems: if you later find that there are crashes while trying to run other programs in Rex, turn this setting off.

Mail processing information

The mail processing settings are *Kill empty netmail*, *Send crash/IMM mail*, *Send mail on hold*, *Send FREQs*, *Honour RRQs* and *Honour FREQs*. Because Rex doesn't act quite like a normal mailer, you can determine how Rex will act when it encounters certain types of messages.

Kill empty netmail applies to Rex's behaviour while reading outbound netmail folders. If you enable this, Rex will simply delete outbound messages to nodes in the Node manager if they are empty. A lot of messages fall into this category; they are usually created by mail tossers or inter-BBS door games, and are simply there to have the mailer send a file - the actual message doesn't need to be sent.

Send crash/IMM mail, *Send mail on hold* and *Send FREQs* tell Rex how to deal with crash or immediate mail, mail on hold and file requests. You may want to have your mailer send crash or immediate mail, or keep mail on hold for someone to poll and pick up. Sending the mail through Rex could confuse the situation. *Send FREQs* lets you choose whether or not you want Rex to send file request messages: some of the programs Rex can talk to can't handle or don't properly handle incoming file request messages, in which case it would be better to send these with your mailer.

Honour RRQs and *Honour FREQs* apply to inbound messages. RRQs are "return receipt request" messages, messages which ask the receiver to send a receipt confirming they've arrived properly. These are poorly supported in most mailers and not generally used: it is better to use Rex's native system of receipts to transfer messages than this method, but it is supported if absolutely necessary. *Honour FREQs* determines whether or not Rex will process inbound file request messages it receives. If you have an external file request processor, you should turn this off so that it can process the messages itself. Otherwise, Rex will handle the messages using its own internal file request processor. (Note that this doesn't apply to email FREQ messages which only Rex itself can process.)

Interacting with TransX

This menu includes one other option, *TransX mode*. This setting determines how Rex will deal with inbound/outbound TransX email. If you don't intend to transfer mail with a node using TransX, don't worry about this setting.

Internet Rex can work with TransX messages in two different ways: it can either act as a shuttle for them, uploading and downloading any messages it finds for or created by TransX (this is "shuttle" mode); or it can process the TransX messages itself (this is "compatible" mode).

If Rex is running in shuttle mode, you'll need a copy of TransX to process and create TransX messages. In this case, Rex replaces TXMailer in the setup for TransX. You'll have to tell Rex a bit about your TransX setup for this setting to work: this extra information should be entered into the *Files, paths and programs* → *TransX setup* menu after you've configured TransX.

If you decide to run Rex in compatible mode, it can read and write messages similar to those created by TransX 1.5 (and compatible with TransX up to 3.0 at this time). "TransX

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compatible” will be a transport type available for nodes whose outbound mail is to go out over email. This lets you talk to sites using TransX without having to own/register TransX yourself.

Files, Paths and Programs

This menu is where you configure how Rex interacts with various other programs and where Rex should be looking for files and mail on your hard drive. There are two parts of it which need to be configured to get Rex up and running: *Internet Rex files and paths* and *Frontend mailer setup*. Remaining options will be explained in the Getting to know Rex section of this manual.

Linux Linux users who are using Rex in combination with programs running in a DOSemu window (i.e. who are creating stuff with DOS style drives) should also setup drive to directory maps in the *Drive mappings* → *Map drives to directories (Linux)* (see the section on drive and directory mapping on page 46). This will let the Linux version of Rex figure out where to find files referenced with a DOS filename.

Internet Rex files and paths

Internet Rex version 1.00 (Win95/WinNT 32-bit)
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Press F1 for help

[] Internet Rex files and paths

Log filename

Temp. files directory

Queue directory

Holding directory

Semaphore directory

Received mail semaphore

TransX mail semaphore

Run BETWEEN.BAT/.CMD No

Rex uses a number of different files and paths while it's running to keep track of mail sent, create temporary files and process inbound mail. These are all configured at this menu.

☞ All the files and paths you specify in this menu should be full file and path names. That is, they should begin with a drive letter (for DOS, OS/2 or Windows users) or / character (for Linux users). C:\irex and c:\irex\irex.log are full paths; \irex, .., and .\irex are not. If you'd like files to be accessible in the same place on many drives, you should take a look at the drive mapping feature of Rex (see page 46 for more information).

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The *Log filename* tells Rex where to store logging information while it's running. These logs will show information about what files have been transferred, possible configuration problems and so on. The *Temporary files directory* is where Rex will create any temporary files it might need to while running; if possible, this directory should be on a RAM disk to speed up processing. Rex uses the *Queue directory* to store files that haven't been sent yet and to hold on to files that have been sent in case people request resends later on. It also stores information about what files have been received here. The total size of files in here can get quite large if you're sending mail to a number of different nodes. Finally, the *Holding directory* is where Rex creates larger temporary files and where it stores partially completed FTP downloads. You must specify each of these directories or files in order for Rex to work properly.

The remaining options are covered later on as they aren't usually needed immediately.

Frontend mailer setup

Internet Rex version 1.19 (Win95/WinNT 32-bit)
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Press F1 for help

[] Front end mailer setup

Mailer type	FrontDoor (up to 2.20) and compatible
Netmail directory	k:\mail\netmail\
Type of .MSGs	Opus 1.02
Save inbound mail in .MSGs	
Nodelist directory	k:\mail\nodelist\
Inbound directory	k:\inbound\
Secure inbound	k:\inbound\
Semaphore directory	k:\mail\sems\
Configure multinode	

Here is where you configure Rex's interaction with your frontend mailer system. Rex supports a number of different mailers natively, so the appearance of the menu choices here may vary quite a bit, depending on what mailer you choose in *Mailer type*. Choose the mailer type that most closely matches your system; the most common mailers are listed already. Users of Xenia, Argus and McMail should choose Binkley compatible as their mailer type. If your mailer isn't listed by name and doesn't fall into one of the "compatible" categories, try the *.PKT mailer format. Despite the different ways many mailers work, the first few fields to setup are the same for all of them.

Many mailers and most interBBS door games require the presence of a netmail directory where Fido style *.MSG files are created. You should specify the full path to this directory on your system in *Netmail directory*. If you know what sort of *.MSG files your mailer creates, you may want to set the *Type of .MSGs* field: otherwise, just leave this as "Opus 1.02". Finally, you can control what format Rex will use to save inbound messages for you in the *Save inbound mail in* field. On most BBSs it will be possible to import or directly read netmail

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saved to *.MSG files, and this is the default value for this field. If your board doesn't support this format directly, you may instead want to save the messages in a .PKT for your mail tosser to import into the BBS; four different types of .PKTs are supported - "Type 2+" is recommended for most setups as it's the most widely used.

The next field, *Nodelist directory*, is optional. If your mailer uses a FrontDoor, Intermail, V7+, BBBS or SGMail style compiled nodelist, Rex can use the nodelist to automatically configure nodes that have IP flags in their entries. Set this to the full path to your nodelist index. (For FrontDoor or Intermail style nodelists, this should be the path to your nodelist.fdx file; for V7+ nodelists, nodex.ndx; for SGMail nodelists, nodelist.sg; and for BBBS nodelists, nodelist.idx.)

For most of the mailers listed, the next two fields are *Inbound directory* and *Secure inbound*. These fields should point to the paths your mailer uses to store files from regular and secure connections. (The *Secure inbound* field is only required if it's different from the *Inbound directory*.) The field after that is usually *Semaphore directory*. This field is only required if you run a multinode system or if Rex will be running at the same time as your mailer. It should point to the directory where your mailer reads and writes semaphores: if your mailer doesn't have a specific directory for this, it's usually the directory where the mailer was installed.

Configuring Binkley and compatible mailers and Portal of Power

Binkley systems and Portal of Power have an additional field to fill in, namely the mailer's *Outbound directory*. This should be the root of your mailer's default outbound directory: be careful not to add in zone information at the end of it. It should be something like c:\binkley\outbound, not c:\binkley\outbound.001.

If you're using a Binkley compatible mailer with multiple outbound domains (e.g. your mailer has not only the standard c:\binkley\outbound directory, but also something like c:\binkley\mynet.033), you should configure the additional domain directories in the Address manager later on. Don't add them here.

Configuring D'Bridge

The additional field for D'Bridge is the path to D'Bridge's *Outbound queue*. Rex will look in this directory for C, I, N, H and Q style queue files.

Configuring T-Mail

Internet Rex supports some of T-Mail's advanced features like filebox directories. If you are using these, you can enter the *Filebox directory* here and Rex will search it for outbound files for the nodes in its node manager. You'll need to specify what sort of filebox directories are in place: long fileboxes look like "H.1.342.806.0" and are only available on file systems that support long filenames. Short fileboxes look something like "0101S253.00H" and are useable on all filesystems. Set *Long fileboxes* to "yes" if your system is using the long filebox type, "no" if it's using short fileboxes.

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T-Mail can run in either FrontDoor compatibility mode or Binkley compatibility mode. If you're using T-Mail in Binkley mode, you'll have to setup the *Binkley outbound* outbound directory. Read the section on *Configuring Binkley and compatible mailers and Portal of Power* for more information on filling this field in.

Configuring AdeptX

AdeptX has an *Outbound directory*, something like Binkley. Set this field to the full path to AdeptX's outbound directory.

Configuring ViaMail

Setup of ViaMail proceeds a little differently than most mailers. Rex doesn't support a semaphore directory for ViaMail, as ViaMail should do all the mail processing itself - there are no concurrency issues with ViaMail.

In order to use ViaMail with Rex, you'll have to setup outbound mailbox directories for each of the nodes you want to send mail to. To do this, add each node into ViaMail's node manager first. Then, under the *Output format/mode* in ViaMail, select "Raw PKT/Alt path" or "Compressed PKT/Alt path" and choose a directory for "Alternate mail path". Note the "Alternate mail path" you choose for each node, and when configuring that node in Rex's node manager later on, put that directory in the *Mailbox directory* field for that node. That will tell Rex where to go to find outbound mail for that node.

It's important that you allow ViaMail to export the mail for each node and not have other programs do this for you. Otherwise, the messages for those nodes will accumulate in ViaMail's outbound queue and will have to be purged manually.

Configuring KBBS

KBBS's outbound is quite similar to Binkley's, except it has a *Zones directory* to configure instead of an outbound directory. You should set this to the directory where KBBS has the zone* directories for its outbound. For instance, if mail for zone one were in c:\kbbs\outbound\zone1, you would set this to c:\kbbs\outbound.

Configuring PCBoard

Rex requires that you be using PCBoard version 15.22 or higher in order to work correctly. PCBoard stores parts of its outbound in an index file called FIDOQUE.DAT. You'll need to specify the path to this file in *FIDOQUE.DAT path*; usually this is just the directory where you installed PCBoard.

Configuring Platinum Xpress

Platinum Xpress's setup is quite different from most mailers. Since Platinum Xpress doesn't support a different inbound for secure and insecure connections, but does have different inbounds for files, mail and .TIC files, the *Inbound directory* and *Secure inbound* fields have been replaced with *Inbound files directory*, *Inbound mail directory*, and *Inbound*

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.TIC directory. Set these to the directories you have setup in Platinum Xpress to receive inbound files, mail and .TICs. (If your mail or .TIC directories are the same as your file directory, you can leave those fields blank.)

Instead of a semaphore directory, Rex communicates with Platinum Xpress by means of locks on its .DAT files. It also looks through Platinum Xpress's outbound mail and file queues for data destined for systems in the Rex's node manager. For that reason, it needs the path to PX's *.DAT files. These should be in PX's *System directory*, usually something like `c:\px\system`. This directory should contain the file PXOBMAIL.DAT and either PXOBFIL.DAT or PXATTACH.DAT, depending on whether you're using the DOS or Windows versions of Platinum Xpress.

Internet Rex also needs the directories where Platinum Xpress stores outbound .PKTs and arcmail bundles. These should be entered into the *Packet path* and *Arcmail path* respectively. (Often these two are the same, usually `c:\px\outbound`.)

Finally, Rex needs to know what version of Platinum Xpress it is working with, the DOS or the Windows version. Note that although Rex can talk to the DOS version of Platinum Xpress under any operating system, you must use the Windows version of Rex with the Windows version of Platinum Xpress.

Because Platinum Xpress's system of storing mail is closely linked with Wildcat, there are a few things that need to be done before running Rex to get mail correctly exported from Platinum Xpress. In order to get netmail out of the Wildcat message base and into Rex, you must use the PXNet program included with Platinum Xpress. Before running Rex, you must run `pxnet /scan`, and then `pxnet /pack <address>` for each address you want to export netmail to. After this, you must run `pxnet /sent <address>` to mark the mail as sent. So a sample batch file for running Platinum Xpress with Rex might look something like this:

```
cd c:\px
pxnet /scan
pxnet /pack 1:234/567
pxnet /sent 1:234/567
pxnet /pack 2:345/678
pxnet /sent 2:345/678
cd c:\irex
rex.exe
```

This would pack any outbound netmail to 1:234/567 and 2:345/678 into .PKTs which Rex would then pickup from the *Packet path*.

☞ Note that netmail exported by PXNet does not currently correctly export file attaches. This means Rex will not be able to find any files attached to netmail exported by PXNet. If you want to send a specific file to someone, you can do so by either creating a file attach netmail in the *.MSG netmail directory, which Rex can read correctly; by creating a mailbox directory for the node you want to send files to, putting the files in that directory then adding the mailbox directory to the node's entry in Rex's node manager; or by using `pxqedit` to add a file to Platinum Xpress's outbound file queue (choose *Edit file queue* while in `pxqedit` to do this).

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Configuring FrontDoor 2.25+

FrontDoor versions higher than 2.25 support an advanced mail queue called the static queue. Internet Rex can read this queue and send out files from it accordingly. If you are using this feature of FrontDoor 2.25+, specify the path to the queue file (`filqueue.fd`) in the *FILQUEUE.FD path* field. Usually this is the same directory you installed FrontDoor to.

Configuring QFront

Like PCBoard, QFront uses a queue file as part of its outbound structure. Rex needs the path to this file specified in *QUEUE.DAT path*. Rex also needs the directory where QFront builds outbound arcmail bundles (e.g. *.SU0, *.MO1, etc.) specified in the *Arcmail path*.

*Configuring *.PKT mailers*

If your mailer doesn't fall into any of the other mailer categories in Rex's *Mailer type* field, you may still be able to use Internet Rex with your mailer. To setup your mailer as a *.PKT mailer, it must be creating or be able to create outbound mail in the form of *.PKT bundles. Rex then requires the path to these bundles to be specified in the *Packet path*. If you find that Rex is giving error messages saying that it is unable to locate file attaches, you may also need to specify a *Default path*. This should be the path where the missing file attaches were located; usually this is the mailer's outbound directory, or the directory where it creates arcmail bundles. (What is happening is the mailer is exporting file attach messages without a full path to the files so Rex can't locate the files to send.)

Address manager

Before sending any mail, Rex needs to know a bit about the netmail addresses your BBS is using and the various zones and domains they're in; these are all configured in the *Address manager* off the main menu.

System addresses

In this screen you setup your BBS's netmail addresses. Enter your board's main address in the *Main address* and any secondary addresses in the *System AKAs* list. You can enter up to 100 secondary addresses.

It is important that you enter the right main address. The zone of your main address will be used when there is nothing present to indicate a zone otherwise. (This can happen with some netmail messages, and will be used as the zone of the default outbound directory in Binkley style outbounds.)

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Zone matching

This screen helps Rex determine what address to use for which zone. For each zone you think you're likely to send or receive mail, enter an address for Rex to use. For example, if you were a member of Fidonet, you'd enter your Fido address for use with zones 1 through 6.

Domains

Internet Rex fully supports 5D addressing in mailers which understand it. For the moment, this doesn't cover a lot of mailers (AdeptX is the only truly 5D mailer available currently): if your mailer doesn't seem to support domains, it's best to leave this alone. Otherwise, this screen is used to enter the domains to use with various zones. For instance, Fidonet's domain is "fidonet" and its zones are 1 through 6, so an entry should be made for each of the six zones giving the domain as "fidonet".

BinkleyTerm users can also use this screen to enter additional outbound directories. For instance, if your outbound included `c:\binkley\mynet.033`, you would enter zone 51 and domain mynet (remember that the zone extensions in Binkley use hexadecimal numbers). If you don't want to figure out the right zone for your net, you can also specify the zone as 0 and let Rex figure it out for itself.

Email and FTP setup

If you plan on connecting to nodes using email or FTP, you need to tell Rex a bit about what email addresses you use or how you want to use Rex's FTP capabilities.

FTP setup

Setting up FTP for use with Rex is pretty easy: most users won't need to change any of the settings, but just in case, help for them is provided here. Configuring Rex's part in FTP connections is done under the *FTP setup* menu.

Passive mode controls how Rex will try to download files from FTP sites. Most of the time, Rex is smart enough to be able to figure what this setting needs to be for each connection it tries and will set it accordingly for each site it connects to. However, if you know for certain that your machine is behind a firewall or proxy, or is not normally directly reachable from the internet, then you'll find that Rex is setting passive mode on for each connection it makes. This requires a little extra negotiation at start-up: in order to have Rex skip this, you can just turn on passive mode to start off with and Rex will try that type of connection first. The only disadvantage of this is that some FTP sites may not support passive mode: although these are few and far between these days, there are still a few out there.

The *Lock timeout* setting controls how long Rex will wait for FTP locks to clear. If you setup a connection to use locking (see the section on setting up toss to/from directory connections or toss to/from FTP sites for more details on this), you'll generally want Rex to give up on locks after a certain period of time: this lets you specify how long that period of time will be. You can disable this feature entirely by setting the timeout to 0 minutes: for most people, a setting of 5 minutes will work fine.

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Finally, there is the *FTP restarts* setting: this lets Rex try to resume downloads that might have been aborted in previous connections to an FTP site. With this setting on, download times from FTP sites can drop because Rex only has to download part of aborted downloads, not the whole file. This setting can also result in more hard drive usage, as Rex has to store the partially completed downloads on the hard drive while it's waiting for the next download attempt.

Email setup

Because this is one of the most common ways of transferring files and is available to almost everyone with a connection to the net, Rex's set of features for email support is quite rich, and rather detailed. Don't worry if many of the options presented here don't apply to you.

To start, Rex needs to know what *Time zone* you're in: enter this as the difference between your time and GMT. For instance, Mountain standard time is GMT-7 hours, so "-7:00" would be entered. The other choice here is to *Configure your email addresses*. Choose this and you'll be presented with a list of the email addresses you've setup in Rex: at this point, that list will be blank. Hit the `insert` key to add a new entry and you'll get this screen:

```
Internet Rex version 1.00 (Win95/WinNT 32-bit)
(C) Copyright 1997, 1998 Khan Software                               Press F1 for help

[ ] Mail configuration

Address ID

User name
Domain name

Mail spool type      Connect to SMTP/POP3 host
Configure

Messages downloaded  Matching messages only
```

This is where you configure the email address Rex will be using to send your mail. Addresses you enter here should belong to you: don't enter the email addresses of the people you're sending mail to here! (That's done when you go to enter them into the node manager.) Rex uses the information here to get mail from your servers and identify mail that it sends as coming from you.

You can use any email address you own with Rex: provided the information you enter in the node manager correctly identifies the mail you want to download, Rex will not touch other messages in your mailbox unless you specifically tell it to. For the moment, let's say that the email address you want to add to Rex is `rex@somewhere.com`.

The first thing you're asked to enter, *Address ID*, is just an ID that you'll be giving your email address so you can identify it elsewhere in Rex. Most of the time, the address itself will

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do, though if you have multiple entries for the same address, you may want to give a little extra information to identify each one.

Email addresses can be broken down into a username and a domain name: the break happens at the @ sign. For the address we're using now, that means that the username is `rex` and the domain name is `somewhere.com`. Enter these values into the *User name* and *Domain name* fields.

To control how Rex will be using your mailbox, you have to set the *Use for inbound mail*, *Use for outbound mail* and *Messages downloaded* fields. The first two fields mean what they say: setting each to either yes or no will control whether Rex will allow you to use this mailbox for inbound or outbound mail elsewhere in the configuration program. If you set this email address so that *Use for inbound mail* is "no", Rex won't check this address for inbound mail, ever. The *Messages downloaded* field controls what messages Rex will download from your mailbox. Setting it to "Matching messages only" means that it will only download messages which fit the matching rules you setup for nodes in the node manager, leaving all other messages in the mailbox for you to deal with later. This will fit the needs of most people. If you think you'll be using this email address to receive mail through Rex from people that you might not have listed in the node manager, you can have Rex download mail from certain programs (other internet transport programs such as Fido2Int, TransX and Internet Rex are listed as options). You can also have Rex download all the messages in your mailbox by setting *Messages downloaded* to "All messages". When running in this mode, Rex will download and decode what messages it can identify; any messages that are left over, it will post to your netmail area for you to deal with later.

The last setting to be configured is the most complex: the *Mail spool type*. There are a lot of different programs available for transferring mail to and from the internet, and Rex can talk to a large number of these, or alternatively, it can talk directly with the servers providing the mail service in the first place. Choose the mail spool type which best fits your way of sending mail. If you're not sure which method applies to you, check with the people providing your email address and they should be able to tell you the information you need. Most people will find they can use "Connect to POP3/SMTP host" setting.

Configuring a POP3/SMTP connection

If you use a POP3/SMTP server to transfer your mail, your provider should already have given you the machine names or IP addresses of the POP3 and SMTP servers you should be using: enter these into the *POP3 server* and *SMTP server* fields. If you have only one server listed for mail service, enter it into both fields.

To pick up mail, Rex also needs your *POP3 username* and *POP3 password*. Most of the time, the username will be the one in your email address. (For our example so far, that would mean the POP3 username would be "rex".) The POP3 password is the password you use to pick up your mail: your email provider should be able to give this to you if you don't know it.

The last setting you may need to set is whether to *Use APOP* to login or not. APOP logins are a more advanced login sequence which send a special code to login to the POP3 server instead of sending your username and password across the internet "in the clear": this keeps people who might be watching your connection from seeing your email password and getting hold of your mail. Not all POP3 servers support this login; not all POP3 servers

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support the standard username/password login either. Rex will try to guess the right method to use when logging in, but may not always be successful. If you find Rex giving errors while trying to log in to your mail server and you're sure your password is correct, try switching this setting.

The remaining settings in this menu are values you may want to tune after having run Rex for a while. If you find you are receiving so much mail for Rex that new messages appear between the time you start downloading mail and the time Rex is done downloading it, you should set *Refetch mail* to "yes". This will tell Rex to log back in to your mail server to check for new messages after it's done downloading the ones already there. The second field, *POP3 timelimit*, is also related to having a lot of mail to download. If your connection to the internet is time limited (i.e. you can only connect for 10 minutes at a time before you're disconnected by your provider), and it often takes longer than that for Rex to download all your mail, you should set *POP3 timelimit* to "yes" and enter a timelimit a little less than the one for your connection to the net in the *Synch every* field. This will tell Rex to log out of your mail server after the time in *Synch every* has passed and log back in again if it hasn't finished downloading all the mail. The reason for doing this is that if a connection to a mail server is dropped while Rex is picking up mail, the messages Rex told it to delete won't be deleted, and Rex will end up downloading them again the next time it connects.

Configuring a UUCP connection

For a UUCP connection, Rex needs you to specify the full path to your UUCP spool in *UUCP path*, the site name for your machine in *Site name* and your host's host name in *Host name*. You can find the site name and host name for your setup in the domain your machine has for email addresses. For instance, if you had the rex.somewhere.com domain, your site name would likely be "rex" and your host name would be "somewhere.com". You'll also have to tell Rex what sort of UUCP program you're using to transfer your mail by setting the *Spool type* field. Most DOS / OS/2 / Windows UUCP transfer programs use either the "UUCICO DOS filename" or "UUCICO DOS filename (no bitmask)" spools, whereas UNIX UUCP programs will likely use the "UNIX long filenames" spool type. At present, Rex doesn't support the UUPC spool type.

You can also configure the grade of mail Rex will generate by setting the *UUCP grade* field.

Configuring a connection with a Fido to Internet gateway

Rex supports two types of Fido to internet gateway connections: one where messages have to be sent individually (set *Mail spool type* to "Gateway") and one where messages can be put into a .PKT by Rex (set *Mail spool type* to "Gateway with packets"). In either connection, Rex requires that you give your *Gateway's address*: this should be the Fido style address to send internet messages to. The flags the messages are sent with can be set in the *Message flags* field: you can scroll through these choices to set any combination of "Kill/sent", "Direct" or "Crash". Finally, because internet addresses don't always fit in the To: line of standard Fido messages, most gateways support two types of addressing: standard and UUCP style addressing. Standard addressing tries to fit the email address of the person you're

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sending mail to in the To: line of the message. If it doesn't fit, it resorts to UUCP style addressing, where the To: line just contains "UUCP" and Rex adds a line to the top of the message which says "To: *email@address*". Turning on UUCP addressing uses this style all the time: leaving it off will try the standard addressing first.

If you can send packets to your gateway and you chose "Gateway with packets" as the *Mail spool type*, there are a few extra fields to set. The *Packet path* is the drive and directory where Rex should create the packets. The *Packet password* is the packet password you might have setup with your gateway; if there isn't one, just leave this blank. Finally, the *Packet type* controls what sort of packet to create: "Type 2+" should work fine for most gateways.

Configuring KA9Q style SMTP spools

This type of mail spool only needs two bits of information: the directory where your inbound mail is saved (*SMTP inbound path*) and the directory where outbound mail should be written (*SMTP outbound path*). Both directories should contain *.TXT and *.WRK files.

Configuring Soup/Yarn mail spools

Soup or Yarn compatible mail spools store all the inbound and outbound mail in one directory. You should specify this directory in the *Queue path* field. This directory should contain a file called AREAS for Rex to read.

Configuring Rex to work with PMMail

Rex can use the email program PMMail to send and receive messages by reading and writing them straight from its mailboxes. The *PMMail inbound* field should be the directory where inbound messages for the email account you chose are stored. Similarly, the *PMMail outbound* is the directory where outbound messages are. Both these directories are usually subdirectories off the directory where you installed PMMail.

☞ You should be sure not to run Rex at the same time as you are running PMMail, or the mail queues may become corrupt. (This can be fixed by having PMMail rebuild them, but it should be avoided in the first place.)

Configuring Rex to work with the Postroad mailer

To use the Postroad mailer in conjunction with Rex to send and receive email, all you need to do is give the *Queue path* for your email address. Usually this is a subdirectory of your Postroad install path based on your email address's username. For instance, if your email address was cruden@cs.ualberta.ca, and you installed Postroad mailer to c:\Postroad, the queue path would likely be c:\Postroad\cruden.

Configuring Rex to work with MR/2 Ice

To work with MR/2 Ice, all Rex needs is for you to enter the path to the directory where MR/2 Ice stores mail in the *Queue path* field. Usually this path is the mail subdirectory of your

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MR/2 Ice install directory. For instance, if you had installed MR/2 Ice to c:\mr2i, the queue path would be c:\mr2i\mail.

☞ You should be sure not to run Rex at the same time as you are running MR/2 Ice, or the mail queues may become corrupt. (This can be fixed by having MR/2 Ice rebuild them, but it should be avoided in the first place.)

Configuring Rex to work with Eudora

Rex can read and write to Eudora's mailbox files so it sends and receives mail for Rex. To do this, the *Queue path* needs to be set to the directory where Eudora keeps its inbound and outbound mailboxes; the directory should contain the files IN.TOC and OUT.TOC.

☞ You should be sure not to run Rex at the same time as you are running Eudora, or the mail queues may become corrupt. (This can be fixed by having Eudora rebuild them, but it should be avoided in the first place.)

Configuring Rex to work with Nettamer

To read and write Nettamer's mail queue, all Rex needs is the path to the directory where you installed Nettamer, specified in *Queue path*.

Connecting to the net

With the basic information about your system now entered into Internet Rex, configuration is almost complete. If you intend to use Internet Rex over a dialup connection to the internet, then you'll need to configure that connection in the *Connecting to the net* screen. This is only necessary if:

- you intend to transfer mail by connecting to an FTP or BinkP server
- you intend to transfer mail over email and you want Rex to talk directly to an SMTP or POP3 server
- you are using a dialup connection to the internet or you are using the DOS version of Internet Rex

If you use an external program to transfer mail (such as UUCICO for a UUCP connection, KA9Q, Soup/Yarn or even commercial mail programs like Eudora, PMMail or MR/2 Ice), these have their own built-in methods of connecting to the net. Similarly, if you're just going to run Rex to move files for an FTP server, you don't actually need to be connected to the net. Finally, if your connection to the internet is over a local area network (LAN), you should set that up under the operating system itself: Rex will be able to hook into that directly without any need for configuration. (This isn't true of DOS, where TCP/IP connections are tacked onto the operating system.) However, most people's connection to the internet run over a dialup connection, and most will fall into one of the two categories listed above.

Each operating system Rex runs under has a different way of setting up connections to the internet.

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Connecting to the net under Linux

Internet Rex for Linux assumes that you'll have a batch file available to connect you to the net automatically. When you set *Use dialup networking* to "yes", Rex will call the batch file `dial` to setup a connection to the internet. When the batch file returns, Rex will check its semaphore directory (*Files, paths and programs* → *Internet Rex files and paths* → *Semaphore directory*) for the existence of the file `noconn`. If that file is there, Rex will proceed assuming it now has a connection to the net: otherwise, it will assume the connection failed and won't try to contact any internet sites.

If the connection was successful, Rex will call the batch file `hangup` when it's done to terminate the connection to the net.

Connecting to the net under DOS

Connecting to the internet under DOS has two categories of information to setup, one for standard network information, and an additional category of information for those using dialup connections. If your connection to the net is over a LAN, skip the dialup configuration section.

Configuring dialup information

Internet Rex for DOS includes everything you'll need to establish a connection to the net over a dialup link using PPP. Setting this up requires filling in information about your modem and the logging at your provider's end, and then writing a connection script to start everything up.

The first part is configuring the modem for use with Rex. Fill in your modem's *Init string* and tell Rex what *COM port* to use. Rex will fill in the modem's *Address* and *IRQ* from the COM port information you give it; if you're using a non-standard modem address or IRQ, you should change the values Rex fills in so they're correct. You should also specify the *Baud* rate your computer talks to your modem at.

☞ Note that the *Baud* field doesn't refer to the top speed your modem runs at (e.g. 28800, 33600 or 57600), but rather the speed at which your computer talks to your modem. (Users of a FOSSIL driver will recognise this as the locked baud rate.) Usually this is 38400 or 57600: Rex can accept values as high as 115200 for this value.

Then fill in the *Login name* and *Password* you use to connect to your internet provider, and the *Phone number* to dial to connect to them. Finally, give the number of times to retry the connection if the provider is busy in *Retries*: zero means keep trying until connected.

With the information you've given, Rex will create a sample script called `rex.scr` for use with the Rexdial dialler, a configuration file for the PPP driver called `pppd.cfg`, and a batch file called `dial.bat` to run everything. You should read the documentation provided for Rexdial (in `rex dial.doc`) and tune the script Rex created so that it logs on to your provider correctly. You will also need to configure the network information for your connection to the internet.

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Configuring network information

DOS generally doesn't provide many ways for finding out information about the network connection to the internet, so you may have to specify some of the information here. Your internet provider should be able to supply you with the values for these fields if you're not sure what they are. If your packet driver supports the BootP protocol for auto-configuring network connections, you can just enable that by setting *Use bootp* to "yes" and skip the rest of the setup.

The *IP address* field should contain the internet address of your machine. Many dialup connections and some network connections provide different internet addresses each time the machine connects to the internet: if this is the case with your connection, enter "0.0.0.0" as your internet address. This will tell Rex to try to figure out what the internet address is each time it is run.

The *Network mask* field tells Rex how large a network you're running on. For most connections this will be "255.255.255.0". Your provider should have supplied you with the netmask for your connection.

To translate internet machine names like ftp.somewhere.com to an IP address which machines can understand, internet programs must connect to a name server. You can specify the address of up to two name servers for Rex to use: you must give at least one.

Because connections to the internet aren't always reliable or particularly fast, Rex needs timeout values to let it know when to finally give up on dropped connections. The *Socket timeout* tells Rex how long to wait to establish a connection to a site before deciding the site isn't responding. The *Data timeout* tells Rex how long to wait for data to come down the line when it's expecting it, before deciding the site has stopped responding. Values of 60 seconds for socket timeout and 90 seconds for data timeout are reasonable for most connections. If you're having problems with timeouts occurring frequently, you may want to try increasing these values. You can also adjust Rex's network speed settings by setting the *MSS* setting. For ethernet connections, a larger MSS (around 1400) will provide more efficient transfers. For slow connections like modems, a smaller MSS (around 256) lets the connection deal better with overruns that are common coming from a fast connection to the slow modem.

Connecting to the net under Windows 95/98/NT

Windows fortunately provides built in dialup networking software for connecting your computer to the net, and Rex can take full advantage of that, down to running scripts, dialling and hanging up.

The first field in this screen is the *Socket timeout*, and this applies to both dialup and network connections. This controls how long Rex will wait for data to appear over a connection before deciding that the connection has been cut. The default value of 60 seconds should do for most systems, but if you're having problems with timeouts you can try increasing it.

The next field, *Dialup networking*, either turns on or turns off Rex's use of Windows's dialup networking feature. If you have a connection to the net over a LAN, leave this off and Rex will use that connection. If you want Rex to use one of the connections you've defined in

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Windows's dialup networking setup, turn this on. The remaining fields apply only to dialup connections.

You can control whether Rex should automatically try to dial out or hang-up connections using the *Auto-dial* and *Auto-hangup* fields. When Rex is set to auto-dial, if a connection to the net hasn't been established using the connection you specify in *Connection*, Rex will start dialling your provider and invoking whatever scripts are needed to get connected. It will dial as many times as you specify in the *Redials* field before giving up. Once Rex is done, if you've turned on auto-hangup, Rex will hang up the phone and stop the connection, assuming it's the only program left using it.

Besides specifying the connection to use, you can also tell Rex what *Login name* and *Password* to use when calling your provider by filling in the appropriate fields. Finally, the *Inactivity timeout* field can be used to specify the inactivity timeout for your connection. Many providers have timeouts, where if no data is sent for a certain amount of time the connection is automatically dropped. Since Rex may spend some time doing online processing, you can set Rex up to send data over the line every few seconds to prevent your provider from dropping the connection. How often this data is sent is specified here: if you don't want to use this feature, just set the timeout to 0 seconds.

Almost all of the options presented in this menu can also be controlled from the command line. See the section on command line parameters in Running Rex for more information on this.

Connecting to the net in OS/2

Installing an automatic dialup connection to the net in OS/2 is quite similar to the procedure for connecting to the net in DOS automatically. Although there are a number of excellent OS/2 programs for automatically dialling and connecting to an internet provider (InJoy in particular is recommended for this purpose), Rex does also include its own scriptable dialler which can be used along with the PPP.EXE and SLIP.EXE programs included with OS/2's connection packages to provide a reasonably good automatic connection to the net.

In order to do this, Rex needs a bit of information about your modem and the way you'll be connecting to the net, namely your modem's COM port, the init string to use to initialise it and the baud rate to talk to it at. You can enter these in the *COM port*, *Init string* and *Baud rate* fields.

☞ Note that the *Baud rate* field doesn't refer to the top speed your modem runs at (e.g. 28800, 33600 or 57600), but rather the speed with which your computer talks to your modem. (Users of a FOSSIL driver will recognise this as the locked baud rate.) Usually this is 38400 or 57600; the highest value Rex will accept for this field is 57600. (This is a limitation of the COM drivers included with OS/2.)

The *Redials* and *Phone number* fields tell Rex what number to call to establish the internet connection and how many times to retry dialling in case there isn't a connect on the first try. Once connected, the *Username* and *Password* fields are used to create a rough script that will be used to log in. The actual script generated may not work with your particular login sequence: you should examine the script that Rex creates (in *rex.scr*) and modify it to suit your needs. (Refer to the documentation on RexdialP included with Rex for help with configuring the dialler.)

Getting started

All this information is combined into a batch file that calls the dialler first, then one of OS/2's connection establishment programs (either SLIP.EXE or PPP.EXE), then Rex. Which establishment program is called is determined by the *SLIP or PPP* setting. (Note that setting this to "SLIP" will require you to specify your machine's IP address and your uplink's address in the *Your IP address* and *Provider's IP address* fields.) When you set *Use dialup networking* to "yes", Rex will call this batch file (`dial.cmd`) to connect to the net. After running the batch file, Rex checks its semaphore directory (*Files, paths and programs* → *Internet Rex files and paths* → *Semaphore directory*) for the existence of the file `noconn`. If that file is there, it assumes the batch file couldn't establish a connection to the net: otherwise, it proceeds as usual. When it's done, Rex runs the batch file `hangup.cmd` to shut down the connection and hang up the phone.

Two additional settings at the top of the menu, *Inactivity timeout* and *Socket timeout*, provide you with some extra control over the connection once it's been established. Some providers have built in timeouts for the connections they support: if no data is sent for a certain amount of time, the link is dropped. You can get around this happening while Rex is running using the *Inactivity timeout* field: setting this to 60 seconds, for instance, would tell Rex to send data over the modem every 60 seconds, regardless of what it's doing.

The *Socket timeout* setting lets you control how long Rex will wait for data to be sent from remote sites. If Rex is waiting for data and it waits longer than the time you specify here, it will decide that the remote site has been disconnected somehow and will try again later. If you have problems with frequent timeouts like this, you can sometimes fix them by raising the socket timeout.

Setting up a node

The main reason for Internet Rex's existence is to send your BBS mail out over the net for your connections to receive. As such, the *Node manager* is probably the most important menu in Rex's setup program; it's here you add or remove connections telling Rex who to send mail to and how.

After selecting *Node manager* from the main menu for the first time, you'll be presented with a blank menu where connections are normally listed. Hit the `insert` key to add a new connection and you'll be presented with this menu.

```
Internet Rex version 1.00 (Win95/WinNT 32-bit)
(C) Copyright 1997, 1998 Khan Software
[ ] Node information
                                     Press F1 for help

System address
Sysop's name
Routing information
Use AKA                               Use zone matching

Node active                          Yes
Outbound messages                    Don't toss outbound

Inbound messages                     Don't toss inbound

File bundling
Connection information
Node's statistics
```

The first few fields are what you'd expect: the *System address* should be the netmail address of the system you want Rex to send mail to (e.g. 1:342/806). Similarly, the *Sysop's name* field is the name of the sysop running that system, and the *Use AKA* field should be set to the address you want to use when sending mail to that system. The default value for this field, "Use zone matching", tells Rex to use the information you setup in the *Zone matching* menu to select the appropriate address. (If Rex doesn't find anything appropriate there, it will use the first address it finds whose zone number matches the zone of the node you're setting up; if it doesn't find a match there, it will just use your main address).

The *Routing information* menu can be used to have Rex route mail to other systems through this one. You do this by giving wildcards for the systems Rex should be routing through this one; some sample routing statements might look like:

```
169:*           Route any mail to nodes in zone 169 through this node.
13:1313/*       Route any mail in net 13:1313 through this node.
1:420/1??       Route any mail to hub 1:420/100 through this node.
```

You can also modify particular wildcards by adding exclusion wildcards afterwards. These wildcards start with an X and tell Rex *not* to route mail for those nodes through this one. For example:

```
169:*           Route any mail to nodes in zone 169 through this node, except
X169:4100/*      the nodes in net 169:4100.
```

With these basic fields setup, Rex now knows what mail to send to this node: the next step is telling it how to send that mail.

Setting up a node

A number of different ways for sending BBS mail over the internet have evolved in the short time the net has been around. Rex supports four different methods for doing this right now: connecting to a BinkP server, uploading and downloading files from an FTP server, moving files to directories on your own FTP server and sending and receiving messages through email. Rex lets you mix and match each of these methods for inbound and outbound mail for a given node. Each method will be covered as a pair though, as this is the usual combination to use.

Setting up an email link (Toss to/from mail)

Sending mail

This is probably the single most common use for Rex - sending and receiving BBS mail over email. To setup a connection over email, you'll need the email address of the person you're sending to and at least some idea of what encoding they want the mail sent with. If you're not sure what encoding to use, find out what program they use to send/receive their BBS email. To set a node up for sending mail over email, set the *Outbound messages* field to "Toss to mail" and choose *Configure* just below it. You'll be presented with this menu:

```
Internet Rex version 1.00 (Win95/WinNT 32-bit)
(C) Copyright 1997, 1998 Khan Software
[ ]
[ ] Toss to mail
Send mail via      rex@somewhere.com
Transport method  MIME / none
Encoding method   Base 64 encoded
Email address
Subject
Message length    0 lines

File bundling
Connection information
Node's statistics
Press F1 for help
```

If you have multiple email addresses setup in the *Email setup* menu of Rex, the *Send mail via* field will be blank: hit enter to select which email address you'll be using to send mail to this node.

The *Transport method* and *Encoding method* fields determine what sort of email message Rex will create to send mail to this node. This is where it's important that you know what sort of encoding you wanted to use, or what program the person on the other end is using. Here's a table of commonly encountered programs, suggested transport methods and encoding methods:

Setting up a node

Program remote is using	Transport method	Encoding method	Additional information
Internet Rex	SEAT	UUencoded	
TransX	TransX compatible		
Fidonet2Internet mailer	MIME/none	Base64	
Allfix	Allfix		
TransNet	MIME/none	Base64	Requires special subject line.
PXFids	FIDS		
Watergate	MIME/none	UUencoded	
GIGO	MIME/none	UUencoded	
SEAT compatible mailers	SEAT	UUencoded	
Most email readers (Eudora, PMMail, Nettamer, etc.)	MIME/none	Base64	

If you're not sure what program the person you're sending mail to is using, your best choice for a transport method is MIME/none. Similarly, if you're not sure what encoding method to use, your best bet is Base64.

Unlike some programs, Rex allows you to specify the subject line for mail you send to a node. You can enter that in the *Subject* field. Note that some transport methods require a particular subject: you can't set the subject for TransX transport nodes. Also, if you are sending mail to someone using TransNet, you must set the subject to "Transport From-(address) To-(address) (password)", replacing the values in brackets appropriately. (For instance, if the address you were using for this node were 1:342/806 and the address for the remote were 1:342/820, and you had a password of "Blah", the subject should be "Transport From-1:342/806 To-1:342/820 Blah".)

The last field (second last for TransX nodes) is *Chunk size*. This lets you control the size of the chunks Rex will split large files into. Many email servers don't allow messages above a particular size to be sent or received, or if they allow large messages, start to split them themselves. This message splitting can make them unreadable by some programs when they're received. You should find out if your mail server splits large messages and if it does, how large messages are allowed to get. Depending on the transport method you chose, you can set Rex up to split messages every so many lines or every so many bytes. If you don't want Rex to split messages for this node, you can just set this value to zero.

NOTE Some transport methods force you to split messages at a certain size. Allfix requires that files be split into chunks at most 16K large, and TransX requires that chunks be at most 60K in size.

TransX connections will have one last field, a *Session password*. This is the security password you can add to TransX mail to authenticate the message. If you have a session password setup with the remote node, enter it here; if you don't have a password, just leave the field blank.

Setting up a node

Receiving mail

Now that the sending part of the connection is setup, we can proceed to the receiving part. To set this up, go back to the main node editor menu and set the *Inbound messages* field to “Toss from mail” and choose *Configure*. You’ll be presented with this menu:

```
Internet Rex version 1.00 (Win95/WinNT 32-bit)
(C) Copyright 1997, 1998 Khan Software
[ ]
[ ] Toss from incoming E-mail

Download via          rex@somewhere.com

Configure matching information
From contains bob@anywhere.com

Post to netmail      Post some email to netmail
Delete empty messages Yes
Delete file attach msgs Yes
Strip headers        Yes

Connection information
Node's statistics
```

If you just configured the “Toss to mail” part of Rex, most of this screen will have been setup for you already. The *Download via* field should be set to the email address (or email addresses if you have more than one) you gave this node to send you mail at. Usually, this is the same as the email address you use to send mail to this node.

The matching information field is probably the trickiest part of configuring Rex to receive mail from someone. This field should contain a list of rules Rex will use to determine if a given email message is from this node. The format is a bit like a web search engine: you choose a field to search and a value to search for in that field, and optionally, a conjunction to add to the end of it to restrict or widen your search a bit. The usual first rule to enter is “From contains *user’s email address*”: this tells Rex that messages where the From: header at the top of the message contains the user’s email address are from this user. If you wanted Rex to only process messages from this user whose subject was “BBS mail”, you would edit the first rule so it read “From contains *users’s email address* and” and add in a second rule: “Subject contains BBS mail”. If the user was sending you messages from two different email addresses, you could change the rules to read “From contains *email address #1* or” and “From contains *email address #2*”. The important thing to remember is make sure the rules you give will match *all* the mail you want Rex to download from this user, and *only* mail from this user.

Finally, there is the *Post to netmail* field. This controls what Rex will do with the email messages it’s received from this node once they’re downloaded. “Do not post email to netmail” will make Rex decode whatever files are attached to the email message and then simply delete the message. “Post some email to netmail” means that Rex will post some of the email messages it downloads to netmail: you can control which ones by setting the *Delete empty messages* and *Delete file attach messages* fields. If *Delete empty messages* is set to yes, Rex will delete any message where there is no text for you to read (e.g. messages which

Setting up a node

contain only a file attached to them, or some messages from Allfix which have headers but no text). *Delete file attach messages* tells Rex to delete any message which has a file encoded in it. The remaining email messages Rex receives from this node will be posted in netmail messages addressed to you. “Post all email to netmail” just shuttles every email message Rex downloads from this node into a netmail message, with files decoded and such.

When Rex does post a message to your netmail folder, you can control whether or not the message headers (the From:, To:, Subject: Received-By:, etc. stuff at the top of messages) is posted along with the message by setting the *Strip headers* to “yes” or “no” as you like: “yes” will nuke the headers, “no” will leave them in.

Connecting to a BinkP server (Toss to/from a BinkP site)

Whether you’re connecting to a BinkP server to pick up or send mail, the settings in Rex will be the same. You first set *Inbound messages* or *Outbound messages* to “Toss to/from a BinkP site”, and then choose *Configure* to setup information about the site. You’ll be presented with this menu:

```
Internet Rex version 1.00 (Win95/WinNT 32-bit)
(C) Copyright 1997, 1998 Khan Software
[ ]
[ ] Toss to/from a BinkP site

Site's address
Site's hours      0:00-24:00
Connection timeout 60 seconds
Block size       4096 bytes
Default domain

Inbound messages  Toss from a BinkP site
Configure

File bundling
Connection information
Node's statistics
```

The site you’re connecting to should have provided you with his internet address and the hours the server is available; enter these in the *Site’s address* and *Site’s hours* fields. The remaining values here determine how Rex will talk with the server.

The *Connection timeout* lets you set how long Rex will wait for data from the site before deciding a problem has occurred and dropping the connection. With any luck, this hardly ever happen, but if you find a site is repeatedly timing out, you may want to try upping this value. The *Block size* lets you set the size of the chunks the protocol will break files into. This is a bit like Zmodem’s chunk size in that the bigger the chunks are, the more efficient the protocol is; larger chunks also mean more data has to be resent if there’s a problem with the sending. You can specify block sizes from 1K to 32K.

The *Default domain* is used when Rex is connecting to the BinkP site. BinkP is a purely 5D protocol: that means that any addresses that get presented to the remote site have to have a domain as well as the usual zone, net, node and point. Since most people won’t have domains

Setting up a node

for their all their addresses (if any), Rex needs a dummy domain to add to the end of your addresses when it sends them to the BinkP site, and that's where the default domain comes in. Note that this can't just be any old domain though: it has to match the default domain on the server, at least for the addresses you're interested in picking up mail from.

There is one other setting that BinkP sites may setup: a session password. This password is used to authenticate the person connecting to the site, to make sure that mail isn't sent to the wrong person. If you've setup a session password with your site, you can tell Rex what password to use in the *Session password* field of the *Connection information* menu: see the section on advanced connections in the Getting to know Rex part of this manual.

Using Rex with your own FTP server (Toss to/from a directory)

If you run your own FTP server for mail purposes, Rex can toss mail to and from directories on your hard drive to work alongside your FTP server. To have Rex use this method for a certain node, set the *Inbound messages* or *Outbound messages* to "Toss from directory" or "Toss to directory", and choose *Configure* underneath. You'll be presented with a screen something like this:

```
Internet Rex version 1.00 (Win95/WinNT 32-bit)
(C) Copyright 1997, 1998 Khan Software
[ ]
[ ] Toss to a directory

Destination
Check for locks    No

Create locks       No

File bundling
Connection information
Node's statistics

Press F1 for help
```

The first field when tossing to a directory is *Destination directory*, when tossing from a directory it's *Source directory*: either way, this is the directory on your hard drive you want Rex to move files to, or move files out of. It must be a full pathname.

For a lot of people this is all that needs to be setup. There are more options available though, for those who run a system that gets a lot of activity, or where Rex is run quite often. In situations like these, Rex will sometimes be running at the same time as someone is online trying to upload or download files. If this happens, it's possible that Rex will try to move a file someone is in the process of uploading, or toss files into their download directory after they've downloaded, but before they've started deleting the downloads from the server. In this case, you might end up losing files: Rex provides a solution to the concurrency problem by allowing FTP users to have locks setup to show they're online.

Setting up a node

A lock is just a file on the hard drive that Rex checks for before trying to process files for a given node: if the file is already there, that means the person is online, and Rex will be careful about processing files for this node. You can also have Rex create locks itself to tell the person connecting to your server that Rex is running, and they shouldn't upload or download stuff just yet. All this is controlled by the *Check for locks* and *Create locks* fields.

Setting *Check for locks* to "yes" will get Rex to check for lock files before processing this node's files. When you set the field to "yes", two other fields appear: *Lock filename(s)* and *Wait to clear*. In the *Lock filename(s)* field, you specify a filename or wildcard that you want Rex to check for. The *Wait to clear* field tells Rex whether to wait until the file has been removed before proceeding, or just skip sending files at this point entirely: "yes" gets Rex to wait, "no" makes it skip. When waiting for lock files to clear, Rex will only wait as long as is specified in the *Lock timeout* field in the *FTP setup* menu.

Setting *Create locks* to "yes" will also bring up another field. *Lock filename* is simply the full name and path of the lock file you want Rex to create when it's processing files for this node.

Uploading and downloading from an FTP server (Toss to/from an FTP site)

To setup a node to send or receive mail via an FTP site, you first need to get the internet address of the FTP site you'll be transferring files through, as well as the user name and password you'll be using to log on. The person running the FTP site should have given these to you. They should also have given you the directories that you'll be uploading or downloading files from. To enter this information into Rex, set the *Inbound messages* or *Outbound messages* field in the node editor to "Toss from an FTP site" or "Toss to an FTP site" as appropriate, and select *Configure*. You should be presented with a menu something like this:

```
Internet Rex version 1.00 (Win95/WinNT 32-bit)
(C) Copyright 1997, 1998 Khan Software
[ ]
[ ] Toss to an FTP site
Press F1 for help

Site name
User name
Password *****
Site's hours 0:00-24:00
Lock file size 1 byte
Unique storage No
Filename case Don't care
Script type Automatic (constructed by Rex)
Destination dir.
Directory locking Do not use directory locking
```

First off, the *Site name*, *User name* and *Password* fields should be filled in with the FTP site's internet address, the user name you log on to the site with, and the password you log on with. If the FTP site you're connecting to is running on a non-standard port (the site

Setting up a node

administrator should have told you if it is or not), you can specify that port as part of the site's name. For instance, to connect to ftp.somewhere.com running on port 2100, enter the site name as "ftp.somewhere.com:2100". You can also specify the site's operational hours in the *Site's hours* field. (The range 0:00 to 24:00, i.e. all the time, can be represented not only by turning on all the times in the list, but also by turning them all off.) If the current time falls outside the range you specify here, Rex won't try to connect to the FTP site. Finally, the *Lock file size* tells Rex how big to make lock files for this connection: some FTP sites don't like 0 byte lock files, some don't like 1 byte lock files. If one doesn't work, try the other.

The menu for uploading files to an FTP site will now have the fields *Unique storage* and *Filename case*. These determine how Rex will try to store the files on the FTP site. *Unique storage* tells the FTP site not to overwrite files that are already there: if a file is being uploaded that matches a file already on the site, a new name will be given to it and the file upload will continue. If *Unique storage* is turned off, the file will just be overwritten. The *Filename case* determines how the file's name will be sent to the site. Setting this to "don't care" will use whatever the file was called on the hard drive; "upper case" will send the name in all-capitals; "lower case" will send the name in all lower case letters.

Now comes the tricky part, creating a file transfer script. This is the sequence of commands Rex will issue to the FTP site to change to the right directory and transfer files. You can choose to have Rex try to create a script for you by setting *Script type* to "Automatic", or you can create your own script using Rex's FTP commands by setting it to "Manual". If you choose to create your own script, a *Create script* field will appear and you can enter up to 125 FTP commands for Rex to run through while talking to the FTP site. (For more details on what FTP commands Rex supports, see the reference manual's section on FTP commands.) In the menu to upload files to an FTP site, an *Always run* field will also appear. If you set this to "yes", Rex will try to connect to the FTP site and run this script every time you tell Rex to send mail to FTP sites, even if there's no mail waiting for this node. Most scripts don't need this setting, but it can be useful for some of the more advanced scripting commands available. (See the section on Getting to know Rex under Advanced FTP scripts.)

Automatically generated FTP scripts should work for most connections, but they may need a bit more information to be entered into Rex for them to work. If you set the script type to "Automatic", the first field after the script type will be either *Destination directory* or *Source directory* (depending on whether this is for a node sending or fetching mail). These are simply the directory you'll be storing files or the directory you'll be retrieving files from. It's important to note that these should be **absolute** paths: that is, the string you enter in the field should change to the same directory no matter what directory you're in on the FTP site. An absolute path should look something like \out, or ~in. out or ..\in won't work: they are relative paths, relative to the directory you're in at the time the CD command was issued. You may be able to get the automatically generated scripts to work with relative directories, but it's not recommended for a first attempt.

After choosing the source or destination directory, you'll have the option of setting up locking for this node. As mentioned in the Using Rex with your own FTP server section, sites which are contacted often or on which a lot of processing goes on can have concurrency problems: users and the server may be trying to access files at the same time. A way of preventing this from happening is by using lock files to tell the server or the user that the other is processing files at the moment and they should wait. Rex lets you optionally check and/or

Setting up a node

create lock files when logging onto the FTP site. Setup the type of locking you want to use by toggling the value in the *Directory locking field*. This will present you with a few more fields to fill in.

The *Lock directory* should specify the absolute path to the directory where locks will be created and searched for. If you've chosen to create locks, the *Create lock* field should be filled with the name of the lock file to create. This is just a filename: no directory information is needed. Something like "lock" or "busy.flg" would work well. Similarly, the *Locks to check* field should be filled with a wildcard to match against files in the lock directory. You can give a single file name if you know the lock you're looking for, like "lock" or "busy.flg", or you can give wildcards like "*" or "lock*" to match a range of files. If anyone of the files in the lock directory matches the wildcard, the connection will be considered locked. What happens when the connection is locked is determined by the *Wait to clear* flag: set to "yes", Rex will wait until the file is removed before proceeding. How long it waits is determined by the setting in *FTP setup @ Lock timeout*. If *Wait to clear* is set to "no", Rex will simply end the connection to the site and try again another time.

If you find you must use a manually create script, here are a couple of sample scripts to get you started.

```
cd \download
get *
```

This script simply changes to the \download directory and downloads all the files there to the inbound file directory.

```
cd locks
if exist busy.flg
    wait busy.flg
endif
create busy.flg
cd ../upload
put *
cd ../locks
del busy.flg
```

This is a more complicated script that uses lock files. It first changes to the `locks` directory and checks to see if the file `busy.flg` is present. If it is, it waits until it's been removed. (If the wait is longer than the timeout you specified in the *FTP setup* menu, the script will abort.) Once the file is gone, it creates its own lock file, then changes to the upload directory to upload files. The `put` command transfers all the files for this node from Rex's queue to the FTP site; then the script changes to the `locks` directory again and removes the lock it put there.

Now that you've setup some nodes in Rex, it's time to run it and start sending mail!

Running Rex

Rex's main program is named differently for each operating system it supports.

- DOS** The executable is `rex.exe` for the 16-bit version and `rex.d.exe` for the 32-bit version. If you configured Rex to use a dialup connection to the internet, `Rexcfg` will have created a batch file called `dial.bat` in the same directory you installed Rex to: this batch file can be run with the same arguments as Rex to automatically connect to your provider and run Rex.
- OS/2** The executable is `rexp.exe`. Again, if you configured Rex to use a dialup connection to the internet, the configuration program will have created `dial.cmd` in Rex's directory: you can give the same arguments to this command file as you would to Rex and the file will dialup your provider, connect and run Rex with the arguments you gave.
- Win** The executable is `rexw.exe`.
- Linux** The executable is `rex.l` if you aren't running through a SOCKS4 server, `rex.l.s` if you are behind a SOCKS4 server.

Many of the options are the same for each operating system though. Rex's syntax is:

```
rex [-fetch [binkp | dir | ftp | mail | [x]anonymous |
[x]e<email ID> | [x]<address(s)>]...
    [-queue [binkp | dir | ftp | mail | [x]e<email ID> |
[x]<address>]...
    [-send [binkp | dir | ftp | mail | [x]anonymous |
[x]e<email ID> | [x]<address(s)>]...
    [-runscript <script file> [<script file>...]]
    [-map <map label>]
    [-processor <0 | 1 | 2 | 3>]
    [-trim]
    [[+|-]between]
    [-daemon]
    [[+|-]dun [<connection> [<username> [<password>]]]]
    [-help | -notify] [[x]<address(s)>]]
    [-?]
```

If you run `rex` all by itself (without any additional switches), users running in beginner mode will receive help on the command line options. For users at a higher user level, Rex will fetch, queue and send all mail for all nodes.

-fetch

This option tells Rex what nodes to fetch mail for. Without any qualifiers, Rex fetches all waiting mail for all nodes; by adding qualifiers, Rex instead fetches mail only for the nodes specified. Each of the options select all the nodes using the relevant transfer method to receive their mail, so that `binkp` gets Rex to fetch all mail from BinkP nodes, `dir` from "Toss from directory" nodes, `ftp` works for FTP nodes and `mail` fetches mail from email nodes. `[x]e<email ID>` also applies to email nodes: without the `[x]` in front, it selects all the nodes in the node manager that receive mail through the email address with the ID given in `<email ID>`. With the `[x]` in front, all those nodes are excluded from having their mail fetched. The `[x]anonymous` specifies 'anonymous' email nodes: email that Rex can't identify as being from a particular node, but which it would download because of some other setting (e.g. email FREQs, stray Internet Rex etc. messages). Specifying `mail` automatically

Running Rex

includes anonymous nodes: you can exclude them from download when mail is specified by putting an x in front of the anonymous. Similarly, if mail isn't specified, you can still pick up anonymous mail by giving the anonymous switch.

You can also specify or exclude individual nodes to pick up mail from by adding the address after the fetch command, or putting an x in front of the address to exclude it from the list.

`-fetch`

Fetch all mail for all nodes.

`-fetch ftp`

Only pick up mail from nodes whose mail is waiting on FTP sites. Don't download email, connect to BinkP servers or check directories for mail.

`-fetch ftp dir`

Only pick up mail from nodes whose mail is waiting on FTP sites or in a local directory.

`-fetch ftp x1:342/806`

Picks up mail from FTP sites. If 1:342/806 receives its mail from an FTP site, its mail is *not* picked up.

`-fetch mail xeRex`

Fetches mail for all nodes sending files via email, except those nodes sending you files through the email address you gave the address ID of "Rex".

-queue

This option works like the fetch switch: without any additional switches, it queues all mail for all nodes. Adding qualifiers instead selects the nodes for which mail will be queued. As before, `binkp` queues mail for BinkP nodes, `dir` does so for nodes receiving mail from a local directory, `ftp` does so for nodes receiving mail on an FTP server and `mail` queues mail for email nodes. Individual nodes can again be included or excluded with the `[x]<address>` qualifier.

`-queue mail 1:342/806`

Queue mail for nodes receiving files over email, and for node 1:342/806.

`-queue mail ftp x1:342/806 1:342/820`

Queue mail for nodes receiving files over email or FTP, and for node 1:342/820. Do not include 1:342/806 in that list.

-send

This option works exactly like the fetch option, only it's for sending files and mail. See the section on the fetch option for more details. The only difference here is the anonymous mail switch includes any netmail gated to email.

☞ Note that the `-send` option only sends mail that has already been queued. If you want to send mail that's in your mailer's outbound queue, you have to tell Rex to both queue and send mail.

Running Rex

-runscript <script file> [<script file>...]

Use this to have Rex run the FTP script in the file you give. You can specify multiple script files in a list, but none of them can contain wildcards.

-map <map label>

Using this option, you can change the default drive mapping setup in *Files, paths and programs* → *Drive mappings (DOS, Win95, OS/2)* to the mapping with the label you give. This will let you run Rex on machines with different drive mappings without having to run the configuration program to change the mapping.

-processor <0 | 1 | 2 | 3>

If you want to change the *Processor friendliness* of Rex at runtime, you can do so by giving the -processor switch. The number afterwards represents how often Rex will give up the processor to other tasks: the lower the number, the less often it will give it up.

-trim

This option simply tells Rex to trim the log file according to the settings in the *Logging options* screen. (If you don't have log auto-trimming enabled, this is the only way to have Rex trim the log file.)

[+|-]between

This overrides the setting for running the BETWEEN.BAT batch file in *Files, paths and programs* → *BETWEEN.BAT*. Giving it with a + in front will make Rex run the BETWEEN.BAT file during this run; a - will disable running BETWEEN.BAT.

[-daemon]

Running Rex with this switch will put it into daemon mode (see the section on running in daemon mode in Getting to know Rex).

[+|-]dun [<connection> [<username> [<password>]]]

This little option lets you override most of the settings in the *Connecting to the net* screen of the configuration program. -dun disables dialup networking in Rex: Rex will either use a LAN connection if it's available, or nothing at all.

+dun enables dialup networking.

Win Windows users can optionally specify first a different connection to use, then a different username to use, then a different password to use. For instance:

rexw +dun ConnectionTwo

will tell Rex to use the connection labelled ConnectionTwo to connect to the net instead of the usual one. Giving:

rexw +dun ConnectionTwo Bubba MYPassWord

additionally tells Rex to use the username Bubba instead of what's in Rex, and the password MYPassWord.

Running Rex

```
[[-help | -notify] [[x]<address(s)]]
```

These two options allow you to create RexFix help and status messages for the nodes with the addresses you specify afterwards. Specifying x in front of an address will exclude that address from whatever list you'd presented so far. Addresses can also be specified as wildcards. For instance:

```
rex -notify 169:*           Sends notify messages to everyone in the node
                             manager in zone 169.
Rex -help 169:* x169:4??*/* Sends help messages to everyone in the node
                             manager in zone 169, except those in zone
                             169:4000.
```

If you don't give any addresses to send to, Rex will send help or notify messages to everyone in the node manager.

```
[-?]
```

Running Rex with just -? will bring up a listing of all the command line options in Rex. Giving this option after one of the normal options in Rex will bring up a help screen with help about that option. For example:

```
C:\IREX> rex -trim -?
-trim: If you specify -trim on the command line, Rex will trim
       the log file it has generated to the size you specify in
       Rexcfg. If you've specified a large logfile size, this may
       take a while to do.
```

```
e.g. rex -trim ....
C:\IREX>
```

Win The Windows version of Rex includes a few command line options which apply only to it.

```
[+|-]autodial
```

```
[+|-]autohangup
```

These options allow you to override the *Autodial* and *Autohangup* settings in the *Connecting to the net* screen for Windows users. Specifying +autodial will tell Rex to dial out to connect to the internet, regardless of how you have this specified in the config program itself. (The same restrictions still apply: Rex won't dial out if the line is in use, or if the connection has already been established.) Specifying -autodial has the opposite effect: Rex will not try to dial out to connect to the internet. The same logic applies to the +/-autohangup option.

Running Rex

DOS DOS users also have an option available in Rex which is only available to them.

-ip <ip address>

Using this switch, you can override whatever other information Rex might get about your IP address and tell it to use the IP address you gave instead. (This will only work if you haven't enabled auto-configuration through BootP.)

Command line shortcuts

Having to specify the full switches for Rex's command line might get a little tedious after a while; as a result, there are a number of ways of shortening Rex's command line.

Abbreviations

Each of the command line options can be abbreviated; you only need specify enough of the command line option to identify it. For instance:

rex -fetch	→ rex -f
rex -fetch binkp ftp	→ rex -f b f
rex -fetch 1:342/806	→ rex -f 1:342/806
-send 1:342/806	→ rex -f 1:342/806 -s 1:342/806
rex -fetch mail -trim	→ rex -f m -t
rexw +autodial	→ rexw +autod

Merging

The fetch, queue and send command line options can also be merged when they're all being applied to the same set of nodes.

rex -f m -s m	→ rex -fs m
rex -f f -q f -s f	→ rex -fsq f
rex -f f 1:342/806 -q f -s f	→ rex -fsq f -f 1:342/806

Getting to know Rex

The preceding sections should have given you all the information you need to know to get a quick connection setup and working in Rex. However, that's hardly all there is to Rex. Encryption, file requests, reliable connections, netmail gating: all these things are available to you with Internet Rex. Now that the initial setting up has been done, we can delve a bit more into how to get these features running for you and what you can do with them.

Some features of Rex are only accessible when the *User level* setting is a certain level or higher. For features like these, the user level required to access them will be indicated in brackets beside them.

Customising Rex's appearance

Rex's behaviour → *Rex's appearance*

So you start up Rex's configuration program and go "Yuck! My God, what a terrible colour scheme! Blind monkeys with crayons could do better than that!" Well, hopefully you didn't, but just in case you did, or in case you feel like trying your hand at a colour scheme for Rex, you're in luck. The configuration program for Internet Rex has customisable colour schemes: just about everything about the program can have its colour changed. Opening this menu, you'll be presented with the opportunity to choose from a number of different built-in colour schemes, create your own, save your creations to disk or load in someone else's creation to try.

The first choice in this menu, *Use upper ASCII*, is more of interest to people using Rex on a terminal which doesn't support the usual IBM upper ASCII character set. (Linux terminals are a good example of this: there's some special kludging that can be done to get IBM characters, but most of the time it uses a UNIX character set.) For these people, turning off upper ASCII will make Rex replace its line drawing and graphics characters with lower ASCII characters which should display the same on all terminals. Unlike the other options on this screen, this feature applies to Rex itself as well.

The *Colour scheme* field lets you choose which colour scheme the configuration program will use. You can cycle through a number of different built-in schemes here to choose the one you like: the change won't be applied to the program until after you shut it down and restart. The last choice in the list of colour schemes is "Custom". When this choice is made, the remaining fields on the screen become active and you can choose each and assign a colour or character to it.

When building your own schemes you can either start from scratch, copy in one of the built-in schemes (select the scheme you want to start from in the *Colour scheme* field, then choose the *Copy current scheme to custom* field and hit return), or load a colour scheme from an external file. If you want to do the latter, set the *Colour scheme* to "Custom", then choose *Save/load current scheme to/from file* and select *Load colour scheme from file*. This will present you with a list of the Colour Scheme Files (*.CSF) in the current directory: choose one to copy to the current scheme by hitting **enter**, or quit out by hitting **escape**. When you're done creating your masterpiece you can save it to a file from the same menu: choose *Save colour scheme to file* instead and give a filename (Rex will add .CSF if it isn't in the name) and Rex will save it.

Getting to know Rex

Remapping drives and directories

Files, paths and programs → *Drive mappings*

Just because one operating system or one computer sees your hard drive setup one way doesn't mean they'll all see them setup the same way. Internet Rex includes some facilities for mapping drives at runtime so that what you refer to as drive E: on one machine and drive N: on another can both be accessed by Rex. These mappings can then be chosen at runtime using the `-map` command line option.

There are two categories of mapping Rex does: drive to drive mappings and drive to directory mappings. The first is intended to be used on systems which boot multiple operating systems or where Rex is used on multiple machines: it maps all occurrences of one drive letter to another. The second is intended to be used on operating systems which don't have drive letters, like Linux: this maps all occurrences of drive letters to a directory somewhere on the hard drive.

Mapping drives to drives (DOS, OS/2, Windows)

To create a new drive mapping, select *Edit mappings*: if you have a drive map defined already, hit the **insert** key to bring up the *Drive maps* menu. At the top of this menu is the *Map label* field where you can give the drive map an appropriate name. This label will be used elsewhere to refer to this particular drive map. All you then have to do is choose *Edit mapping* and you'll go into the drive map list: enter the drive you want to remap and the drive to map it to. You can do this as many times as you like for as many drives as you like. From then on, if Rex sees a reference to a file on a drive in the first column, it will look for that file in the same directory on the drive listed in the second column. For instance, mapping drive Q to drive E means that if Rex saw a reference to the file `Q:\BBS\FILES\TEST.ZIP`, it would look for the file as `E:\BBS\FILES\TEST.ZIP`. This applies to **all** drives Rex sees or uses: not just to the paths you enter in Rex's configuration program, but to any files that are in your outbound queue, in your file request list or elsewhere.

The *Drive mappings* menu also has a *Default map* entry. This is the drive mapping Rex will use if none is specified on the command line and the mapping the configuration program will use when checking files or directories to see if they exist.

Mapping drives to directories (Linux)

Setup for the drive to directory mapping list is a little easier. Selecting *Map drives to directories* immediately brings you up in the drive to directory editor. Here you simply enter the drive you want to map and the directory you want to map it to. For instance, if you had your D: drive mounted on `/usr/mount/DOSD`, you would enter the mapping of D to `/usr/mount/DOSD`. From then on, if Rex sees a reference to drive D, it will start looking for the file in `/usr/mount/DOSD`. For instance, the file `D:\BBS\FILES\TEST.ZIP` would be looked for in `/usr/mount/DOSD/FILES/TEST.ZIP`.

Getting to know Rex

File requests and email file requests

Files, paths and programs → *File requests*

One of Rex's many useful features is a built in file request processor. This lets any of your connections request files from you through Internet Rex. Rex also includes an email file request processor: this reads certain special types of email and treats them as file requests, sending the files back to the person who sent the email as file attach email messages. All of the information about how Rex should process file requests is included in the *Files, paths and programs* ® *File requests* menu. Note that in order for Rex to process any file requests at all, you must first enable the file request processor in the *Rex's behaviour* ® *Honour FREQs* field.

A file request comes in the form of a request for a particular file or magic name. For instance, a person might request "BRE0987.ZIP" to get that file, or they might request the magic name "LATEST-BRE" which you could setup to point to the same file. Where Rex looks for files and how it maps magic names is determined by the entries you put in *alias* and *directory list* files.

An alias file is just a text file you can create with whatever editor you like. Here's a listing of a small alias file:

```
LATEST-BRE e:\doors\bre0987.zip
BRE e:\doors\bre0987.zip
FILES d:\bbs\allfiles.zip
SECRET f:\mystuff\secret.zip !carrot
```

On each line you put two things: the alias you want a file to be requestable by and the full name and path of the file the alias refers to. For instance in this alias file, requesting "FILES" would result in the user being sent the file d:\bbs\allfiles.zip.

The last entry in the alias file given is a special one: it has a password attached to the file, as indicated by the last word on the line, !carrot, starting with an exclamation mark. When you add a third entry on a line and start it with an exclamation mark that means that a request for that file must be accompanied by the password, or the file won't be sent back. In this case, a person would have to send a request for "SECRET !CARROT" to be sent back the file f:\mystuff\secret.zip: without the !CARROT part, the request would fail because the password was missing. The password is compared without regard for upper or lower case letters: that's why !CARROT works when the password given was carrot, lower case.

A directory list file is like an alias file: a text file with entries one per line. In this case, the entries are just a list of directories which Rex can search. Here's a sample directory list file:

```
e:\doors
f:\pictures
g:\secret !carrot
```

If a file request doesn't match one of the aliases in the alias file, Rex goes through all the files in all the directories in the directory list file and looks to see if the name matches the file requested. If it does, it gets sent off. Note that the directory list can also have passworded entries like the alias file: if the only instance of a requested file is in the g:\secret directory, the request must include the password carrot to have the file sent back.

That covers how Rex's file request processor works. Now, how do you actually set it all up? Well, let's say you've already setup your alias and directory files. Now you head on into

Getting to know Rex

the file request setup menu in *Files, paths and programs* → *File request setup* and are presented with this screen:

```
Internet Rex version 1.00 (Win95/WinNT 32-bit)
(C) Copyright 1997, 1998 Khan Software
[ ] File request processing

Alias file
Secure alias file
Directories file
Secure directories file
Access file
FREQ not found notice
Delete FREQ messages      No
Wildcard FREQs            Send only first matching file
Configure FREQ limits
Process email FREQs       No
```

You enter the full path and filename of those files in the *Alias file* and *Directories file* fields. There are also two entries for *Secure alias file* and *Secure directories file*: these are used with connections that are deemed secure by Rex (the flag in *Node manager* → *(node)* → *Connection information* → *Secure* is “yes” for the node the request was received from). Rex first searches the alias file, then if the connection is secure, searches the secure alias file; it does the same for the directory file and the secure directory file. If the file being requested isn’t found anywhere in the list of directories or aliases you gave Rex, it sends back a message saying that the file request wasn’t found. It takes this message from the contents of the file you give in *FREQ not found notice*: this is just a text file that Rex spits out into a message to send back to the user.

On the other hand, let’s say the user’s request matched a bunch of different files. Rex could either send back the first file it found that matched the request, or send back *all* the files that matched. Which it does is determined by what you set in *Wildcard FREQs*.

Now that Rex has processed the request, there’s still the question of what to do with the original file request message. Again, this is configurable: setting *Delete FREQ messages* to “yes” will nuke it, to “no” will leave it in your netmail area for you to deal with at your leisure.

File request limits

Setting up file request processing is all very well and good, but you don’t really want users regularly requesting to have your entire hard drive sent back to them over the internet. (Well, maybe you do.... Most people don’t though.) You have to set some limits somewhere! Fortunately, Rex lets you do just that in the *Configure FREQ limits* menu and the *Access file*.

In the *Configure FREQ limits* menu you can define limits on how many files and how many kilobytes of files users can request on the basis of each session or each day. The menu divides users into two groups: “known” users, who are listed in the node manager, and “anonymous” users, who aren’t. For each of these categories you can specify the maximum

Getting to know Rex

number of files they can request and the maximum number of kilobytes of files they can request in the *Maximum requestable kilobytes* and *Maximum requestable files* fields. If you set any of these fields to zero, Rex will interpret that as meaning they can request an unlimited number of files/kilobytes of files. How often these limits are applied is set in the *FREQ limits for known/anonymous nodes applied each* field: you can set this to either “session” or “day”. Applying the limit each session means that the maximums are set each time Rex is run. A user couldn’t request more than 5 files in one run of Rex, but if you ran Rex 5 times a day, they could request 25 files that day, once in each of the five runs (provided they timed it right). Applying the limit each day means no matter how many times you run Rex in one day, they can only request so many files that day. The next day, the limit is reset and they can request files again.

The *Access file* lets you have a little more fine control over how many files users or classes of users can request. Like the alias and directory list files, the access file is a text file Rex reads when it receives a file request. In this file, each line specifies file request limits for an individual user or class of users. Here’s a sample access file:

```
1:342/* 1000 10000 day
9999:*
100:100/0 10 500
100:200/0 10
*@juno.com
```

Each line can have up to four entries on it. The first is the user or set of users to match. Known users will have a netmail address Rex uses to identify them (the one you gave in the *System’s address* field of the node manager): Rex will try to match that address against the first field in each line. Note that you can use wildcards in this field, so that if you had a bunch of nodes in net 1:342, the first line in the access file here would apply to all of them. The second entry in the line is the number of files they can request, the third the number of kilobytes, and the fourth should be either “day” or “session”, depending on whether you want to apply the limits per day or per session. So for this access file, people in net 1:342 would be able to request 1000 files a day or 10000KB a day.

If some of the entries aren’t specified, Rex uses the values you’ve setup in the *Configure FREQ limits* menu to fill them in. So, if you’d specified that known nodes were allowed a maximum of 5 files and 250KB a day, the third and fourth entries would let 100:100/0 request 10 files or 500KB a day, and 100:200/0 10 files or 250KB a day.

By contrast, if nothing except the address to match against is given, Rex assumes that you are denying that user access to file requests. In the above example, users in zone 9999 wouldn’t be allowed to request files from you.

Note the entry in the last line gives an email address to match against instead of a netmail address. The access file can be used to apply limits to anonymous users as well as known ones. Since Rex doesn’t have a netmail address for these users, it uses the email address the request came from as identification instead. The last entry given here refuses email file requests from anyone whose email address ends in @juno.com.

You don’t have to have an access file setup, but you service a lot of file requests, it will probably be useful. Enter the full path and filename of your access file in the *Access file* field of the main file request menu.

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Email file requests

One other little field in the file request menu hasn't been discussed: *Process email FREQs*. Email FREQs are email messages in a special format that Rex treats like file requests. If a file is found matching the request, Rex creates an email message to send back to the person who requested the file, with the file attached. The format of the messages is pretty simple: the subject of the message must be **FREQ**, and the body of the message must contain a line starting with **FREQ** followed by the file or alias to fetch. Other commands, such as **UUENCODE**, **REPLY-TO** and **HELP** are also supported: a full listing of the commands and how they work is in the file **FREQHELP.TXT** included with Internet Rex. This file (**FREQHELP.TXT**) gets sent back to people who send file requests with incorrect commands or who request the help file with the **HELP** command.

Setting *Process email FREQs* to "yes" tells Rex to start looking for these special email file requests. Where it looks for them is determined by the *Matching only through* field. If Rex finds an email file request coming through any of the email addresses you give here, it will process it. If it comes through an address not listed here, it will be treated as a standard piece of email.

Expert mode only If you have the user level set to Expert, you'll have an additional field under *Matching only through: All messages through*. For any email addresses you list here, Rex will treat **all unidentified messages** (that is, all messages which aren't from someone in the nodelist or one of the programs you setup to decode stray messages from) as file request email, even if the message's subject isn't **FREQ**. This can be useful if you want to setup a dedicated file server type email address. Be **very** careful enabling this option: if you set it up for an email address which also receives personal email for you, messages to you (which probably won't have **FREQ** as the subject) will have the file request email help file sent back as a response. In addition, if you've set Rex up to delete **FREQ** messages, the personal email will be deleted before it reaches you, resulting in lost mail.

When Rex does send a file or files back for an email file request, it will use the encoding method you choose in *Default encoding*. Users can change this in their request message using the **UUENCODE** or **MIME** commands before requesting their files. If you're sending files through a mailer which splits large messages, you can also specify the number of lines you'd like each message to contain in the *Default chunk size* field. (Setting this to zero will keep Rex from splitting files itself.)

BETWEEN.BAT processing of received mail

Files, paths and programs → Internet Rex files and paths

After running Internet Rex to fetch mail, you'll probably want to process the stuff you've downloaded before running Rex to queue and send mail out: that way the files and mail that get generated for other systems get sent out as quickly as possible. Normally, you'd have to do two runs of Rex to work this out: one to fetch the mail and spend time processing it, and another to send it out. Instead, Rex offers the alternative of running a batch file after

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downloading your mail and before queuing it. That's what the BETWEEN.BAT options in Rex's files and paths menu is about.

If you set *Run BETWEEN.BAT/.CMD* to "yes", and you run Rex so that it's fetching and queuing mail in one session, Rex will check the directory it was installed to for the existence of a BETWEEN.BAT batch file. If it you receive mail during the fetch run and the batch file is there, Rex will run the batch file before continuing to process your outbound mail. This lets you put any commands for mail tossing, processing TIC files or interBBS doorgame packets into the batch file, process the inbound mail and toss it out again without having to run Rex twice.

Enabling BETWEEN.BAT running will also bring up another option, *Always run BETWEEN.BAT*. Setting this to "yes" will ask Rex to run the BETWEEN.BAT batch file every time it's run, regardless of what command line arguments you gave Rex or whether or not you received any mail. This can be useful if there is a task you have to run before Rex sends files.

OS/2 The OS/2 version of Internet Rex runs the batch file "BETWEEN.CMD" instead of BETWEEN.BAT.

Linux The Linux version of Internet Rex runs the batch file "between" instead of BETWEEN.BAT. Be sure that the permissions on between are such that Rex can actually execute the file when the time comes and remember that Linux is a case sensitive operating system: "BETWEEN" will not get run.

Automatic file bundling and extraction

Files, paths and programs → *Compression programs / Decompression programs*
Node manager → *(node)* → *File bundling*

Many people pay for their internet connections by the minute or by the byte transferred. As a result, squeezing every last byte out of what's transferred becomes important. To accommodate these sorts of connections, and just to provide an easier "one file sends it all" type of transfer, Rex supports automatic file bundling for files it transfers. Using this, you can have Rex compress all outgoing mail for a given node into one file; at the other end, Rex can automatically extract files from inbound archives making compressed mail transfers nearly seamless. To set all this up, Rex does need to know a little bit about the archivers on your system.

Setting up the compression and decompression programs

Configuring the compression and decompression programs Rex will have to call to create and extract the archives is done in the *Files, paths and programs* menu using the *Compression programs* and *Decompression programs* options. If you want to use a program to bundle outbound files or extract inbound ones, you'll have to configure it in one of these menus first.

After selecting either choice, you'll be presented with a list of the operating systems Rex supports and you can choose which operating system you'll be configuring programs for. You should configure programs in each of the operating systems you'll be using Rex with: the DOS

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version will look in the DOS program setup for compression and decompression programs to run, the OS/2 version in the OS/2 program setup, and so on. If Rex doesn't find a program configured for the OS it's running under, it will skip bundling or extraction of files.

The *Compression programs* menu will present you with a list of archivers that might be configured on your system and the settings that should be used with Rex. You can add or remove programs from this list as you like.

When adding a new program to the list of archivers, you'll have to specify a *Tag*, a *Command line* and a *List character* for the program. The *Tag* is a three letter identifier for the program: when you're presented with a list of archive formats to create, Rex will list them by their tags. Usually the extension the program uses for its archives is a good choice: ZIP for PKZip, ARJ for ARJ, UC2 for UltraCompressor II, etc.. The *Command line* is combined with the *List character* to create the invocation of the program. When creating bundles, Rex puts a list of the files it wants bundled into another file, and then calls the program with command line options to read the list of files and create the bundle. Rex actually calls the program with the command line

command line **archive name** *list character* **file list**

For PKZip, for instance, this might come out as

```
pkzip.exe -ex -a Archive.ZIP @files.lst
```

where `archive.zip` is the name of the bundle Rex wanted to create and `files.lst` is the file containing the list of files to put in the bundle. So when you add in a new program, you should make the *Command line* such that it will read in a list of files to put in the archive from another file, and the *List character* such that the program will know what the list file is.

The *Decompression programs* menu is a little different. Rather than allowing you to give just any dearchiver, Rex presents you with a list of the archive types it is aware of and lets you specify the program and command line options to give to extract files from that type of archive.

Down the side of the menu is the list of archive types Rex is aware of, along with a special type called "Unknown". The "Unknown" type will be used when Rex can't identify the archive used but knows it has to extract the file. This should be a universal dearchiver type program if you have one. (If you don't, that's fine too.)

The *Command line* you give will be combined with the *Type* and the archive's filename to create an extraction command. The *Type* field tells Rex how to get files extracted into a particular directory: "`cd <path>`" tells Rex to first change to the destination path, then extract the archive; the remaining choices ("`<path> *.*`", "`*.* <path>`", "`*.* #<path>`", "`*.* -d<path>`") are just added to the end of the command line. "Default" tells Rex to use the default extraction type for that program. For instance, if the archive to be decompressed were `archive.zip`, the directory to extract to was `d:\inbound` (your inbound directory, perhaps), the *Command line* was `pkunzip.exe -o` and the *Type* was "`*.* path`", the command that would get executed would be:

```
pkunzip.exe -o archive.zip *.* d:\inbound
```

Tune the *Command line* and *Type* parameters to match the programs you're using.

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Using file bundling

Once the programs for compressing and decompressing files have been setup, you can start adding in file bundling options for nodes. The file bundling information is controlled from the *Node manager* → (*node*) → *File bundling* menu.

If a node is sending you its mail in a file bundle, you can have Rex automatically extract that bundle when it arrives by setting the *Auto-extract incoming* field to “yes”. Be careful to do this **only** when the remote is sending you mail in file bundles: otherwise, Rex will start to extract any inbound file it receives from that node, which could include arcmail bundles, files sent out through file echoes and so on, leaving your inbound directory in a rather messy state.

To have Rex bundle mail for a node into a file bundle, set *Bundle outgoing mail* to “yes”. Two new fields will appear: *Archive name* and *Archiver to use*. The *Archive name* is just the name of the archive you want this node’s mail bundled into. This should be just a regular filename, with or without an extension. If you don’t give an extension, Rex will add one automatically based on the tag of the archiver you choose. For instance, you could set *Archive name* to “bundle”. If you used the Zip archiver, Rex would create a file called “bundle.zip” to send this node’s mail in.

A problem comes up here though: if you’re always sending the same file to the other person, they might start to overwrite each other when the remote is downloading them. To deal with this, you can put #s into the bundle name, and Rex will replace these with a different number each time it’s run. For instance, if you set the *Archive name* to “mail####”, the first packet sent would be “mail0000.zip”, the next would be “mail0001.zip”, and the next “mail0002.zip”, and so on.

If you decide to use the auto-numbering feature, Rex can let you do a little more adjustment of the file bundles. The *Max size* field will appear: this lets you control the maximum size of the file bundles Rex creates. Leaving this at zero will have Rex create one bundle for each run. If you put it at 500K, Rex would pull 500K worth of files out of the mail queued for the current node and run the compression program. Then it would pull another 500K out and run the program again, creating a different bundle each time, making none of them more than 500K in size.

Finally, you can control the *Archiver to use* for each operating system you run Rex under. You’ll be presented with a list of the archivers you have defined for each operating system: choose one, and that will be the archive type Rex bundles files into for this node under that operating system. You don’t have to choose the same archiver for each OS, but it is recommended.

Getting to know Rex

Gating netmail to email

Email setup (user level Intermediate or higher)

Because Rex can be setup to download your email into your netmail folder, it makes sense for it to have a way of getting netmail back out into the email world. To do this, you can setup a gateway netmail address on your machine: if Rex sees netmail to this address, it will take it, convert it into email and send it out over the net. Before getting too far into this, be aware that this does **not** give your BBS users access to internet email: all the email sent through the gateway address will appear to have come from you.

To setup netmail to email gating for Internet Rex, you have to give Rex the netmail address you want to gate mail through and the email address you want Rex to send the mail from. Enter these in *Gateway address* and *Gate mail via*. Your gateway address should **not** be your main address or one of your AKAs: it should be a non-existent address controlled by one of your netmail addresses - a point of your main address is usually a good choice. If your main address were 1:342/806, you might give a gateway address of 1:342/806.999.

Once you've entered this information, if Rex sees netmail address to the gateway address, it will take the To: header of the netmail as the email address of the person to send it to and will convert the text of the netmail message into an email message. (Netmail often doesn't include end of line markers, so Rex has to wrap text itself: what column it wraps text on is controlled by the *Break lines at* field: 70 is a good choice here.) For instance, netmail to *cruden@cs.ualberta.ca* at the netmail address 1:342/806.999 would get converted into email to *cruden@cs.ualberta.ca*, from whatever email address you set in *Gate mail via*. Files can be sent out in this way too: any file attached to the netmail message will be converted into a file attach email and sent along with the message.

If you find that the email address you want to send mail to doesn't fit in the To: part of the netmail message, you can address the netmail to "Internet Rex" or "IRex" at the gateway address and put the email address you want to send to in a To: line at the top of the message. For instance:

To: Internet Rex, 1:342/806.999
From: Charles Cruden, 1:342/806

To: somereallylongemailaddress@somewhereelse.com

Here's some message text....

Detection of duplicate mail

Connection defaults

Despite our best intentions, setups don't always go as planned. Sometimes, duplicate mail, either arcmailer bundles or interBBS game packets or just about anything, can be sent out. Over a standard mailer link, sending the same file twice will result in the second copy being refused. Over Rex, because things are spaced out over the internet, duplicate files don't always arrive in the same session. To fix this, Rex offers duplicate file protection over a period of time: if the same file arrives twice in this time, Rex will delete the second copy.

Getting to know Rex

Two duplicate detection fields are available: *Dupe protection days* and *Dupe protection on all links*. *Dupe protection days* simply tells Rex how long to keep a record of the files that have been received. Rex will check incoming files against this record when looking for duplicates. *Dupe protection on all links* tells Rex what connections to apply duplicate protection to. With this field set to “no”, Rex will only do duplicate checking on reliable connections (see the section on Reliable email connections for more details), because these connections are the only ones which are guaranteed to provide a unique identifier for each file that gets sent. Setting this field to “yes” means Rex will apply duplicate protection to unreliable links as well. It does this by keeping track of the “signature” of each incoming file: its name, and 20 bytes or so of information about the file’s contents which will match only one file out of every million billion billion files. (Not perfect, but pretty close.) If a new inbound file has the same name and the same signature, Rex considers it a duplicate, logs it in the log file and deletes it.

Rex’s log

Logging options

By default, when you start running Rex, all the logging options will be turned on. That means Rex will log just about anything and everything it does to its log file, in case you need it to figure out problems with the connections, and just to let you know what it’s doing. As things go on though, you’re not likely to need all the information Rex logs: you can choose which portions of the log file you want Rex to stop logging here. You can also select how Rex will manage its log file: multi-megabyte log files aren’t everyone’s favourite thing, and with log auto-trimming Rex can ensure you don’t have to worry about that.

Each of the lines Rex adds to the log file starts with a symbol to tell you what sort of log entry it is. To enable or disable logging of a particular type of message, just set the field for the log entry of your choice to “yes” or “no”. Most people won’t need *Debug logging* on all the time: the remaining choices are usually good to keep, but optional nevertheless.

Controlling the size of Rex’s log file is just a matter of setting a maximum size in the *Logfile maximum size* field and running Rex with the `-trim` command line argument. You can also have Rex automatically trim the log file after every run by setting *Autotrim logfile* to “yes”. If you have a big maximum logfile size or a slow hard drive, this will slow things down a little at the end of Rex’s run.

Not for beginners If you have the user level set to something other than “Beginner”, you can also decide how Rex’s log file should indicate an end-of-line. DOS, in its infinite wisdom, provides two ways of ending a line in a file: the “text mode” carriage return/line feed pair, or the “binary mode” carriage return. You can choose which Rex will use in the *Logging mode* field. If you find the program you’re using to read Rex’s log runs all the lines together into one big line, you’ve probably got this in binary mode when it should be in text mode. On the other hand if your program inserts an extra blank line between every line in the log file, you’ve probably got this in text mode when it should be in binary mode. If you don’t have any problems reading the log file, then there’s no reason to change this setting.

The queue editor

Queue editor

The queue editor function of the configuration programs lets you see what files have been queued for sending to the various nodes in the node manager. From here, you can snoop around in Rex's queue, change details in the packets queued, pull files out of the queue back to disk or remove mail before sending it in case there was a problem.

After entering the queue editor, you'll be presented with a list of the queue files, each with the name of the person who will be receiving the mail, their netmail address, and some quick details on the queue file itself: when it's due to be resent (if applicable), whether it's been resent and so on. A sample view of the queue editor might look something like this:

The person files are queued for is on the left, followed by the time until it's next resent (or "not sent" if it hasn't been sent yet), and after that a series of letters indicating its queue status:

I	Inbound file (multipart message)
O	Outbound file
S	The file has been sent at least once
R	The file has been queued for resending
Q	The file is still in the queue
F	The file has been expired forcibly

You can select any one of the queue files listed to get more details about it. Doing so will bring you up a menu which looks like this:

Inbound files will be multipart messages that Rex is waiting to complete. These will have *Resend* and *From* fields. Outbound files are files which Rex is either waiting to send for the first time, or which Rex is holding until the remote node acknowledges receipt of the file. These will have *Sent* and *To* fields. On the right side of the screen, you'll see this queue file's *Queue number*: this lets you identify which of the files on disk Rex is looking in for the information you're looking at.

The most common type of queue file you'll see in Rex's queue by far will be files which are waiting for acknowledgement from other nodes. If you choose one of these files, you can change the queue file so that Rex thinks it has been acknowledged (by choosing the *Expires* field and answering "yes" to the request to expire it now), or you can modify the contents of the queue file: delete files from it, move them back to the hard drive, or change their filename. Do this by selecting the *Contains* field.

The contents of the queue file are displayed as a list of files: filename first, then the size of the file's entry in the queue file (usually the same as the file's size, unless it's been split into multiple parts), then the file's 32 bit CRC, it's confirmation number, and finally a few letters to tell you whether the file has been sent or not (S), acknowledged (A), resent at least once (R), is a receipt file (T) or is one part of a multipart file to be sent (P). The details are just there for a quick reference: anything you want to change has to be changed by selecting a file entry to edit with the **enter** key. This will bring up a new menu:

Getting to know Rex

Most of the information presented here you don't have to worry about. (For more technical definitions of all of the fields, see the technical manual.) Some of the information you can change though. If you'd like to assign a new name to the file being sent, you can change the *Filename* by selecting the field and typing in a new name. If you'd like to have just this file resent, you can change the status of the *Sent* field for this file. Similarly, you can mark or unmark a file as being acknowledged by the remote by toggling the value of the *Acked* field. Finally, if you'd like to remove the file from the queue and put it back on your hard drive for modification, you can do so by selecting the *Location* field: returning the file to the disk will take the file out of the queue and put it in the inbound files directory of your frontend mailer.

There are more things you can do with the queue editor, more than can be covered here without going into some gory details about Rex's queue structure. If you'd like more information about the queue editor, look in Rex's technical manual, or refer to the online help.

Reliable email connections

Connection defaults

Node manager → (node) → *Connection information*

Despite the best-laid plans of the internet administrators, the internet itself is not a reliable connection. Mail servers going up and down, changing mail along the way, FTP servers with different protocols or slightly disconnected adapters can all result in the data you send not being what the other end receives, if it receives it at all. Losing mail in a Fido network can result in more than a few people being a little annoyed, especially since modem connections, while not particularly fast or cheap, are at least fairly reliable. Internet Rex offers a way around this: a method of ensuring that the mail you send is what the other end receives. This feature is available when talking to a number of different programs, not only Internet Rex, but also Allfix and TransX. It works by including a manifest in each email or FTP connection it sends, a listing of all the files that are supposed to have been transferred and a signature for each of them to make sure that the file received is the same as the file sent. Nodes which receive this manifest check it against the files they've received, and if everything matches, an OK message is sent back; if there's a problem, a request for a resend is sent back instead.

Reliable email connections are configured in two places in Rex. The first is at the node level: for each node in the node manager you can define whether you want the connection to be reliable or not, and how you'd like the connection to work. This is done in the *Connection information* menu of the node manager.

Node level options

Users with a user level of Intermediate or Beginner will have just one field to set to establish a reliable connection: *Reliable connection*. Set it to "yes" to have Rex set the connection details up for you, "no" if you don't want the connection to be set up as reliable. Note that if you set this to "yes", the node on the other end **must** be using software that understands reliable connections for the setup to work. At the moment, this includes only Internet Rex, Allfix, TransX and any SEAT compatible mailers. If you try to setup a reliable connection to a node that doesn't support them, you will end up sending and resending files to them because they never send back receipts acknowledging they received the files correctly.

Getting to know Rex

Advanced or Expert users will have a little more liberty in setting up reliable connections. There are five fields to do this with: *Send acknowledgements*, *Resend request delay*, *Accept resend requests*, *Purge delay* and *Auto-resend unacknowledged mail*. The first two and last three are linked.

Send acknowledgements tells Rex to send back receipts OK'ing or requesting resends of mail that has been received. You can set this to "yes", "no" or "batch". "Batch" is equivalent to "yes", except that instead of sending back one message for each acknowledged file, it sends all the acknowledgements for the files it receives in one session in a single file. This will cut down on the number of messages Rex has to send. This setting should match what the remote has setup for their equivalent of *Accept resend requests*. The *Resend request delay* tells Rex how long to wait before requesting a resend of incomplete multipart mail. (Incorrectly received mail will have a resend request sent immediately.)

Accept resend requests tells Rex to keep a copy of mail sent to this node in its queue directory until it's received an OK from the other node. How long that mail is kept before Rex gives up on trying to send it is determined by the *Purge delay* setting: after this time Rex will either delete the mail, or if you turn on *Auto-resend unacknowledged mail*, will resend it. The number of times it resends it is set in the *Connection defaults* menu.

A good set of values for the five reliable connection fields is:

<i>Send acknowledgements</i>	Batch
<i>Resend request delay</i>	32 hours
<i>Accept resend requests</i>	Yes
<i>Purge delay</i>	96 hours
<i>Auto-resend unacknowledged mail</i>	Yes

Global connection options

Because of the difference between connections, the above settings are done on a node by node basis. (You would get a receipt back much faster from someone who checks their mail every few hours than from someone who checks it once a week.) There are some values for reliable connections which apply the same to every connection, and these are setup in the *Connection defaults* menu.

Although reliable connections generally ensure that mail will arrive, eventually, there are some cases where Rex just has to give up and stop try to resend the files. (Someone changing email addresses without notifying you for instance.) For this reason, there is a *Maximum resends* field: after this many resends, Rex gives up trying to send the file and just deletes it from its queue. You can set this to anywhere from 1 to 8. Similarly, there are some cases where Rex just won't be able to receive a multipart file: if the remote has deleted the file because of maximum resends, for instance. In this case, you have to give Rex a maximum amount of time to keep a partially completed multipart file around before giving up: this is done in *Partial purge delay*. How this setting is applied is set by the *Purge known partials* field. If the partially completed file is from a known node (one in the node manager), you can have Rex keep the file indefinitely by setting *Purge known partials* to "no". In that case, only partially received files from anonymous nodes will be deleted after time. Otherwise, all partial files fall under the chopping block eventually.

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Rex being the bright puppy that he is can also acknowledge files from nodes not in the node manager, by sending receipts back to the person listed in the From: address of the email message sent. If you'd like to enable this feature (it's useful while testing new links with nodes using a reliable connection), set *Default send acknowledgements* to "yes". Enabling this also requires you to give a delay for requesting resend of partially received multipart files from anonymous nodes: that can be entered in the *Default resend delay* field.

Secure and encrypted mail

Node manager → *(node)* → *Connection information*

For many Fido networks, the question of security is an important one. The last thing people want is someone spamming your network with loads of fake mail, or reading someone else's netmail. The open nature of the internet makes this even more of a concern, as faking email is not a hard thing to do. Rex has a number of solutions to these problems, some common to standard Fido file transfers, some a little more advanced.

Many people set up session level passwords in their frontend mailers to authenticate the person on the other end: this way someone can't just connect with a mailer and arbitrarily transfer mail, they have to have a password in place. Internet Rex allows you to do something similar with mailers that support this feature. The *Session password* field can be used to setup a password to authenticate mail transfer between two SEAT level 3 mailers (at the moment, this only includes other copies of Internet Rex). Rex also uses this field as the session password sent during BinkP connections. The password can be up to 30 characters long and contain any symbol you like. It's compared against the password the remote uses case sensitively: "PASSWORD" would not be the same as "password".

The *Packet password* in Rex is similar in function to the *Session password*. The .PKT files that Rex creates when exporting netmail allow you to insert a password up to 8 characters long into them for authentication. The remote's mail tosser would check this and passwords that didn't match would result in the .PKT being flagged as insecure or corrupt. The password here is compared without regard to case: "PASSWORD" and "password" would be considered the same.

If you're looking for real security in transferring mail, the above two methods provide some assurance that the mail you receive really is from the person that claims to have sent it, but it provides no protection against other people examining the data. If you'd like to be sure that no one will read the messages you send through Rex except you and the person who is supposed to receive them, you can add a further level of security to your mail by encrypting the files. Encryption garbles files as they're sent so that only someone who knows how they were encrypted and the password they were encrypted with can decode them and read them. If you'd like to setup an encrypted link, the person at the other end must be using a SEAT level 4 mailer that supports encryption. (Currently, only Internet Rex falls into that category.) If both people are using the right software, you enter the password you'd like to use into Rex's *Encryption password* field and choose an *Encryption method*, either "Blowfish" or "S-Coder". Blowfish is a very secure algorithm for encrypting files which should ensure that whoever wants to try to read your mail will need a supercomputer and a few million years to figure out what it says. It also takes a fair bit of processor time to do its encryption, at least in comparison with the other encryption method offered. S-Coder is a less secure algorithm than

Getting to know Rex

Blowfish: someone who knows what they're doing could probably crack the password on your mail given a fast Pentium computer and a few days to process it, but it doesn't take as much time to encrypt the mail. In order to ensure that someone using brute force attacks doesn't guess the password for your mail immediately, Rex requires that encryption passwords be at least 8 characters long.

When decrypting encrypted mail, both nodes must have **exactly** the same password and encryption method in place, otherwise the mail will end up looking like a garbage file. Exactly in this case means that every character must be the same: "PASSWORD" on one end and "password" at the other will not work.

With all these features available, there can be no question that a secure connection can be setup between two nodes. Even so, Rex allows you to define your own criteria for a secure connection or not with the *Secure connection* field. Setting this to "yes" tells Rex that this connection is secure, regardless of what passwords you've put in place. A securely connected node will have its files saved in the secure inbound directory of your mailer instead of the regular inbound, and will have access to files described in the secure alias and directory lists of your file request setup. Setting *Secure connection* to "no" tells Rex that the node should be treated like any other.

Transfer statistics

Node manager → *(node)* → *Statistics*

So you've been running Rex for a while, and you're curious as to how much mail you've sent to someone over the last little while.... Or you run an interBBS league through Rex and are wondering how long it's been since someone sent you a packet.... Or you just plain want to see lots of numbers and dates and stuff.... To help you in your quest, Rex keeps statistics on all the nodes in the node manager.

Rex's statistics include the last time Rex received, queued or sent mail for a node, how many files were sent or received and how many kilobytes were sent or received. These are kept track of along with the date you last reset all these values. To see a node's statistics, just select the *Statistics* option from the node editor. If you want to reset these to zero, hit **return** in the statistics screen. To close the window, hit **escape**.

Rex can also generate files which display all the statistics for all the nodes in a compact form. You can access these functions by running the configuration program with the `-stats` or `-dates` command line switches. See the section on command line options for the configuration program for more details.

Advanced node setup options

Node manager → *(node)*

One option for node setup that wasn't discussed before was the use of the *Node active* field. You can set this to "yes", "no", "receive files only" or "send files only". When in "receive files only" mode, Rex will check to see if the node has sent any files, but won't send or queue any mail for this node: "send files only" mode is the opposite of this, where no mail is downloaded, but mail present is queued up and sent. Setting *Node active* to "no" stops Rex

Getting to know Rex

from processing anything for this node, either inbound or outbound. Setting it to “yes” leaves the node running normally.

If you have your user level set to Advanced or Expert, there are a couple of extra options available for configuration when you go to manage a node.

The *Mailbox directory* can be used to have Rex send all files from a particular directory to this node. If you give a directory here, any file Rex finds in that directory will be sent to the node you’re setting up. Note that Rex does nothing except send the files from the directory and delete them when it’s done. Many have tried to use this to send files from Binkley outbound directories for other domains: this **will not work**. If you have more than one domain setup in Binkley, you can have Rex process the mail for that domain by adding the domain’s outbound and the zone it’s linked to to Rex’s domain setup in *Address manager* → *Domains*. (See the Address manager section of this manual in Getting started for more details.) Many have also set this to their netmail directory incorrectly. Again, **don’t do this**. A mailbox directory and a netmail directory aren’t the same thing. Configure your netmail directory in *Files, paths and programs* → *Frontend mailers* → *Netmail directory*.

The *Netmail bundled to* option lets you specify what sort of .PKT file Rex will put netmail for this node into. “Type 2+” should work nicely for most connections. Note that as of yet, there are very few mail tossers which support the “Packet 2000” packet type: only select this if you’re sure it will work with your remote’s mail tosser.

Daemon mode

Event manager

Rather than forcing you to run another program to manage running Rex at particular times, Rex includes a daemon mode of operation which will let you leave it running and have it run itself with particular command line options at particular times. Running Rex in this mode is done by giving it the `-daemon` command line option. The events it runs are determined by what you put in the *Event manager*.

When you first enter the *Event manager* window, the screen has no entries. To create a new event, hit the `insert` key.

The event menu has two sections: the top describes the event and when it will run. The bottom describes how Rex will react when it receives mail during the event.

Each event has an *Event tag* that uniquely identifies it. This is a single upper or lower case letter or number. Each event also has a day and time at which it’s run, and a repeat time. Select the days you want the event run in the *Days to run on* field and the time in the *Start time* field. The start time is the time the event is first run on each of the days it’s allowed to run on (in 24 hour clock mode). In *Repeat event every* you give the time between each running of the event. For instance, to have something run every hour, you would give a start time of 0:00 (midnight) and a repeat event every 60 minutes (translated to 1:00). If you only want the event run once a day, just give a repeat event every time of 0:00.

Events can be disabled by setting the *Disabled* field to “yes”. (Note that for Rex to run in daemon mode, you must have at least one event that isn’t disabled.) Events can also be set to be forced events. If Rex misses a forced event (because it had been shut down at the time, or the computer was frozen), it will run it immediately the next time it’s run in daemon mode.

Getting to know Rex

Otherwise, Rex will skip any missed events and run them when they're next scheduled to be run.

What Rex does for any event is governed by the *Command line* field. Here you give the command line you'd have Rex run with if you were running it from a prompt. For instance, to have Rex fetch all mail during a particular event, set the command line to `-f`.

If Rex does receive mail during an event, you can set how it will behave in the bottom part of the menu. Values you set here override any you might have set for the matching fields in the *Files, paths and programs* → *Internet Rex files and paths* menu. The *Received mail semaphore* field gives the name of a file that Rex will create if it receives mail during the event. *Run BETWEEN.BAT* determines whether Rex will run the BETWEEN batch file to process inbound mail if it receives any. *Always run* will tell Rex to run the batch file regardless of whether it receives mail during the event or not.

RexFix remote management

Node manager → *(node)* → *Connection information*
Rex's behaviour

In the *Rex's behaviour* menu, there are two options for controlling a feature of Rex called RexFix processing. RexFix processing allows Rex to process requests from nodes in the node manager to change their setup options. This lets nodes pause mail sending for a while (when they go on vacation for instance), change email addresses, transport methods, site addresses and so on, all without bothering you with the setup details. They do this by writing messages to RexFix in a particular format. (See the file `REXFIX.TXT` included with the standard distribution for more information on the message format and commands available.)

Whether or not Rex processes these requests is determined by the value of the *RexFix processing* field: "enabled" means any node can send RexFix messages and have Rex process them. "Disabled" turns off RexFix processing: Rex will ignore any RexFix messages and simply post them to netmail like any other piece of mail. If you decide to enable RexFix processing, the *Delete RexFix messages* will determine whether Rex deletes the inbound messages once it has processed them, or whether it will post them to netmail.

Each node has a *RexFix password* field available in the *Connection information* menu of the node manager. If there is no password given here, Rex will process any RexFix request that appears to be from that node. However, if a password is given here, Rex will only process requests which have a matching password in the subject line of the message. This lets you make sure other people aren't changing your nodes' setups: remember that email is easily faked. Each node also has flags which let you decide whether the node will receive RexFix help or notify messages when you create these from the command line. Setting *Send help messages* or *Send notify messages* to "no" will prevent Rex from creating messages for these nodes from the command line unless you specifically tell Rex to. Use this for masking out uplinks when sending out notify messages: for example, if 1:342/0 was your uplink, and you had a number of nodes in net 342, you could send notify messages to only them by setting the uplink node's *Send notify messages* to "no", and specifying `rex -notify 1:342/*` on the command line.

Getting to know Rex

Command line options for the configuration program

The configuration program has a few command line options which you may find useful when generating statistics, nodelists or playing with the colour configuration.

`-stats [reset]`

This option will generate a statistics file in STATS.TXT. It basically dumps all the statistics Rex has gathered on all the connections in the node manager to that one file, listing the number of files sent and received, the number of kilobytes sent and received, and the time the statistics for each node were last reset. You can optionally tell Rex to reset the statistics for all the nodes in the node manager by adding the `reset` switch after the `-stats` switch.

`-dates`

The `-dates` switch is another statistics option for Rex. Instead of listing the number of files and kilobytes transferred, this option lists the dates that Rex last received, queued and sent mail for each node in the nodelist. The statistics are dumped to the files DATES.TXT.

`-nodelist`

This can be used to dump the contents of the node manager to a text file. Every node listed in the node manager will be written out to the file NODELIST.TXT, including their addresses, email, FTP or BinkP setup, connection passwords and so on. Useful for creating a text backup of your *.REX files in case they're lost or damaged.

`-queue`

This lets you skip the start-up menu of the configuration program and takes you straight to the queue editor.

`-original`

If you were playing with the colour configuration portion of Rex and accidentally setup a colour scheme that hides some important options, or you just want to reset back to the original scheme for a while, giving the `-original` switch will tell Rex to use the original colour scheme this one time it's run.

`-monochrome`

Like `-original`, `-monochrome` tells Rex to use the monochrome colour scheme for this run of the configuration program.

Troubleshooting

“Anything that can go wrong, will.”

- *Murphy's first law*

In an ideal world, every program, once installed, would run perfectly and there would never be any problems. The real world works a bit differently.

Rex will usually give you a pretty good idea of what problems it's having when things go wrong. How to fix them may not be immediately obvious. To help with that situation, this section will present a list of common problems and how to fix them, as well as a list of errors Rex might give you, what they mean and how to fix them.

Common problems

I tell Rex to send files, but nothing gets sent, even though I know there's stuff there to be sent.

The first thing to check would be that you are queuing files to be sent. Rex makes a difference between queuing files (which moves files from your mailer's outbound to Rex's outbound) and sending files (which actually sends the files in Rex's outbound). To take mail from your outbound and send it to the recipient, you should be running Rex with both the `-send` and `-queue` options.

If you are telling Rex to queue files, check Rex's queue with the queue editor. Are there packets listed there to be sent? If not, Rex isn't finding any mail to be sent in your mailer's outbound. Check the setup for your front end mailer in *Files, paths and programs* → *Frontend mailer setup*. You should also check the setup of the nodes you expect Rex to find mail for: make sure the node hasn't been set inactive, that you have the right netmail address and that any routing commands you've setup are correct.

Finally, if you're connecting to the net over a dialup connection and you're running under Windows, check that the connection you've pointed Rex to is actually there, and that Rex can access the modem. If *Autodial* is set to “no”, remember that you'll have to establish the connection yourself before Rex will use it.

Rex keeps downloading email from person A and saying it's from person B.

or

Rex is downloading email from person A and saying it's a stray Internet Rex / Fido2Int / Allfix / TransX message.

Misidentification of mail is almost always the result of incorrectly setup matching rules. It's very important that the matching rules you setup for an email node match that node's mail and only that node's mail. The first problem indicates the matching rules for person B may be too broad (matching mail that it isn't supposed to), and/or the rules for person A are too narrow or incorrect (they aren't matching against person A's mail). Similarly for the second problem, the matching rules for person A are too narrow or incorrect.

You should setup matching rules first so that they match the person's email address in the From field. That is, for someone whose email address is “joe@somewhere.com”, the first matching rule should be

From contains joe@somewhere.com

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If Joe is likely to send you email from that address which you don't want Rex to decode, have him pick a subject he'll use to send mail which Rex should be decoding. (A good choice might be "Mail for Rex" or "SomeNet mail".) Then add an extra rule to the matching rules so you end up with

*From contains joe@somewhere.com and
Subject contains Mail for Rex*

For more on exactly how Rex checks matching rules, look in the technical manual.

It's important that Rex be able to correctly link inbound mail to nodes in the node manager: if it can't do that, the inbound mail may be misprocessed, or there may be errors generated which normally wouldn't apply to the message.

I'm using the Windows version of Internet Rex with dialup networking, and when I go to start Rex, all I get is Windows telling me another application is using the modem.

Windows (especially Win95) isn't that bright when it comes to dealing with multiple programs trying to use the modem. Certain DOS programs (such as FOSSIL drivers or some terminal programs) will result in Windows thinking the modem is in use long after they've been shut down, and so long as Windows thinks the modem is in use, it won't establish a dialup networking session.

There is a fix for this problem. You'll need to open the file `system.ini` in your Windows system directory with your favourite text editor, and find the `[386Enh]` section. Add the line

`Com<n>AutoAssign=0`

to the file, save and reboot. Replace the `<n>` with the COM port your modem is on. So for instance, if your modem were on COM2, you'd add in

`Com2AutoAssign=0`

This tells Windows to allow multiple programs access to the modem at once. You can also set this value to anything between 1 and 999 to have Windows wait a certain period of time before transferring control from one program to the other.

I'm using the DOS 16-bit version of Rex and using a BETWEEN.BAT or automatic packing/unpacking of mail for a node. I frequently get memory manager errors. (QEMM exceptions, etc.)

The EMS/disk swapping routines included with Rex seem to react badly with some memory managers. If you're having these problems, try disabling EMS/disk swapping (in the *Rex's behaviour* menu). The programs you run (BETWEEN.BAT and archivers) will have about 200K less conventional memory to run with, but the memory manager errors will cease. If this causes problems, try running the 32-bit version of Internet Rex for DOS. It uses a different system for memory management, one that might be more compatible with your memory manager's.

Errors from Internet Rex

This is a list of some of the most common errors you're likely to encounter with Internet Rex, what they mean, and how to fix them, if applicable.

Troubleshooting

Fatal errors (!)

Rex died from internal error 5 (non-Linux versions)

or

Rex died from internal error 11 (Linux version)

Usually this indicates a bug in Internet Rex. Send in a bug report, including a copy of your log file and your *.REX files.

Rex killed by user with signal 4

You pressed Ctrl+Break or sent a kill signal to Internet Rex to stop it running. This is nothing to worry about, but Rex gets a little concerned when it happens.

Rex died from internal error # (# is anything other than 1 to 9)

This often happens under DOS when Ctrl+Break is pressed, as signal handling works a little different there. If you didn't press Ctrl+Break to stop Rex, this is a sign of a bug in Rex. Send in a bug report, including a copy of the log file and your *.REX files.

Other errors (?)

Incoming file did not have an associated manifest record

The message Rex received was from a node that had a reliable connection setup (or at least had *Send acknowledgements* set to "yes" or "batch") but the inbound file wasn't in the manifest, or there was no manifest to begin with. Usually this happens when you've setup a reliable connection with another node, but the other node hasn't enabled a reliable connection at his end. No files will be lost, but you should check with the other node to get the connection setup correctly. If the other node has set up auto-resends, not fixing the connection may result in you receiving duplicate files and/or messages.

Incoming file failed CRC check

This may happen on occasion if a message gets altered between someone sending it to you and you receiving it. If it can, Rex will request a resend of the file so the data arrives correctly. If you get these repeatedly from the same node, it may be a sign that the other end has setup encryption and you haven't, or that your encryption passwords don't match.

Incoming file failed authentication check

This may also be the result of a message being altered between someone sending it and you receiving it. If you receive these repeatedly from the same node, it may also be a sign that your session passwords don't match, or if you haven't got a session password setup for that node, that the other node has set one up without telling you about it.

FTP script failed at line # with error #

There was a problem with the FTP script for this node. The number indicates what the problem was after "error".

- 1 The FTP site stopped responding to commands, or data was not received when it was expected. This will happen if the connection to the FTP site is lost, either at

Troubleshooting

- your end or somewhere else along the line, or if the FTP site goes down while you're connected.
- 2 The FTP site disconnected while you were online. This can be the result of the site deciding something you were doing was bad, or just the connection going dead. Try running your script manually to make sure that it's not doing anything the FTP site is opposed to.
 - 3 A file transfer was attempted, but the connection to transfer the file over was dropped or never established. This may be the result of a poor connection between you and the FTP site.
 - 4 Not enough space. You tried to upload something to the FTP site, but it ran out of space.
 - 5 Permission denied. There are any number of permissions that you might not have had, including no access to uploading, downloading, deletion or reading a directory. Whatever command your script was running on that particular line was doing something the FTP site objected to: check your directories and permissions on the FTP site.
 - 6 Remote error. The FTP site had a problem, unspecified. Probably won't happen again. Probably....
 - 7 Bad filename. The file or directory you tried to create or upload had an invalid character in it, or was just too long. Some FTP sites run on FAT filesystems which don't allow anything except DOS's usual 8.3 filenames.
 - 8 Command unsupported. Usually happens with commands sent through QUOTE. Basically, the FTP site didn't support the command you sent.
 - 256 Unknown response. The FTP site responded in a way Rex didn't understand. This may happen repeatedly, in which case you should send a bug report with a copy of the log file with debug logging turned on.

Remote didn't understand SEAT keyword....

You're using a SEAT connection with a node whose implementation of the SEAT standard is a little older or a little less compliant than Internet Rex's. Rex will generally try to adjust its setup for that node so it doesn't use that particular keyword again (this applies to the "Auth", "Crypt" and "Freq" keywords). Some misunderstood keywords may be a result of a SEAT mailer that can't talk to Rex in the mode you have it setup in right now: for instance, Rex can send and receive SEAT messages using the Base64 encoding, but not all SEAT mailers are required to do this. Make sure that you've setup a connection with the remote that both mailers are capable of supporting.

Frequently asked questions

Can I use Rex to give my BBS users access to Internet email?

I'm afraid not. Internet Rex is designed only to transport BBS files across the internet. It can only act as an internet gate in a very limited capacity (see the section on Gating email to netmail in Getting to know Rex). There are many other programs available which perform this function far better: WaterGate, GIGO and InterGate are just a few.

Can I use my America Online (AOL) account with Internet Rex?

Again, the answer is no. At last check, AOL doesn't provide you access to their mail servers directly from your machine: you must be using their software to send or receive email. Because of that, Rex can't send mail through your AOL account.

If AOL change their setup so that you can access your AOL mail through a POP3 or SMTP mail server, that changes the answer to this question to yes. You may want to ask one of the administrators at AOL if access to a POP3/SMTP server is available.

Do I have to register Rex once for each operating system I run it under?

Nope. If you register Internet Rex, the registration code you receive will apply to all versions of Internet Rex. For instance, registering the DOS version means you'll get a registration code that works with the DOS, OS/2, Windows or Linux versions of Internet Rex.

The only limitation on registration codes is that they are linked to the *Sysop's name* field in General information. You and only you can use your registration code. If you want to transfer your registration to someone else, please contact the person you registered Internet Rex with.

I run a DOS BBS system under another OS (like Windows, OS/2 or Linux). Can I use the native version of Rex for that OS, or do I have to use the DOS version? How do I start the native version of Rex from my DOS BBS?

Most operating systems with DOS emulation support provide a way of starting native programs from DOS, so you should be able to use the native version of Internet Rex with your DOS BBS.

For Windows users, this is done with the `start` command. To launch a native Windows application from a DOS box and wait until it's done, use the command:

```
start /w (program and parameters)
```

Note that this will only work if you are running from a DOS box under Windows: if you've told Windows to reboot to MS-DOS mode, you're basically now running just DOS and you can't run any Windows native programs. Also note that there can be issues with multiple programs using the modem at once if you are using dialup networking: see the Troubleshooting section for more details on this.

OS/2 users should look for the utilities `hstart` or `os2exec`. These let you launch OS/2 native applications from a DOS window.

Another possibility is running Rex in daemon mode (see the section on this in Getting to know Rex). This skips the step of having to launch Rex from your mailer: it just sits running in the background and launches itself when you tell it to.

Frequently asked questions

I accidentally downloaded some mail that Internet Rex was supposed to process. How do I get Rex to deal with it now?

This can be an easy or a difficult thing to deal with, depending on what program you used to download the mail. If you downloaded the mail using a mail program Rex supports (Eudora, PMMail, Postroad mailer, MR/2 Ice or Nettamer), it's a relatively easy problem to fix.

To have Rex process the mail, go to the *Email setup* menu and choose the email address you used to download your mail. Remember the settings you have for the configuration in *Mail spool type*. Then change the mail spool type to the program you used to download the mail, and set the directories appropriately. (You may want to take a look at the section on setting up an email address in Getting started for help with this.) Run Rex with the `-fetch` command, and it will process the mail you downloaded. Then change the email address back to the way it was.

If you didn't use an email program Rex knows about, things are a little more complicated. You still have to go to the *Email setup* menu, choose the email address you downloaded the mail with and write down the settings for *Mail spool type*. This time, change the mail spool to "KA9Q style SMTP spool", and point the inbound and outbound directories to a couple of temporary directories on your system. Remember what you entered for the inbound directory.

Now, for each of the messages you want Rex to process, save the text of the message, including the headers, to a file called #####.TXT in the inbound directory you gave above. (Replace ##### with a number of your choosing.) When all the messages are saved, use a text editor to create a file called #####.WRK for each of the .TXT files you made (the #####s have to be the same). In this file, put the lines:

From: *sender's address*

To: *your email address*

Replace *sender's address* with the email address of the person who sent that piece of mail, and *your email address* with your actual email address. When you've created a .TXT/.WRK pair for each message, run Rex with the `-fetch` command and it will process the messages. Then you can remove the temporary directories and change the mail spool type for your email address back to the way it was.

Copyright notice and registration agreement

Internet Rex is copyright (1997-1999) of Khan Software and Charles Cruden. It is distributed with one restriction: the number of nodes configurable. Permission is granted to use Internet Rex for a period of 30 days without restriction. After that time you must either register the program or remove it from your system.

To register Internet Rex, look for REGISTER.ZIP in your original Internet Rex archive and use the file appropriate for your country.

Internet Rex is provided 'as is', with no warranty expressed or implied. The only thing Rex is guaranteed to do is occupy disk space. No technical support is guaranteed, though I will do my best to provide help when possible. See the Support section for information on contacting the author.

Under no circumstances will Charles Cruden or Khan Software be held responsible for damage caused by running Internet Rex or its associated problems. Any loss, financial or otherwise that may have been incurred while running, or as a result of not being able to run, Internet Rex is the sole responsibility of the person using the software.

Users who chose to register Internet Rex will receive a serial number and registration key which are unique to their system. Under no circumstances are these to be distributed to anyone other than the user they were originally intended for. Use of these keys on a system other than the original registrant's is expressly prohibited.

Failure to comply with these limitations may result in the registration being revoked.

Internet Rex and its associated programs may not be hacked, reverse engineered, run-time modified, etc. Distribution of patches, key generating or bypassing routines or any similar products is expressly prohibited and will result in the revoking of registration keys for people caught doing so. It may also result in legal action.

Users who have registered Internet Rex but later decide they no longer wish to comply with these restrictions may withdraw from them. In so doing, they forfeit their registration for all future versions, and their registration fees.

Other programs mentioned in this help guide are copyright of their respective owners.

Registration

The distributed version of Internet Rex is the shareware version. You are free to use this version for 30 days as a trial run of the program. If after that period, you continue to use Internet Rex, it has probably met with your approval and you are requested to register it.

The shareware version of Internet Rex is, for all intents and purposes, the same as the registered version, with one difference. You can only configure two nodes in the node manager in the shareware version. Registered versions of Internet Rex permit you to configure up to 50, or up to 1000 nodes, depending on which registration you choose.

Registration of Internet Rex can be done at any of the registration sites listed in the forms in the archive `register.zip`, distributed along with the rest of Internet Rex.

If you want to purchase large numbers of registrations for Internet Rex at once (5 or more), it's possible a discount can be arranged. Similarly, if there is no registration site for your country, it's possible an arrangement can be worked out for payment in your currency. Either way, please contact the author to work out details. (See the Support section of this manual.)

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