



“Diamond” Fax Reference Manual

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INTRODUCTION

FAX Overview

Office Extend FAX is a “client/server” system. It consists of one or more PC-based fax servers which handle the actual delivery and receipt of fax documents, along with clients for various platforms which submit documents to the server(s) for delivery. Supported client platforms include the Hewlett-Packard 3000 running MPE/V or MPE/iX, PCs running Windows for Workgroups, Windows 95, Windows NT, and some Unix systems.

The Office Extend FAX Server itself is currently runs on one or more Windows 95 based computers.





REQUIREMENTS

For the Fax Server

- Windows 95 (NT version in development)
- 486 or better (Pentium or equivalent recommended), 32 meg memory, 1 gigabyte available disk (depending upon image retention policies)
- Supported fax card such as the Wildcard (formerly Intel) SatisFAXtion Model 200/400, GammaFax, and Brook Trout. (Class I/II modems are not supported)
- Supported network interface PC's on the Network

For HP3000 Clients

- TCP/IP transport (which is bundled in FOS with MPE/iX 5.0 or later).
- MPE V, MPE/XL, or MPE/iX

For PC Clients

- Windows 3.11, Windows for Workgroups, Windows 95, Windows NT
- Winsock communications (must be obtained separately for Windows 3.11 - built into Windows 95/NT).

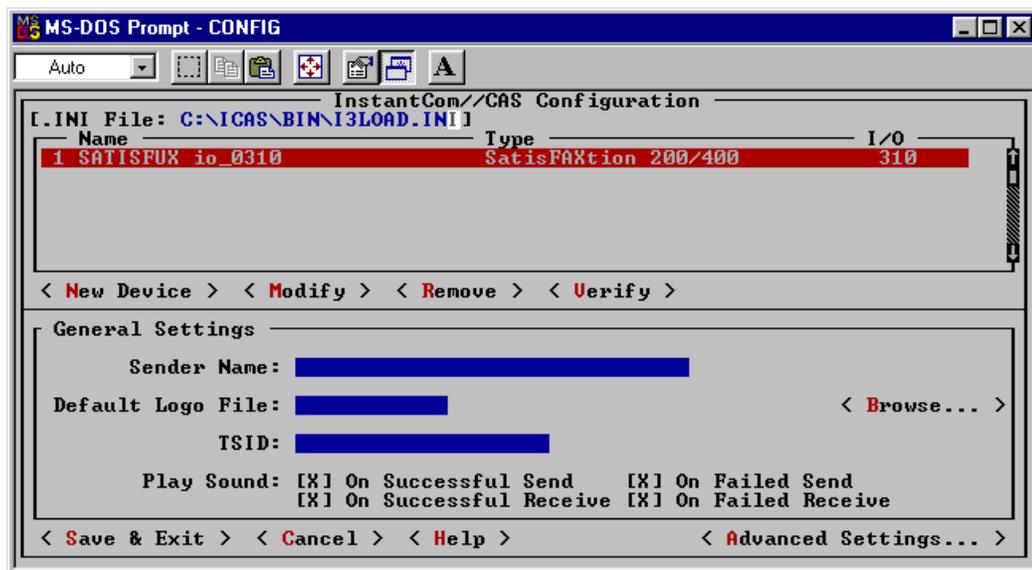
INSTALLING THE SatisfAXtion FAX BOARD

Install SatisfAXtion Fax Board and Drivers

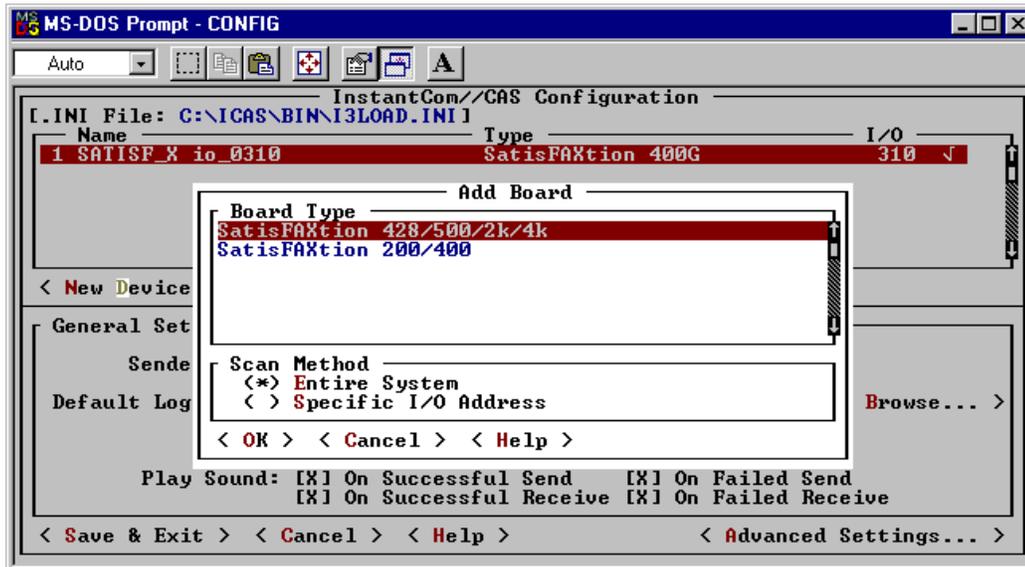
1. Install the fax board in an empty slot in the new PC
2. Install the version 1.10 ICAS drivers
3. Enter the following lines at the end of your Autoexec.bat file:
 - A. CD \icas\bin
 - B. Bi3load > i3load.lst
 - C. CD \

Configure the Fax Board

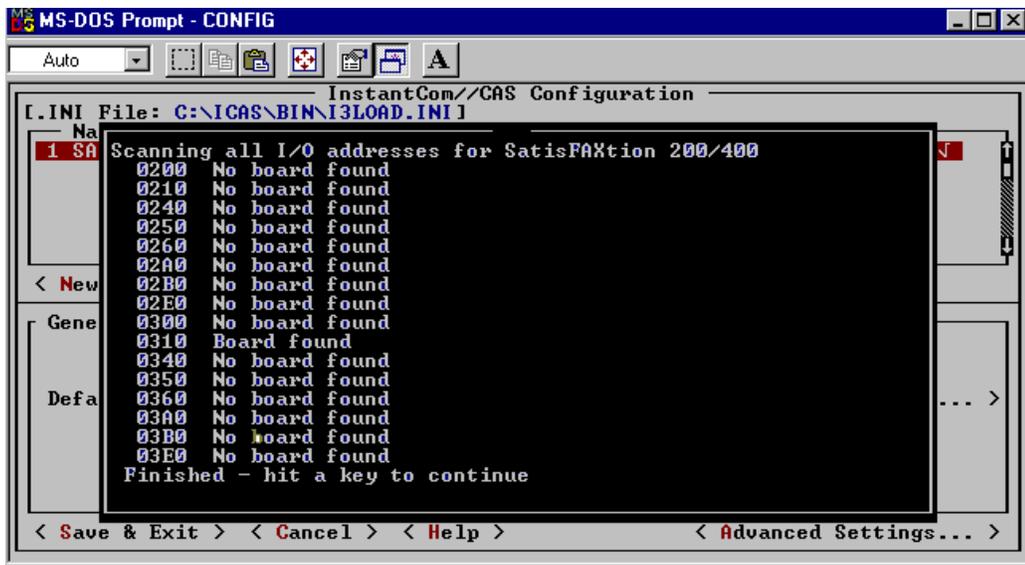
1. Open an MS-DOS window
2. Switch to the \icas\bin directory by typing CD \icas\bin
3. Enter the command config. The InstantCom//Cas Configuration main screen will be displayed.



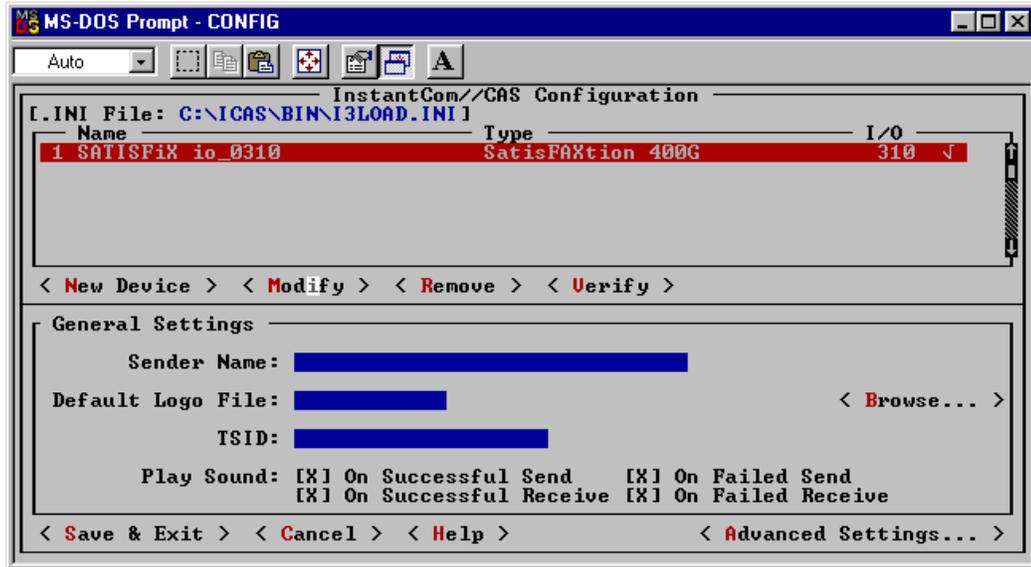
4. Select New Device by typing an ALT+'N' or clicking on New Device with your mouse. The 'Add Board' screen will be displayed.



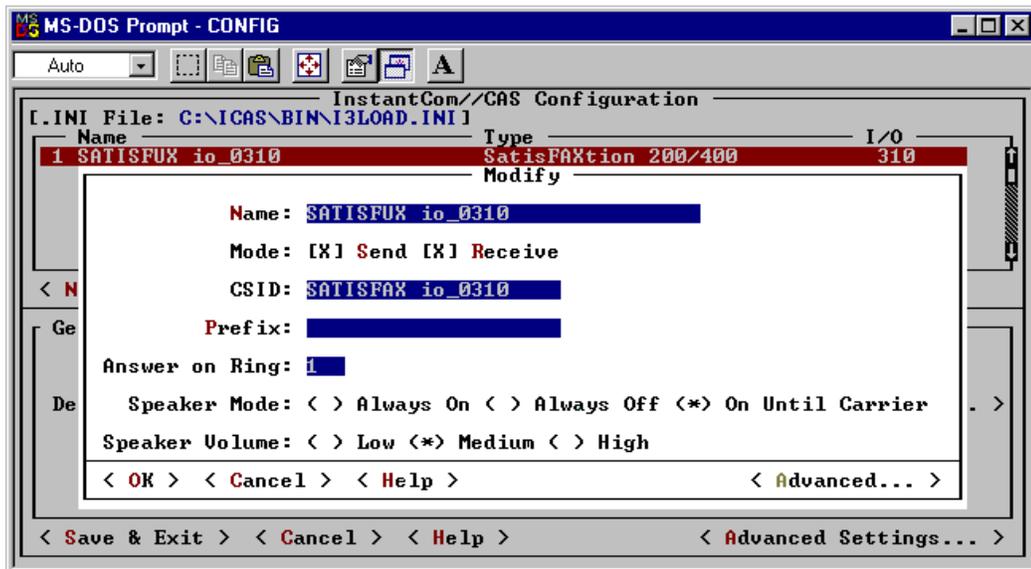
5. Select the SatisFAXtion 200/400 board type.
6. Make sure the 'Entire System' Scan Method is selected.
7. Select OK by typing an ALT+"O" or clicking on the OK with your mouse. The 'Scanning all I/O addresses' screen will be displayed.



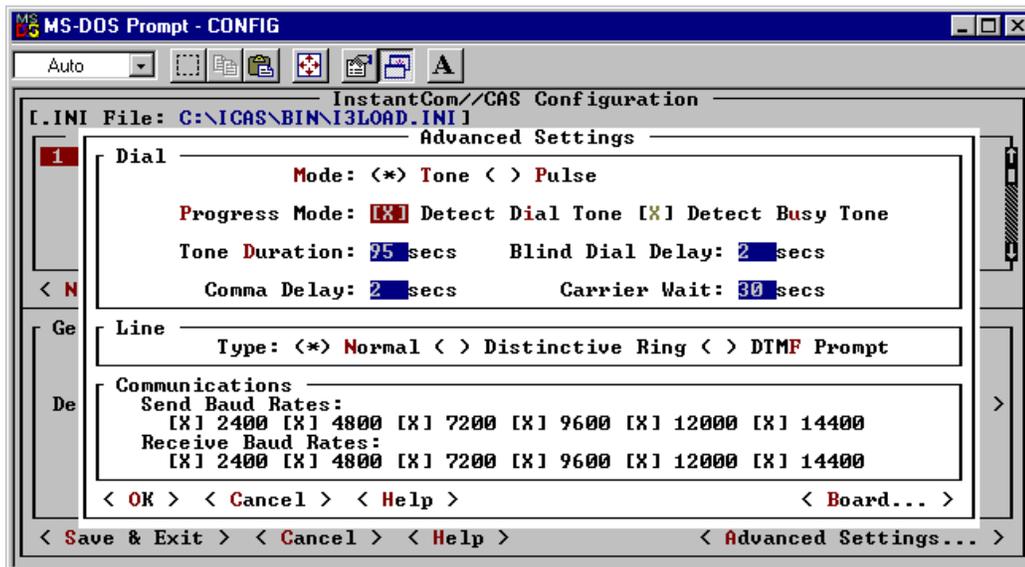
8. You should see something similar to the example above.
9. Press any key to continue. You will return to the main InstantCom//Cas Configuration screen.



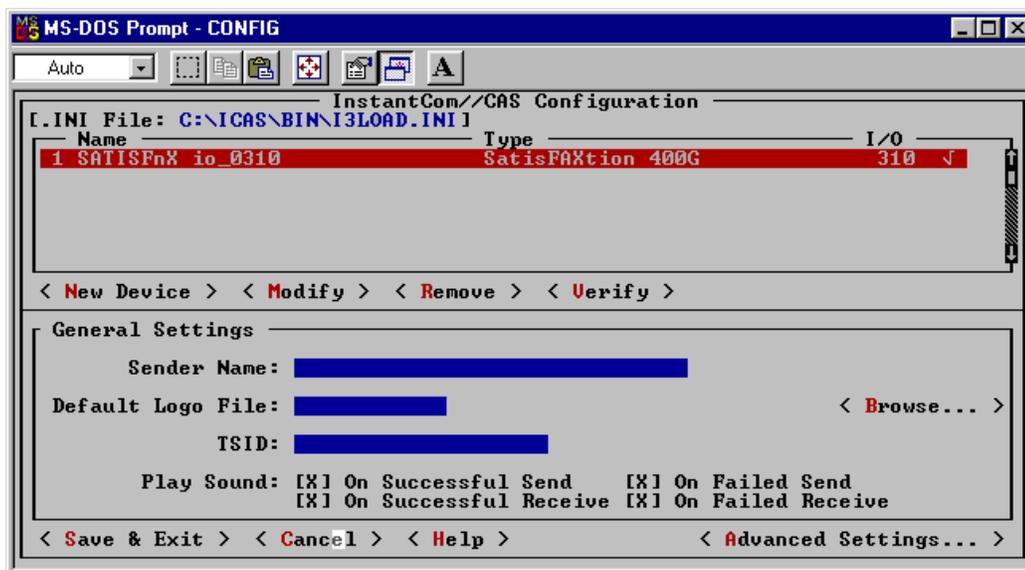
10. Select Modify by typing an ALT+'M' or clicking on Modify with your mouse. The Modify screen will be displayed.



11. Verify the following settings:
 - a. Mode: Send and Receive both have an 'X' in the brackets in front of them.
 - b. Speaker Mode: On Until Carrier has an '*' in front of it.
 - c. Speaker Volume: Medium has an '*' in front of it.
12. After verifying the settings select Advanced by typing ALT+A or click on the Advanced... label with your mouse. The Advanced Settings screen will be displayed.

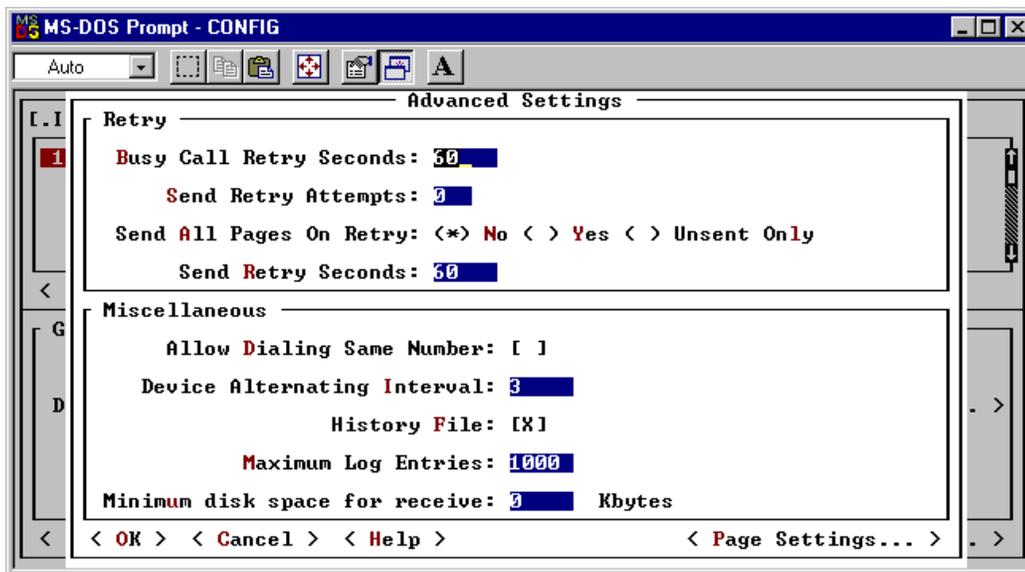


13. Verify the following settings:
 - a. Mode: Tone should have an '*' in front of it. NOTE: If your phone line is a pulse (you dial a phone number rather than use a key pad to enter the phone number) then Pulse should have an '*' in front of it.
 - b. Progress Mode: Detect Dial Tone and Detect Busy Tone both have an 'X' in front of them.
14. After verifying the settings select OK by typing ALT+'O' or click on the OK with your mouse. You will return to the Modify screen.
15. Select OK by typing ALT+'O' or click on the OK with your mouse. You will return to the main InstantCom//Cas Configuration screen.

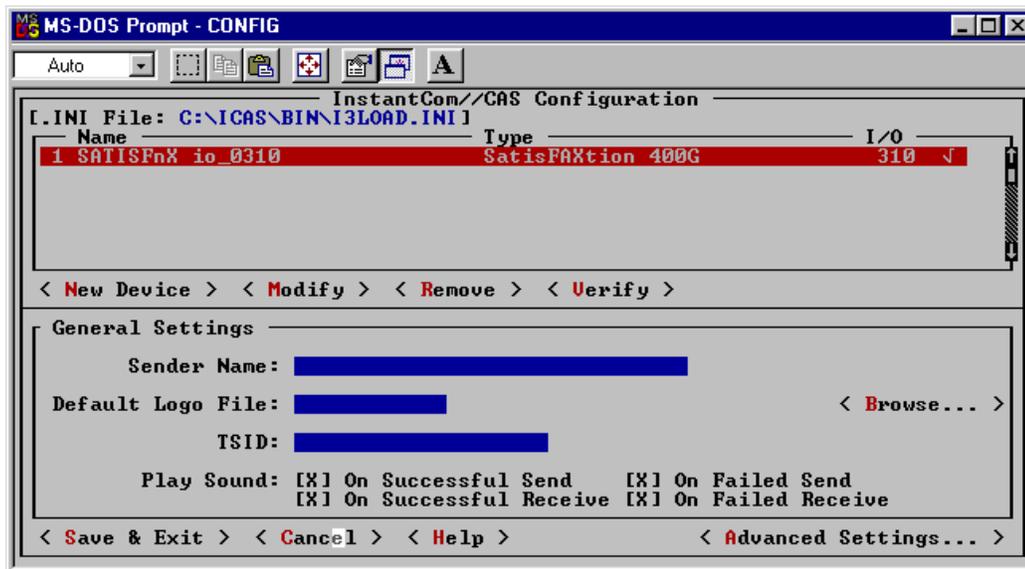




16. Select Advanced Settings by typing ALT+'A' or clicking on Advanced Settings with your mouse. The Advanced Settings screen will be displayed.



17. Verify the following settings:
 - a. Send Retry Attempts is zero (0).
18. After verifying the settings select OK by typing ALT+'O' or click on the OK with your mouse. You will return to the main InstantCom//Cas Configuration screen.



19. Select Save & Exit by typing ALT+'S' or clicking on Save & Exit with your mouse. The configuration changes will be saved to disk and you will return to the MS-DOS prompt.
20. Close the MS-DOS window and Restart your computer.



Test Fax Board

1. After your computer has restarted open an MS-DOS window.
2. Switch to the \icas\bin directory by typing CD \icas\bin
3. Start the Fax Test program by typing faxtest. The InstantCom//Cas Faxtest screen will be displayed.

```
MS-DOS Prompt - FAXTEST
Auto
InstantCom//CAS FAXTEST
Faxmodem Status — Event Handle
0: Idle
1: Not Installed
2: Not Installed
3: Not Installed
4: Not Installed
5: Not Installed
6: Not Installed
7: Not Installed
8: Not Installed
9: Not Installed
0: SATISFPX io_0310
F4=Configured: FAX_IN, FAX_OUT
Queue Counts
F1=Task: 0 F2=Receive: 0 F3=Log: 1
Event Status — Queue: Task — Handle:
Event type..:
To.....:
From.....:
Phone number:
Remote CSID.:
Device.....:
Pages/Files.:
Date.....:
Time.....:
Connect time:
Error count.:
Status.....:
Ins=Submit New Enter=Submit Selected ↑↓=Select Del=Cancel/Del Esc=Exit
Copyright (c) 1995 Instant Information Inc. All rights reserved.
```

4. Verify that the fax board is working correctly by sending a test fax. Follow the instructions on the screen to send a fax.



INSTALLING THE FAX SERVER

From the Internet

If you downloaded the demo via the Internet, then

1. Place the exe file in a directory on your hard disk (we recommend a directory with no other files in it already)
2. Execute the **faxdemo.exe** file

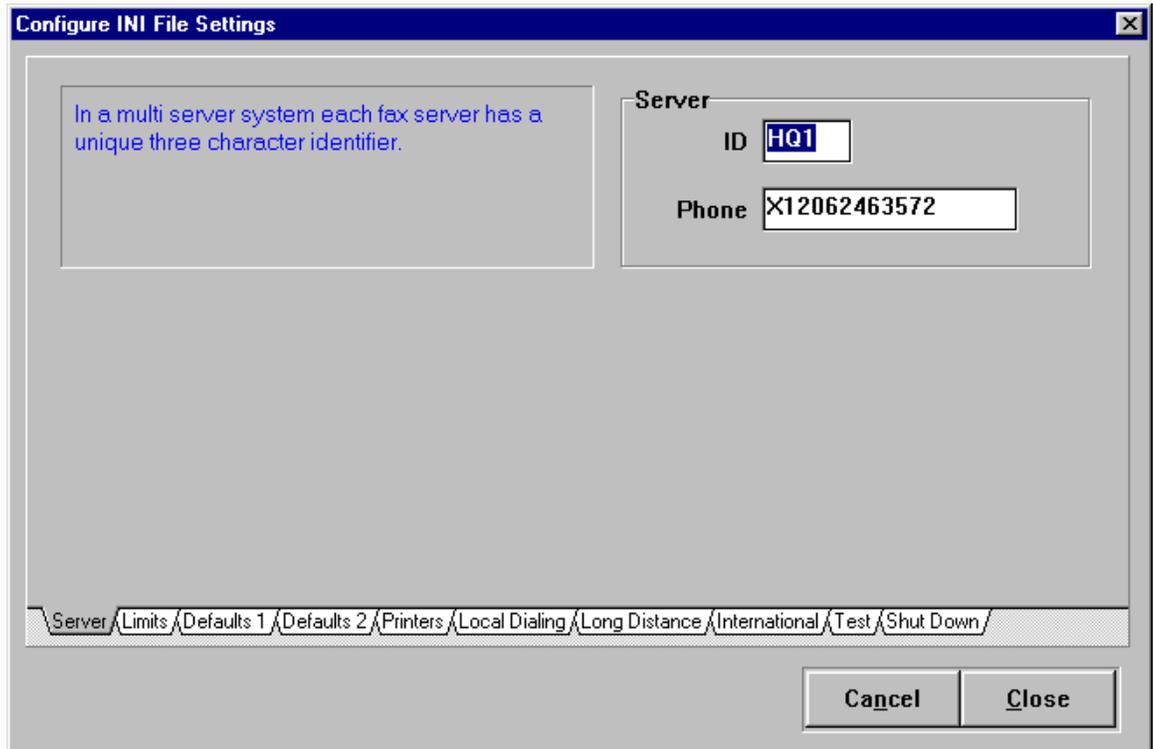
From Diskette

If you received the product via floppy disk, then

1. Insert **Fax Server Disk 1** of the Diamond Fax Server installation disks in your computer's floppy disk drive.
2. Run `a:\setup.exe`
3. The Diamond Fax Server setup program will step you through the software installation.

SETTING UP THE FAX SERVER

The System | Configure screen consists of the following sections: Server, Limits, Defaults, Local Dialing, Long Distance, International, Test and Shut Down. Each section will allow you to enter a group of related settings. Brief explanations of the configuration items appear on the screen itself. More detailed documentation is included below along with the configuration item values which appear in the actual INI file Diamond.Ini.



The diamond INI file has the following sections:

1. **[globals]** Contains global system information
2. **[webserver]** Contains settings for web server contained within Diamond.
3. **[database]** Contains database table names.
4. **[test]** Contains settings for a test fax.
5. **[tables]** Contains information about system tables such as dialing & routing info.
6. **[values]** Contains information used in creating phone numbers
7. **[default]** Contains default values for a fax.



1. [globals]

serverid	The three character branch identifier. Example: SEA
nextid	The next fax ID. Make this zero (0) when setting up a fax server for the first time.
Errdisplaylength	The length of time the Fatal System Error screen will remain on the screen. <i>Default is 60 seconds.</i>
standard time format	The standard format for displaying dates and times. <i>Default is YYMMDD HH:NN:SS</i>
serverphone	The complete phone number for the fax server with a prefix of 'X' Example: X12062463197
inboundprinter	The printer that will be used to print inbound faxes. <i>Default is the printer identified by the defprinter.</i>
Defprinter	<i>Default is the printer configured as the default in Windows.</i>
Retentiondays	The number of days to keep completed faxes. <i>Default is 10 days.</i> Any completed fax older than 10 days will be deleted from the system.
TableEditor	The editor to use when editing system tables. <i>Default: notepad.exe</i>
maxlogsize	The maximum size for system log files. <i>Default is 10000 bytes.</i>
watch dog interval	The number of minutes to wait for successful transport operation. Once the number of minutes to wait has been exceeded the fax will be sent via the fax board. <i>Default is 30 minutes.</i>

2. [webserver]

wwwport	The port to be used by the webserver for transporting faxes between servers. <i>Default : 7800</i>
default	The default page to be served by the webserver when it receives a request for a resource. <i>Default : default.htm</i>
root	The root directory for webserver

3 [database]

databasename	The directory where the Diamond fax server database is located. <i>Default : \DBMS directory within the main Diamond Fax directory</i>
tablefolder	The name of the folder table. <i>Default : FOLDER.DB</i>
tabletable	The name of the table table. <i>Default : TABLE.DB</i>



tablequeue The name of the queue table.
Default : QUEUE.DB

tablefile The name of the document table.
Default : DOCUMENT.DB

tablelog The name of the log table.
Default : LOG.DB

4. [test]

phone The phone number to be dialed for a test fax.
Default : 12062463197

attention The name that appears in the 'To:' heading on the test fax.
Default : tester

client The client name for a test fax.
Default : tester

confstyle The confirmation style for a test fax. Valid values are LONG, SHORT or NONE.
Default : SHORT

printer The printer that will be used to print the confirmation for a test fax.
Default : Printer designated as default in Windows.

errors only Flag for only printing a confirmation when an error occurs on a test fax. To only print a confirmation when an error occurs set this to ERRSONLY.
Default : NOERRSONLY

5. [tables]

PHONE1 The name of the first phone book file. Example : CHQCORP.PB
Default : (none)

PHONE2 The name of the second phone book file.
Default : (none)

PHONE3 The name of the third phone book file.
Default : (none)

HOSTS The name of the hosts file. Example : CORP.HST
Default : (none)

USERS The name of the users file.
Default : (none)

PARSE The name of the parsing rules file. Example : NORTHAM.PRS
Default : (none)

ROUTE The name of the routing file. Example : CORP.RTE
Default : (none)

DIAL The name of the dialing rules file. Example : NORTHAM.DIA
Default : (none)



LOOKUP1 The name of the first lookup variable values file. Example :
SYSTEM.LKU
Default : (none)

LOOKUP2 The name of the second lookup variable values file.
Default : (none)

6. [values]

IDP International dialing prefix. Example : 9,011
IDS International dialing suffix. Example : ,226
LCP Local calling prefix. Example : 9,
LCS Local calling suffix. Example : ,226
LDP Long distance prefix. Example : 9,1
LDS Long distance suffix. Example : ,226
MAC My area code (the area code for your location). Example : 206

7. [default]

retrylimit The maximum number of times to try sending an outbound fax.
Default : 10

priority The priority for a fax.
Default : Normal

confprinter The printer to use when printing confirmation notices.

confstyle The confirmation style.
Default : SHORT

draftmode Indicates whether to send a fax in 'draft' mode.
Default : false

paper The page size to be used. Example JPLegal, JPA4, JPLetter
Default : JPLetter.

Csid The CSID for the local fax board to use when identifying itself to
the remote fax machine.

from The name that appears in the 'From:' header.
Default : Office Extend Fax

billcode The code that a fax should be billed under.
Default : none.

Logdest The path to the system log files.
Default : none.

Pclenv The root directory for PCL conversions.
*Default : The \PCLJet directory within the main Diamond Fax
directory.*

phonebook

Diamond.INI file example



Should you ever need to view or modify the .ini files directly, these are some sample settings.

[globals]

nextid=0
serverid=MHS
serverphone=X12062469999
defprinter=MIS-17-PS
inboundprinter=MIS-17-PS
maxlogsize=10000
errdisplaylength=10
retentiondays=5
watch dog interval=30

[values]

IDP=9,011
IDS=
LCP=9,
LCS=
LDP=9,1
LDS=,209
MAC=206

[tables]

PHONE1=CHQCORP.PB
PHONE2=(none)
PHONE3=(none)
HOSTS=CORP.HST
USERS=(none)
PARSE=NORTHAM.PRS
ROUTE=CORP.RTE
DIAL=NORTHAM.DIA
LOOKUP1=SYSTEM.LKU
LOOKUP2=(none)

[webserver]

wwwport=80
default=index.htm
root=web

[test]

attention=Test Recipient
client=Test Client
confstyle=Short
phone=2463197
printer=MIS-17-PS
errors only=NOERRSONLY

[default]

confstyle=LONG



USING THE FAX SERVER

This chapter documents the operation of the Office Extend Fax server.

Starting and Stopping the Server

To start the Fax server:

- Locate the **diamond.exe** file (should be in the /diamond directory) and start it. You will probably want to copy the diamond icon into your server's "STARTUP" group so it is launched automatically when the server starts up.

To shut down the Fax server:

- Locate the diamond window on the server display. Select the "SYSTEM" option from the main menu bar then the "EXIT" option.

To temporarily pause the Fax server:

- Locate the diamond window on the server display. Find the green "box" on the bottom of the diamond window. Select the box to the right of the green box; this box will then turn red, indicating the server is suspended. To resume the server, select the green button (which is now gray) to the left of the red "stopped" button.

Screen Layout and Controls

The main fax server screen is split (top/bottom) between a listing of the various fax services and their status (on top) and a history or activity log on the bottom of the screen.

Monitoring the Fax Queues

The status and history of faxes passing through the server are reported in the bottom half of the main window display. By selecting the various tabs at the bottom of the display, you can choose to display all faxes, only active faxes, only canceled faxes, etc.

Testing the Fax Delivery System

Select the "FAX" item on the main menu bar, then select "Insert test fax". This will submit a test fax into the system, which will be faxed to the destination fax machine indicated in the test fax setup screen.

Canceling a Fax

You can cancel a fax in the server queue by highlighting the entry for that fax, and selecting the "Fax" "Cancel" option from the menu bar.

Resubmitting a Fax

Select a fax from the display at the bottom of the main window, then select "Fax" and "Resubmit" from the menu bar at the top of the screen.



Checking the Status of a Fax

The display at the bottom of the main window displays a series of icons as well as a textual description of the disposition of the fax. For more detailed information on a particular fax, double-click on the fax entry and a window will pop up with detailed information on the status and history of that particular fax - as well as a display of the actual contents of the fax. An example of the fax detail available follows:



The illustration above shows the display of the "status" of a fax (note the "status" tab was selected on the screen). Below is an example of the "Event detail" for a fax. This display shows the history of all delivery attempts and other specific events associated with the transmittal of the fax. Note that the "Event Detail" tab is selected on the screen in this example.





Browsing the Log of Sent Faxes

One of the options for the display history in the bottom window of the main fax server display is the ability to only display “sent” faxes. These can “double-clicked” on to display the details for a particular fax.

Sent faxes are only kept in the display as long as the retention period you specified in the fax setup.



FAX SERVER TABLES

This chapter documents the use of tables in the Office Extend Fax server.

Tables Overview

Office Extend FAX utilizes tables to direct many of its operations such as dialing and WAN routing. The product is shipped preconfigured with default tables which will accommodate most simple server configurations. For more complicated arrangements, such as unusual PBX dialing or multiple / remote Office Extend FAX servers, the system allows an administrator to specify exact behavior for any or all of the following functions:

- Parse** Can be used to convert phone numbers requested to a standard format. This feature is often required in WAN-routing situations.
- Dial** Controls dialing behavior.
- Route** Can be used to transport fax requests to a remote Office Extend FAX server based upon phone number requested.
- Lookup** Used to store special auxiliary information such as local dialing exchanges.
- Phonebook** Provides a way for clients to request fax transmissions by specifying "TO <name>" instead of "PHONE <phonenumber> ATTN <attention>".

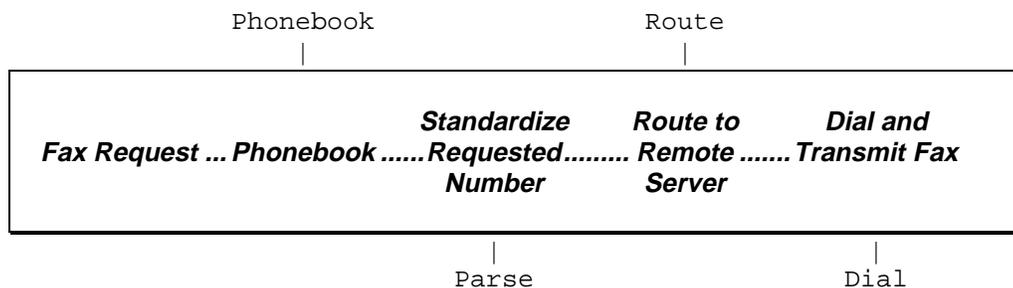
Tables are entered into ASCII files and then specified in the System / Tables menu selection. Although each table has a specific function and particular format (described below), some general rules apply:

- Tables consist of one or more columns in the ASCII file. A column is defined to be text separated from the next column by "white space" (one or more space or tab characters).
- Comments may be specified within the ASCII file by entering a semicolon (;) followed by a line of comment.

Office Extend FAX automatically "imports" these ASCII file representations of its tables whenever it detects that the "modified date" of the file has changed. Alternatively, the fax system administrator can utilize the "Force Update" checkbox on the configuration screen to cause the system to update all tables immediately.

Tables and the Fax Process

The following figure describes the general flow of a fax request through the system and which tables are involved in the various stages:





Tables: *PHONEBOOK*

Phonebook tables provide a way for client applications to specify fax destinations using the shorthand notation "TO <entry>" rather than detailing all of the parameters such as PHONE, ATTN, etc. Phonebooks also find use in situations in which customers wish to maintain phone numbers centrally.



Configuration of PHONEBOOK tables in the system.

ADANA	ATTN "Turnak Int'l - Adana" PHONE "X903224359301"
ADL	ATTN "Adelaide" PHONE "X61884478515"
AUCK	ATTN "EI - Auckland" PHONE "X6492751114"
CANTE	ATTN "Cante Boree" PHONE "X3465215922"
ZAN	ATTN "EI - Alexandria" PHONE "X2034834767"
ZWA	ATTN "Z.W.A. - Amman" PHONE "X9626819683"

A Typical Phonebook

A fax request made using the "TO <name>" syntax causes the system to attempt to find the requested entry in one of the three phonebooks which may be specified. If an entry is found, the system logically substitutes all of the parameters following the name column in the phonebook for the "TO <name>" parameter.

For example, using the phonebook described above, a request of the form 'TO ADL' would be exactly equivalent of one requesting 'ATTN "Adelaide" PHONE "X61884478515"'.

Any valid Office Extend FAX routing parameters (such as BILL <billcode>, etc.) can be specified in a phonebook.



Tables: PARSE

A “parse” table is typically used to convert client-requested phone numbers to a standard format for use in routing or to adhere to an organization standard.

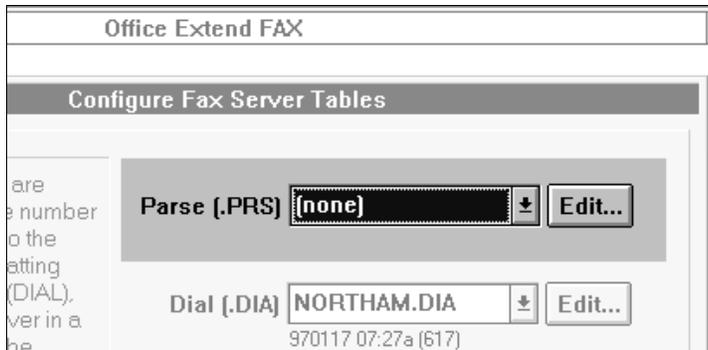
Office Extend FAX uses the client-requested phone number as input to the table. The operation of the parser, driven by the PARSE table specified, yields a result which replaces the requested phone number.

The “X” Format for WAN Routing

In configurations in which Office Extend FAX servers communicate internationally, it is important to convert local phone number requests to a format which can be interpreted by any of the WAN-connected servers.

In North America, for example, international numbers are dialed with an “011” followed by the country code and then the number. In other parts of the world, an “00” or other prefix is used. If a fax request using an “011” format were transported to the United Kingdom and dialed without modification, the requested call would not go through and the fax would fail.

Many customers have adopted the “X” format as a standard for specifying phone numbers within the Office Extend FAX system. This format is defined simply as the letter “X” followed by the country code and then the number. For example, a number requested as “011-44-784 436” would be represented in “X” format as “X44784436”.



Configuration of a PARSE table in the system.

The PARSE table below can be used to convert North American format numbers to “X” format. Similar tables are available for use in other countries.

	If-begins	Return-Result	Comments
	X	X*	; Already in correct format
	1?????????	X1*	; Long distance with areacode
	1????????	X1[mac]*	; Long distance without areacode
	011	X*	; International
	????????	X1[mac]*	; Local number
	?	X*	; Other numbers

A Typical PARSE Table



How the PARSE Table Operates

The Office Extend FAX parser uses the requested phone number and the specified table to yield a standardized result.

The requested phone number is tested against the first column of each PARSE table entry in turn. If it matches (as described below), then the second column of that entry is evaluated and returned as the result. If it does not match, the parser proceeds to the next entry in the table. If no entry matches, the requested phone number is returned unchanged as the result.

All characters other than alphanumerics are first stripped from the request. The parser then sets up two pointers: one pointing to the first character of the input (the requested phone number) and one pointing to the first character of the “match” column (the first column of the table).

01144784436	X*
^	^

Pointers to the “input” and “match” strings.

The parser tests the first character of the input against the match string. If it matches, then both pointers are moved to the right one character position. This process repeats until the match fails or until all the characters of the match string are exhausted.

If the match fails, the parser proceeds to the next PARSE table entry. If the match succeeds, the parser evaluates the second column of the table and returns the result.

In the example above, the match would fail because “0” does not match “X”. The parser would continue through the table until it reached this entry:

Step 1	01144784436	011	X*
	^	^	
Step 2	01144784436	011	X*
	_ ^	_ ^	
Step 3	01144784436	011	X*
	_ _ ^	_ _ ^	
Step 4	01144784436	011	X*
	_ _ _ ^	_ _ _ ^	

A Matching Entry

In this example, the pointers are moved to the right one character at a time and the match is succeeding; i.e., “0” in the input string matches “0” in the match string, “1” matches “1”, etc.

In Step 4 the parser has moved the pointers and determined that the match string has been exhausted without a match failure—in other words, the match succeeded. It is time to evaluate the result.

The Result

It is important to notice where the pointer was left in the input string. This is because it is the characters at or following that pointer which are used in the evaluation of the result. In the example above, the parser will use the remaining characters of the input (here “44784436”) in conjunction with the *result* expression (column two in the PARSE table—for this entry “X*”) to generate a result for the parse operation.



The parser will begin with the “X” specified and then substitute the remaining input characters (“44784436”) for the “*” in the result expression yielding “X44784436” as the final result of the PARSE table operation.

Special MATCH Operators

In addition to literal *match* string characters, the following special characters and sequences can be used in *match* expressions:

- ? A “wild card” matches any single input character.
- . As explained above, normally the system will use the characters at and following the last position of the input string pointer in evaluating the result expression. A period appearing in the *match* expression can be used to override this to specify the result position explicitly. Upon encountering the “.”, the parser will remember this explicit result position, move one character to the right in the match string, and continue the match operation.
- [name]** A name enclosed in square brackets ([]) denotes an “INI file lookup”. Upon encountering an expression of this form, the parser will retrieve the string in the DIAMOND.INI file in the “Values” section for the specified variable and substitute it at that position in the match string.

For example, assume we’re evaluating the match string “1[MAC]*” and that DIAMOND.INI looks like this:

```
[Values]
LCP=9,
LDP=88,
MAC=206
```

The parser would retrieve the “206” string following MAC= in the INI file, substitute it for the [MAC] expression in the match and proceed with the match operation.

“1[MAC]*” in this case would be equivalent to matching “1206*”.

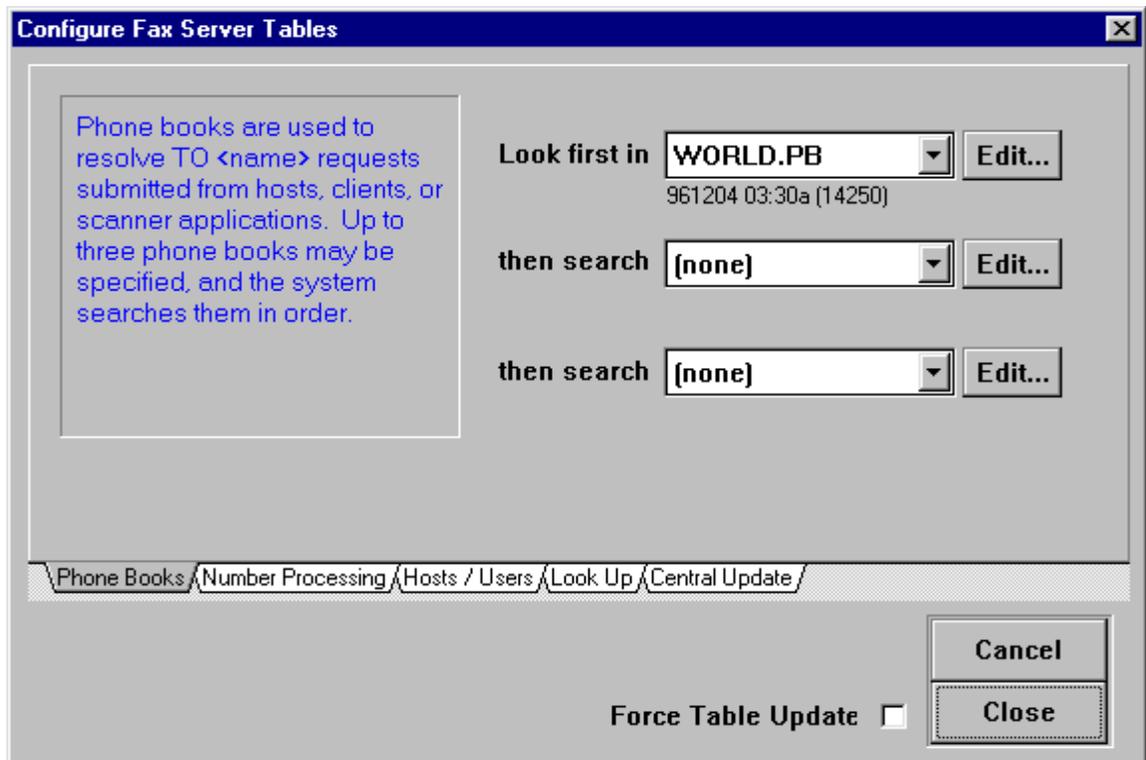
The System / Configure screen provides an easy way to maintain many common INI file values such as LCP (local prefix), LDP (long distance prefix), MAC (my area code), etc. although you may also choose to add your own values to this DIAMOND.INI “values” section.

- {lookup}** A name enclosed in curly braces ({ }) denotes a LOOKUP table retrieval.



Configuring Tables

1. Start the diamond fax server by locating the diamond.exe file and then double clicking on it (or you might want to create a shortcut on your desktop).
2. Select System | Configure from the main menu. The following screen will appear:



3. Select System | Tables...
4. Edit the tables you want to set up by selecting a file name in the appropriate drop down list box and then clicking the Edit button.
5. Edit the table as appropriate and then close the editing window. Save the file under the same name (to update a file) or save the file under a new name (to create a new file).
6. Finally, click the Close button of the Configure Tables screen. The system will update new and modified tables.



INSTALLING THE HP3000 CLIENT

Please follow these instructions in installing the HP3000 Fax Client Software

From Tape

All 3k software products install automatically by simply restoring one job stream from the installation tape, inserting appropriate passwords into it and streaming it. The installation job automatically determines whether you are installing the software for the first time or are updating to a new software release. The steps are:

Note: If this is an update (you already have existing *Office Extend Fax* software,) verify that there are no users accessing files in the THREEK account. This account may include other 3k products: *NetMail/3000*, *Pop Server/3000*, *DeskLink*, *A.P.I./3000 (Application Programming Interface)*, or *Office Extend FTP* software. Once verified, mount a blank tape or DAT and :STORE @.@.THREEK before you begin the new installation.

1. Log on as MANAGER.SYS
2. Issue a file equation for your tape drive: :FILE THREEK;DEV=TAPE (for magnetic tape or DAT users) (or) :FILE THREEK;DEV=CTAPE (for cartridge tape systems)
3. RESTORE *THREEK;THREEKLD.PUB.SYS;SHOW (You should see one file restored.)
4. Use your favorite text editor and modify the first line of the file (THREEKLD.PUB.SYS) to include the appropriate passwords, -OR- simply remove the passwords from MANAGER.SYS,PUB for the duration of the installation process and replace them when done. If you have a third party security system installed, make sure you have enabled logon access for MGR.THREEK and MANAGER.SYS.
5. STREAM THREEKLD.PUB.SYS (You will see informative messages on the console reporting the progress of the software installation or update.)

When the job(s) have completed, you will see a message reporting that the software was successfully installed. If this is a DEMO version you downloaded over the Internet, you now need to ACTIVATE your software (see Step 7). DEMOs received on tape or DAT are already activated and ready to run at this point.

To activate a demo:

call the 3k Associates sales office at:

(US/Canada) 1-800 NetMail (800 638-6245)

(Other countries) +1 703 569-9189

Personnel are available 9AM-8PM Eastern (US) time.



SETTING UP THE HP3000 CLIENT

This chapter details the configuration of the Office Extend Fax software on the HP3000.

Overview

The Office Extend Fax client software on the HP3000 runs as a background job, monitoring the system (print) spooler for documents to send to the fax server. Documents can queue up in the system spooler at any time, but to be transmitted to the server, the background job must be running.

Before the background job can be started, you must have spooled device(s) available, and tell the software where the fax server is, and what spooler queue to monitor.

Step 1 - Creating the Spooled Device(s)

Documents to be faxed get sent to your HP3000's print spooler. While you can intermix fax reports with non-fax reports on any spooled device (if you differentiate the reports by differing priorities for example) we recommend that you create a separate "pseudo printer" on your system (called "FAX") to reduce confusion and ease management.

On MPE/V ("classic") HP3000s:

1. Determine an available HPIB device number.
2. Determine the DRT number corresponding to that HPIB device.
3. Using SYSDUMP, add a device using device name "HP2563", an unused logical device number, and the DRT number you determined above.
4. Specify "FAX" (or whatever name(s) you wish) for the device class.

On MPE/iX (HPPA/RISC) HP3000s:

1. Enter :SHOWDEV to determine the logical device numbers in use - and pick logical device numbers that aren't being used to assign to the new devices you are about to add.
2. Run NMMGR.PUB.SYS
3. Select "DTS" to enter the DTS configuration area.
4. Select "Go to Profiles".
5. Enter a new profile name (we recommend you use the same name for the profile as you are going to use for the printer device class - i.e. "FAX"), choose "Printer" as the type, and press "Add".
6. Leave the default values for all fields except the "Device Classes" area; in that area enter the name of the device class you're going to use for the "printer" (we suggest "FAX" if you only have one server).
7. Press the "Save Data" key and return to the previous screen. Repeat the previous step for each device you need to add.
8. When you have entered all the new profiles you need, return to the previous screen and choose "Go to DTC". If presented with a choice, select any appropriate DTC type; we suggest a DTC 48.



9. After reviewing the list of currently configured DTC's, if necessary, choose a new name for the DTC you are about to configure. The name should **NOT** be one listed on the screen(s) you are viewing. The name "PHANDTC" is suggested. Choose "ADD".
10. Configure the new DTC by filling in the appropriate fields as follows:

<u>Field</u>	<u>Enter the value</u>
DTC Name	New DTC name (e.g. "PHANDTC")
DTC Lan address	08-00-99-FF-FF-FF-FF-FF (this field will not appear if you are running OpenView - this is normal).
DTC Node name	Enter the new DTC name followed by your domain and organization (e.g. "PHANDTC.domain.org")
DTC Type	DTC16 (or 48) (this field may not appear)
IP Address	(leave blank)
Card #	0 - D (this field may not appear) 1 - ? (use "D" for as many cards as you require)
11. When the screen has been filled, press "Save Data" to create the new DTC.
12. Press "Config Card"
13. Enter the logical device numbers you chose in the first step. If applicable, enter a "D" (direct) for card type. For each logical device number, enter one of the profile names you created.
14. Press "Save Data" and then "Validate Link/DTS". You may get a series of warnings, but you should get no errors during validation. This operation may take some time.
15. Repeatedly press (f8) until you exit NMMGR.
16. Cross-validate in SYSGEN (may not be necessary on MPE/iX 5.5 and later).
17. Reboot your system. This step is necessary for the new logical device numbers you've created to become active.



Step 2 - Setting up the Fax Configuration

Now that you have spooled devices to deposit outbound faxes in, you must tell the fax software on the HP3000 just which devices to monitor, and where the fax server software is. The fax software monitors the spooled devices you specify, watching for new spool files destined to be faxed.

To configure the fax software, you run the XSPOOL program.

:RUN XSPOOL.SYS.THREEK.

1. Specify the name of the fax server (it's "node" name on your network)

[Cmd]:HOST node TARGET nodename.domain.org

- a. "node" can be any (shorthand) name for the host you're referring to, though we recommend you use the first part of the fully qualified name.
 - b. "nodename.domain.org" is the fully qualified name of the computer you are referring to - in this case the name of the computer (PC) which is running the fax server software. This name must be "resolvable" by the HP3000 - that is, it must be in the HOSTS.NET.SYS, NMMGR directory, accessible by a network PROBE from the HP3000, or resolvable via DNS if your HP3000 has DNS enabled.
2. Test the connection to the fax server (assuming you have started the software on the fax server already). Use the ECHO command; for example:

[Cmd]: ECHO FAXSERV

Using packet size 4000. Press CTL-Y to terminate ...

		---- Bytes/Sec ----	
Bytes Transferred	Seconds	This Period	Overall
=====	=====	=====	=====
688000	5	137600	137600

Use the (shorthand) node name you used when adding the host entry. If the systems can "talk" to each other over the network, you will see a display of bytes transmitted. Hit Control-Y to stop the test.



3. Now specify the name of the spooled device/printer where reports to fax will be found. Any number of fax “devices” can be configured - each routing to a separate fax server (if you have multiple fax servers). Each device is linked to a particular fax server, and each “device” entry has an associated outfence (separate from the MPE spooler outfence) and an UP/DOWN status. To create a device entry called “FAX” enter the following:

- a. [Cmd]:DEVICE fax HOST node NATIVE PRINTER FAX

- “node” is the computer named in the “HOST” command earlier
- This creates a device entry in the fax client software called “FAX”
- “NATIVE PRINTER FAX” at the end of that command must always be used. The first “FAX” name is the device name.

- b. You can verify the device you just added by entering:

```
[Cmd]: LISTDEV FAX
```

```
MPE
Device  Stat OutF Host      Type  Destination
-----
FAX      UP    7 FAXSERV  NATIVE FAX
```

- c. Note the status (UP in this case) and the outfence (7 in this example). Individual devices can be temporarily suspended by “downing” the device. For example:

```
[Cmd]: DEVICE FAX DOWN
```

```
[Cmd]: LISTDEV FAX
```

```
MPE
Device  Stat OutF Host      Type  Destination
-----
FAX     DOWN  7 FAXSERV  NATIVE FAX
```

- d. Also, you can change the outfence for a device with the DEVICE command. Only spool files with an output priority greater than the outfence for the device will be picked up and sent to the fax server. You can control the delivery of faxes by the setting of the fax device outfence in XSPOOL. For example;

```
[Cmd]: DEVICE FAX OUTFENCE 12
```

```
[Cmd]: LISTDEV FAX
```

```
MPE
Device  Stat OutF Host      Type  Destination
-----
FAX     UP    12 FAXSERV  NATIVE FAX
```



4. Now, you may want to change the default settings for how often the spooler monitor process checks for new faxes. To display the current settings, enter "control" at the command prompt in XSPPOOL. For example:

```
[Cmd]:CONTROL
```

```
System Parameters
```

```
=====
```

```
SCANDELAY: 60
```

```
SELEQ: [DEV=FAX AND STATE=READY]
```

```
STOP: NO
```

"Scandelay" reports the number of seconds that the monitor process pauses between scans of the system spooler (looking for documents to fax). The default is 60 seconds - the spooler will be scanned once a minute. Increasing the delay lowers the amount of CPU resources used on by the server job, but increases the delay between the time a report is generated and when it is queued for delivery by the fax server. To change the setting enter:

```
[Cmd]: CONTROL SCANDELAY 120
```

The "SELEQ" item reports the spooler scanning parameters. If your fax documents are being sent to a different printer, you may want to adjust the setting. For example, if you did not choose to configure a printer device on your HP3000 called fax, but instead just want to send fax documents to your system (LP) printer, with a priority of "3" to differentiate them from regular printfiles, you could enter:

```
[Cmd]: CONTROL SELEQ "DEV=LP AND PRI=3"
```



Starting and Stopping the Server

To start the Fax server:

- :STREAM SERVER.JOB.THREEK

To shut down the Fax server:

```
:RUN XSPool.SYS.THREEK  
[Cmd]: CONTROL STOP
```

```
System Parameters
```

```
=====
```

```
SCANDELAY: 120
```

```
SELEQ: [DEV=FAX AND STATE=READY]
```

```
STOP: YES
```

- The job will logoff within a few minutes



USING THE HP3000 CLIENT

This chapter documents the operation of the Office Extend Fax HP3000 client software.

Overview

The Office Extend Fax client software on the HP3000 runs as a background job, monitoring the system (print) spooler for documents to send to the fax server. Documents can queue up in the system spooler at any time, but to be transmitted to the server, the background job must be running. In addition, any spool files queued up for a given fax device must be in the "READY" state and have an output priority greater than the outfence (the XSPOOL device outfence - not the MPE spooler outfence which is ignored) for that device.

Once the spooler monitor process finds a spool file that meets the criteria to be faxed, it establishes a network (TCP/IP) connection to the fax server and begins transmitting the contents of the spool file to the server. Once the file is received on the server, it is scheduled for delivery, and the spool file on the HP3000 is deleted and the monitor process searches for another spool file to transfer. (Spool files are NEVER deleted until receipt on the server is confirmed). If the transfer fails for any reason, the monitor process marks its table entry for that device as **DOWN** or **DELAYED** and records the error message returned by the gateway unit. If **DOWNed**, no further spool files for that MPE device class will be considered for transfer until the operator determines the reason for the failure and **UPs** the device in XSPOOL. If **DELAYED**, the monitor process will automatically retry the transfer at a later time.

After the fax has been delivered (or the server determines that the fax cannot be delivered) the server returns a confirmation report to the HP3000.

Submitting a Fax from the HP3000

To submit a fax to the server from the HP3000 you need merely create a spool file with the necessary routing information in it. Routing directives are a set of keywords or keyword/value pairs. There are two methods for incorporating routing information into a spool file with the Office Extend Fax system:

1. Enter the routing information in the ;FORMS= parameter of the printer file equation. For example:
 - FILE OUT;DEV=FAX;FORMS=Phone "1-703-451-3720" Attn "Tech Support" conf.
2. Place the routing information within the spool file itself, by simply writing appropriately formatted routing commands in the output file as your application creates it. Fax routing directives are written into the beginning of the spool file in lines beginning with "[fax:" and ending with a "]" (don't include the quotes). For example:
 - [fax: phone "1-703-451-3720" attn "Tech Support" bill "supacct" conf long]



The routing keywords and their values are documented below:

PAPER <paper>	Specifies a paper type for PCL conversion. <paper> may be one of: LETTER, A4, LEGAL.
PHONE <number>	A string (in quotes) specifying the phone number to dial (may be abbreviated as "P")
BILL <billcode>	A billing code to apply to this fax (up to eight characters). Will appear in the LOG and in messages sent back to the HP3000 (see FAXLOG) (may be abbreviated as "B").
FORM <formname>	If included, the file named <formname>.PCX will be used as a page overlay. The PCX file must exist on the server and must be a black/white image no larger than 1720/2200 pixels in width/height (may be abbreviated as "F").
ATTN <string>	A quoted string specifying the recipient of the fax. Informational only, this string will appear at the top of each page (may be abbreviated as "A").
INFO <string>	A quoted string containing arbitrary information which will be returned intact to the FAXLOG file (may be abbreviated as "I").
CONFDEV <dev>	Can be used to specify which printer should be used (on the server) to print confirmation sheets for this fax.
CONF [<type>]	Used to override the default confirmation type on the fax server. <type> may be blank or one of: NONE, SHORT, LONG.
NOCONF	Specified that no confirmation sheets should be generated.
SAVE	Specifies that if the fax fails for some reason, that it should not be sent to the Dead Letter queue.
NOSAVE	Specifies that if the fax fails for some reason, that it should be sent to the Dead Letter queue.
ERRSONLY	Specifies that only Problem-type confirmation sheets should be generated if required (may be abbreviated "EO"). This parameter can be used to override the Save on Error setting on the fax server.
NOERRSONLY	Specifies that all types of confirmation sheets should be generated if required (may be abbreviated "NOEO"). This parameter can be used to override the Save on Error setting on the fax server.
RETRIES <num>	Specifies the number of retries which should be attempted before failing the fax (may be abbreviated as "R").
AT <time>	Can be used to schedule a fax at a particular time. The format of <time> is [yymmdd] hh:mm [am/pm].



The FAXLOG log file

Office Extend Fax returns messages to the HP3000 monitor process indicating the success or failure of faxes scheduled from the HP3000. These messages are formatted and written to the file "FAXLOG.DATA.THREEK".

These records can then be utilized by application programs to update status information kept in application system databases, to print reports, etc.

FAXLOG is built for you by the installation process. If you do not plan on using the log file, be sure to either PURGE the file or at least empty the file out periodically.

The file format is:

Item	Length	Description
COMPCODE	4	One of CMP, ERR, CAN
STATUS	6	Status indicator
MESSAGE	80	Last error message
PHONE	47	Phone number dialed
DRAFT	1	D(draft) or F(fine) transmission mode
ATTN	32	Attention string
APPTAG	64	String specified by INFO.
DESC	80	Description of fax
CLIENT	9	The #O spoolfile number
SOURCEID	6	Source identifier
RETURNROUTE	27	(reserved)
REMOTECSID	22	The CSID reported by the remote fax machine
ELAPSED	6	Elapsed seconds
PAGES	6	Pages transmitted
STAMP	16	Timestamp indicating transmission time



INSTALLING THE PC CLIENT

Please follow these instructions in installing the Fax Client

From the Internet _____

If you downloaded the product via the Internet, then

- Place the exe file in a directory on your hard disk (we recommend a directory with no other files in it already)
- Execute the exe file; it will create several dozen other files

From Diskettes _____

If you received the product via diskette, then

1. Insert Disk labeled "PC Client"
2. Run setup.exe

This will launch an install shield that will perform the complete installation. Simply follow the screen prompts.

3. When installation is complete, restart your computer



SETTING UP THE PC CLIENT

This chapter details the configuration of the Office Extend Fax PC client.

1. Double-click the “WNSFAX” icon. The first time you launch the PC Client, you will be prompted to set up your preferences.

Configure Global Parameters

Office Extend - Configure Global Parameters

System Defaults

"From" Name:

Bill Code:

Fax File:

Spool Directory:

DB Directory:

Conf Device: (must be defined on fax server)

Conf Style: **None** ▼

FAX Server Information

This Station Name:

Host Name or Address:

Ok
Cancel

From	Type in user's full name. This information will appear on the top of each faxed page.
Bill Code	Optional
Fax File	Defaults to C:\FAX.PRN (Note: This will be used later on when setting up the printer driver)
Spool Directory	Defaults to C:\WNSFAX\QUEUE\ (where copies of faxes are stored before they get sent to the server)
DB Directory	(Database Directory) Defaults to C:\WNSFAX\ (where internal tables are stored)
Conf Device	Is "Confirmation Device." It is the name of a Windows-defined printer on the Diamond Fax Server, and is where confirmation pages are printed.



- Conf Style** "Confirmation Style" Choose one of the following:
- LONG** Prints out a statistics page followed by all pages of the fax
 - SHORT** Prints out 1 statistics page with a thumbnail of the first page of the fax.
 - NONE** Print no confirmation
 - DEFAULT** Uses the Diamond Fax Server default
- NOTE:** You can change the confirmation style each time you send a fax by selecting the pull down menu on the "Schedule a Fax screen" See the chapter, Using the PC Client
- This Station Name:** The Name of the PC or the User. This information will appear in the Fax Server's main screen and the fax log.
- Host Name or Address:** This is the name of the computer running the Diamond Fax Server software.
3. Click OK
 - a. You will see a prompt to create the Spool Directory; click OK
 - b. You will see a prompt to create the Data Base directory; click OK

*You are now ready to send a **Quick Fax**. See the chapter, "Using the PC Client"*

To change any of the Global Parameters at any time, simply launch Office Extend Fax and click the "Config" button.

Set up the Printer Driver on Windows '95

1. On your PC, select Printers
2. Select Add a Printer
3. Choose local printer
4. Select HP LaserJet Series II
5. Select C:\fax.prn as the port. Follow any prompts. You may be asked to insert system software disks.

NOTE: Do not print a test page.

You are now ready to send faxes from any application.

NOTE: For Windows 3.1 and Windows NT users, add an HP LaserJet Series II printer, and set C:\fax.prn as the port.



USING THE PC CLIENT

This chapter explains how to use the Office Extend Fax PC Client.

Sending a Quick Fax

This feature sends a simple cover page along with a short message.

1. Launch Office Extend Fax



The Buttons:

- | | |
|----------------|---|
| QUICK | Sends a cover page with a message you type in. |
| DETAILS | Provides all details of the selected fax |
| DELETE | Deletes the selected fax |
| PHONE | Opens up a phone book |
| CONFIG | Re-configures the Global Parameters. See the chapter "Setting Up the PC Client" |
| VIEW | Views the selected fax. |



2. Click “Quick.” The “Schedule a Fax” screen appears.

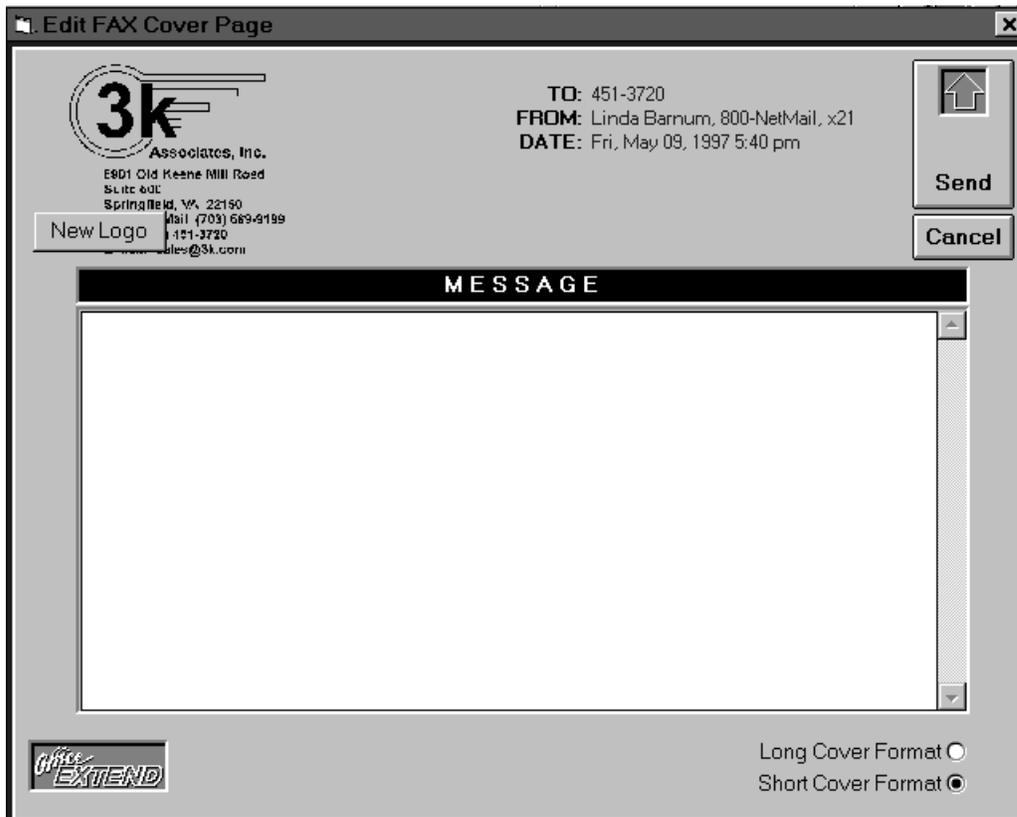
- 2. Fill in information
 - a. Source Information
 - FROM:** Default from Global Parameters; can be changed (required)
 - DESCRIPTION** (or Subject), (optional)
 - BILL CODE:** Default from Global Parameters; can be changed (optional)
 - b. Destination Information
 - ATTENTION:** Name of fax recipient (optional)
 - PHONE:** Phone Number (required); use entire number, including area code
 - NOTE:** To send to multiple recipients, click “Add to List” as needed, or select desired phone book and click entire phone book. See “Phone Books” later in this chapter.
 - c. Scheduling Information
 - Can set to any time. Automatically defaults to “Now.”
 - NOTE:** Check to make sure your PC clock and the Fax Server are set to the correct time. The Fax Server will send at whatever time your PC indicates.
 - d. Cover Page
 - Cover Page is automatically selected when sending a Quick Fax. For more information see “Cover Pages” later in this chapter.



- e. Confirmation Printing
Confirmation Printing information automatically defaults to the information set up in Global Parameters. (See the chapter, “Setting up the PC Client”). This information may be changed for each fax as necessary.

- CONF DEVICE:** Is “Confirmation Device.” It is the name of the printer confirmation pages are printed.
- CONF STYLE:** “Confirmation Style” Choose one of the following:
- LONG** Prints out a statistics page followed by all pages of the fax
 - SHORT** Prints out 1 statistics page with a thumbnail of the first page of the fax.
 - NONE** Print no confirmation
 - DEFAULT** Uses the Diamond Fax Server default

- 3. Click “Send.” The Fax Cover Page screen appears



- 4. Type your message in the message area.
 - a. Cover Format
This feature is useful for sending to faxes that use “cut sheet” rather than plain paper. The Short Cover Format uses only 1/2 page for the cover, and can save paper. The Long Cover Format will use 8 1/2 x 11 page. There is no difference when sending to a plain paper fax.



Logos

You may choose to include your company logo and information on your cover page.

NOTE: LOGO MUST BE A BLACK AND WHITE PCX FILE. There are several graphics programs that will allow you to create/save your logo in black and white PCX format.

1. In the Fax Cover Page Screen, click New Logo (hint: Click "Quick," specify a test phone number then click "Send" to get to the Fax Cover Page Screen)
2. Select the pcx file.
3. Send a test page

Hint: You may need to use a graphics program to size the logo correctly for optimum layout.

Phone Books

To create or edit a phone book, Click "Phone"

1. Choose a Phone Book or click "New"
2. To add Entries, click "New." Fill in:
SORT CODE This specifies the order in which each entry will appear
ATTENTION Enter the name of the fax recipient
PHONE Be sure to include the entire phone number
3. Click "Update"
4. To Edit an entry, select the name and make changes. Click "Update" when done.

Faxing from an Application

You can fax from any Windows application that supports printing.

1. Make sure Office Extend Fax is running minimized.
2. From the File menu, choose "Print"
3. Change the printer to that previously configured for use with Office Extend FAX. Click OK. After printing has completed, the "Schedule a Fax" screen will appear.
4. Fill in appropriate information (see Sending a Quick Fax above). Sending a cover page is optional.
5. Click "Send." You can view the status of your fax in the fax log on your screen.
6. Be sure to wait for Office Extend to transfer your fax request to the server before shutting down your PC.