TBS Software Inc.

OV/Fax Server
(Gammafax Edition)

Server Guide
for
Microsoft Windows NT/2000/2003

Version 3 Release 2.0

OV/Fax Server (Gammafax Edition) V3 R2.0 - Server Guide

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OV/Fax is one of the portfolio of products developed or marketed by TBS Software Inc. This portfolio includes products to facilitate enterprise-wide messaging and office automation across heterogeneous platforms, and products which complement IBM's OfficeVision/MVS, enriching its functionality and usability, and simplifying the development of mail-enabled applications.

OfficePath/Batch-TSO	Provides a bi-directional gateway to OV/MVS, or PS/CICS, to simplify the development of mail-enabled Batch applications; it includes TSO dialogues to mail data sets from TSO.
OfficePath/CICS	Provides a bi-directional gateway to OV/MVS, or PS/CICS, to simplify the development of mail-enabled CICS applications.
OfficePath/SNADS	Provides a SNADS gateway to OV/MVS or PS/CICS. This enables your mail-enabled CICS or Batch application, or any OV/MVS or PS/CICS user, to mail to/from any user on the SNADS network. Can be used to mail between multiple OV/MVS and/or PS/CICS systems, IBM's Mail Exchange, or to/from LAN-based mail systems.
RAPID/Batch-TSO	Provides a bi-directional gateway to DISOSS to simplify the development of mail-enabled Batch applications. It includes TSO dialogues to mail datasets from TSO.
RAPID/CICS	Provides a bi-directional gateway to DISOSS to simplify the development of mail-enabled CICS applications.
PIXI	Allows users to move almost any documents between IBM MVS Office systems and personal workstations (PC, PS/2 etc.) in a simple, cost-effective manner.
CLASY	Provides automatic backup and archiving of mail in Personal Services or PS/CICS. Makes more effective use of on-line storage by moving non-essential documents off-line.
DSR	Monitors the storage of documents in Personal Services or DISOSS and the Application Services Document Cabinet.

Hupdate/Rupdate	Provides on-line administration of the DISOSS HUP data set and/or Routing data set.
OV/Assist	Substantially simplifies the administration of IBM's OfficeVision/MVS.
OV/Context	Allows a user to search for documents in their File Cabinet which contain a particular text-string.
OV/Re-Router	Provides automatic re-routing of a Personal Services user's mail to any other user on the e-mail network.
OV/Reminder	Automatically distributes a Note or document to other e-mail users or to the user's own In-Basket on a specified day.
OV/Fax	Integrates FAX facilities with the Office System enabling any connected user, or mail-enabled application, to send or receive Faxes. Application Fax and AutoFax features provide added integration with business applications.
OV/Bulletin	Integrates bulletin-board facilities with the Office system. Enables any connected user, or mail-enabled application, to post a bulletin. CICS users can view the bulletins and request a copy.

For further information on any of these products please contact the address on the following page.

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OV/Fax Server (Gammafax Edition) Version 3 Release 2.0 Server Guide

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Chapter 1. Introduction

Purpose of this manual

This manual describes the installation, customisation and maintenance of the PC component of OV/Fax. The information relates to Version 3 Release 1 of the product.

Audience for this manual

This book is intended for the person responsible for the installation of software on the server(s) to be used by OV/Fax. It also contains useful instructions for the enhancement of the facilities available on the server - such as the setting up of multiple cover sheets and of images to be imbedded into faxes at transmission time. It should be read in conjunction with the *OV/Fax Administration Guide* and the *OV/Fax Installation and Customisation Guide*, so that definitions on the mainframe and the fax server(s) can be kept in line.

How this manual is organized

The remaining chapters of this book are organised as follows:

"Chapter 2. Overview and Environment" is an introduction to the product and its server component, and gives details of the prerequisite hardware and software environment.

Part 1 contains three chapters and describes how to install and configure each server.

- "Chapter 3. Installation of Server Software" gives detailed instructions on installing the OV/Fax Server software.

- "Chapter 4. PC Configuration" gives details on how to configure the prerequisite items of hardware and software.

- "Chapter 5. Server Customisation" describes how to customise the server after installing the software.

Part 2 contains two chapters describing the facilities available to administrators.

- "Chapter 6. Server Administration" describes the server administration facilities, which are used to maintain the outbound fax status file.

- "Chapter 7. Image Handling" explains how to create and use images within faxes, and how to customise the cover sheets.

Part 3 contains two chapters describing how to operate the server.

- "Chapter 8. Server Operation" describes the operation of the server and the processing it performs.

- "Chapter 9. Diagnostic Facilities" explains how to use the diagnostic facilities within the server to identify the cause of operational problems.

"Appendix A. Server Administration Error Messages" describes the error messages that may be obtained from the server administration facilities.

"Appendix B. Server Operational Error Messages" describes the error messages that may be seen in the **Error Messages** window while the server is running.

"Appendix C. Step Messages" describes the messages that may be obtained when the server is running in diagnostic mode.

"Appendix D. Error Codes" lists the error codes used on the outbound fax status file, and those returned from OV/Fax conversion software in the event of a conversion error.

"Appendix E. Server Performance Guidelines" gives guidelines on the expected performance of various configurations of fax server.

"Appendix F. Fax Number User Exit" describes the interface to the number processing user exit.

"Appendix G. Technical Support" gives details of the information that will be needed when contacting the Technical Support centre.

Other manuals you may need

There are five manuals that accompany the OV/Fax system software:

- The *OV/Fax Installation and Customisation Guide*, which explains how to install and customise the host components of the OV/Fax system.

- The *OV/Fax Administration Guide*, which gives details of the on-line system available to fax administrators. These allow administrators to maintain the shared fax address book, view the system logs, monitor server queues and authorise users to send faxes. The manual also includes details on the periodic cleandown jobs provided.

- The *OV/Fax User Guide*, which gives details of the on-line system available to the ordinary fax user. It describes the fax address books, and gives instructions on how to monitor the log of faxes which have been sent. The manual also gives guidance on how to create and address documents and notes which are to be sent as faxes.

- The *OV/Fax Reference and Problem Determination Guide*, which provides additional information on how OV/Fax works, including program descriptions and transaction flows. Information for determining the cause of problems is also provided.

You may also need the GammaLink documentation. It can be downloaded from the Web at http://resource.dialogic.com/telecom/support/download/gammalink/links.htm.

- The *GammaLink Developer's Kit (GDK) Programming Reference Manual for Microsoft Windows NT (05-7147-001),* which provides information on the GammaLink configuration statements.

- The *GammaLink Installation and Configuration Guide (05-7146-001)*, which provides information on the GammaLink Configuration applet.

Terms used in this manual

Throughout this book the following terms are used:

adapter and *board* refer to a separately installed hardware adapter in the computer.

book and *guide* refer to this OV/Fax Server Guide.

DOS refers to the IBM Personal Computer Disk Operating System.

fax refers to a file or data in TIFF (Tagged Image File Format) CCITT Group III, T.4 format, as supported by OV/Fax and GammaLink products.

PC refers to the IBM PC or compatible personal computer being used for the server.

server refers to the PC which is running the OV/Fax Server product.

Chapter 2. Overview and Environment

What is OV/Fax?

OV/Fax is a system enabling office system users to send faxes directly from their terminals. In some cases, inbound faxes may also be received.

OV/Fax connects to the office environment in a number of ways:

- Via DISOSS and Icom Solutions' **RAPID** product.

- Using Icom Solutions' **OfficePath** product to interface directly to the Personal Services component of OfficeVision/MVS, to the Office Systems network via SNADS, or to a CICS or batch application.

- Via TBS Software's SMTP-Send product, from a CICS or batch application.

The connection to the public fax network is achieved using a link to one or more Personal Computers acting as fax servers. It is possible to send out Personal Services messages, documents and notes in editable format (created using the Personal Services editor, for example), or documents in Revisable Format Text, (created using DisplayWrite/370, for example). Documents created by PC-based word processors may be sent if the optional PostFAX facility is installed.

Personal Computer users who have a host connection can either convert their documents to RFT before transferring them to the host or transfer them as a PC file if PostFAX is installed. Products such as Icom Solutions' **PIXI** will transfer documents and PC files to the Personal Services file cabinet on the host.

Compound (RFT) documents may be created on the mainframe and sent out as faxes (a compound document contains images as well as text). It is also possible to store images on the fax server(s), and to have them placed into documents at transmission time.

The system may also be set up to receive faxes. These are sent to nominated office users, who will then send them on to the correct recipients. If the Direct Inward Dialling (DID) facilities supported by GammaLink are implemented, inbound faxes will be sent directly to the intended recipient. Faxes may be viewed using DisplayWrite/370 with the Extended Image and Graphics feature or may be downloaded to a PC (using **PIXI** or a similar product) and viewed using IBM's Image Document Utility or DisplayWrite/5 word processor.

OV/Fax Server Overview

The OV/Fax Server software is the PC component of the OV/Fax product. It provides the interface between the host office system and the telephone network through which faxes are transmitted. It is designed to run unattended, with intervention only required in the event of a serious error, or to change the configuration of the server. The server may be configured to handle inbound or outbound traffic, or traffic in both directions.

Inbound faxes are converted from fax format into composite RFT documents, containing one image per page. These documents are then sent to between one and four office system users nominated to receive faxes from that particular server. If Direct Inward Dialling is implemented using the appropriate GammaLink components, the documents will instead be sent directly to the correct recipient.

Outbound faxes may be Personal Services messages, notes, editable documents or RFT documents sent by an office system user. PC files may also be sent if the PostFAX facility is

installed. The server converts the documents into fax format before transmission. The user will eventually be told whether the transmission was successful or not.

The server communicates with the host via a 3270 terminal emulation package, and uses this link to upload and download documents and fax details. The server uses GammaLink hardware and software to send and receive the fax format data via the telephone network.

Changes from Previous Releases

Changes in Version 3.2.0

Version 3.2.0 of the OV/Fax Server contains the following enhancements over Version 3.1.1:

- Messages are logged to the Windows NT event log.

- New command line parms, NOEVENT (disable NT event logging), and AUTOSTART (startup without user intervention)

- Add AUTOSTART delay field to the FAXADMIN application.

- Server will not terminate on errors.

Changes in Version 3.1.1

Version 3.1.1 of the OV/Fax Server contains the following enhancements over Version 3.1.0:

- Various GammaLink configuration parameters previously supplied to the DOS server in the GCL.PRO file can now be specified through server admin panels.

Changes in Version 3.1.0

Version 3.1.0 of the OV/Fax Server contains the following enhancements over Version 2.4.0:

- The OV/Fax product has been enhanced to run under Microsoft Windows NT, GammaLink Fax Software for Microsoft Windows NT (GDK 3.2) , and IBM Personal Communications for Windows 95 and Windows NT.

Changes in Version 2.4.0

Version 2.4.0 of the OV/Fax Server contains the following enhancements over Version 2.3.1:

- The main server panel now displays the number of faxes being processed.

- The server may now be configured to use GammaLink version 5.1 or above. Baud rates of 12000 and 14400 may be used, and fax numbers up to 30 digits long may be specified, depending on the version of GammaLink installed. The GammaLink to OV/Fax error code mapping table has also been updated.

- A user exit program may be installed to process fax numbers. A sample program is supplied for use in North America. In addition, fax numbers specifying country code **0** will be treated as special test numbers.

- Fax numbers may include special commands that allow individual faxes to be sent at a specific baud rate or be sent in standard instead of fine resolution mode.

- The status file includes additional timestamp fields. Performance improvements have been made to the file and there is also an option to archive status file records to a text file.

- There is a reduction in 3270 traffic to the host component (if it is also version 2.4.0) when reporting status information back. Also, the 3270 session id, instead of the emulation

type, may be specified, allowing other 100% HLLAPI compatible emulation software to be used.

- The image directory is now configurable, allowing compressed drives to be used. An optional node and user id subdirectory structure may be used to control access to images and overlays.

- Cover sheets may now be selected from within the text of the fax (specified in the same way as images and overlays).

- A number of utilities are supplied to assist in the creation and editing of images and overlays.

- A new debugging option allows fax files to be retained by the server after completion, for later inspection or testing. The server log file now also records all the messages seen on the server.

- The PC/IDU and ISF2 software has been replaced with the server's own conversion software. This offers improved quality and many new formatting features such as: proper support for multiple character pitches at both 6 and 8 lines per inch; full multilingual character set plus special characters may be included in the fax; support for bold, underline, italic and many other formatting features; support for three types of bar-code; and images and signatures may be indented and merged with overlays. All of these features are supported in landscape mode, together with better support for RFT document controls. A number of configuration options allow greater control over formatting than before.

- The server may use the KEYWORD PostFAX product, if installed, to convert PC files into faxes suitable for transmission. PostFAX supports many different word processor formats.

Prerequisite Environment

The OV/Fax Server software runs on a Pentium system with a GammaLink Fax board installed and an appropriate 3270 emulation configuration. Multiple Fax boards are supported and will improve server throughput significantly on larger configurations. The minimum recommended system requirements are:

- Personal computer with a Pentium 166 or higher processor

- 64 MB RAM

- Hard Disk drive with approximately 100 MB of free disk space

Software Required

The following items of software are required:

- Microsoft Windows NT operating system (workstation or server) version 4.0 or later (Note: Service Pack 3 required.), Microsoft Windows 2000, or Microsoft Windows 2003 Server.

- GammaLink Fax Software for Microsoft Windows NT (GDK 3.2 or later)

- IBM Personal Communications for Windows 95 and Windows NT

Optional Software

The following items of software may also be used if required.

- KEYWORD PostFAX Formatter, to convert word processor format PC files into faxes.

PART ONE - INSTALLATION AND CUSTOMISATION

Chapter 3. Installation of Server Software

Distribution Diskettes

The server component of OV/Fax is distributed on a single 3.5" diskette. The diskette contains all the software necessary to install and operate the server. The contents of the diskette are as follows:

In the root directory are the server installation utilities:

```
INSTALL.EXE
INSTALL.DAT
```

In the `OV-FAX` subdirectory are the main server programs and files, and an empty fax status file:

```
FAXADMIN.EXE
FAXERROR.DAT
FAXSERV.EXE
FXSTATUS.DAT
OVFAXMSG.DLL
```

In the `CONV` subdirectory are the conversion programs together with a set of font files. The font files are provided in a compressed format so that they may be held on a single installation diskette.

```
BARCODE3.COM
BARCODEE.COM
BARCODEU.COM
FAXINIMG.EXE
FAXINRFT.EXE
FAXOTIMG.EXE
FAXOTRFT.EXE
FAXOUT.EXE

OVFAXPCK.610
OVFAXPCK.612
OVFAXPCK.616
OVFAXPCK.620
OVFAXPCK.810
OVFAXPCK.812
OVFAXPCK.816
OVFAXPCK.820
```

In the `IMAGE` subdirectory are the files used to create the dummy cover sheet. This is provided to allow the server to be operational as soon as it is installed and configured. The cover sheet is only a general purpose OV/Fax cover sheet and corresponds to the default name specified on the host. A sample raster image is also included. The two raster files are provided in a compressed format so that they may be held on a single installation diskette.

```
DUMMY.PCK
DUMMY.TXT
OVFAX240.PCK
```

In the `UTILS` subdirectory are a set of image conversion and editing utilities:

```
BMP2RAS.EXE
FONTCONV.EXE
IMG2RAS.EXE
RAS2BMP.EXE
RAS2IMG.EXE
RAS2TIF.EXE
RASEDIT.EXE
RASPACK.EXE
RASSCALE.EXE
RASUNPCK.EXE
RASVIEW.EXE
TIF2RAS.EXE
```

In the `SAMPLES` subdirectory are the files for the fax number user exit program and a sample mapping table:

```
FAXNUM.C
FAXNUM.EXE
FAXNUM.MAP
```

In the `UK` subdirectory are the files for UK English:

```
FAXADMIN.HLP
FAXADMIN.MSG
FAXADMIN.PAN
FAXSERV.MSG
FAXSERV.PAN
FAXSERV.STP
```

Other language directories will be included as available. The use of a language code in this documentation does not necessarily imply current support for that language. Please refer to the diskette or installation utility for an up-to-date list.

Installation Procedure

The installation utility consists of an executable program, **INSTALL.EXE**, which creates the necessary subdirectories and copies the server software. To perform the installation, follow the steps below:

1. Insert the installation diskette into the A: drive of the server PC.

2. Run the **INSTALL.EXE** program. The PC subsequently displays the Installation Utility Logo Panel.

3. Press *Enter*. The following panel is displayed

```
OV/FAX INSTALLATION UTILITY
                            VERSION 3 RELEASE 2.0




    ┌──────────────────────────────────────────────────────────────┐
    │  Install Onto Drive...........[C]:\                           │
    │                                                              │
    │  Install In Directory.........[OV-FAX                     ]   │
    │                                                              │
    │  Language Code................[UK]  ( F1=list )              │
    └──────────────────────────────────────────────────────────────┘


    ┌──────────────────────────────────────────────────────────────┐
    │                                                              │
    └──────────────────────────────────────────────────────────────┘




════════════════════════════════════════════════════════════════════
Esc=Exit    Enter=Validate Entries    F1=Help
```

Figure 1. Installation Entry Panel
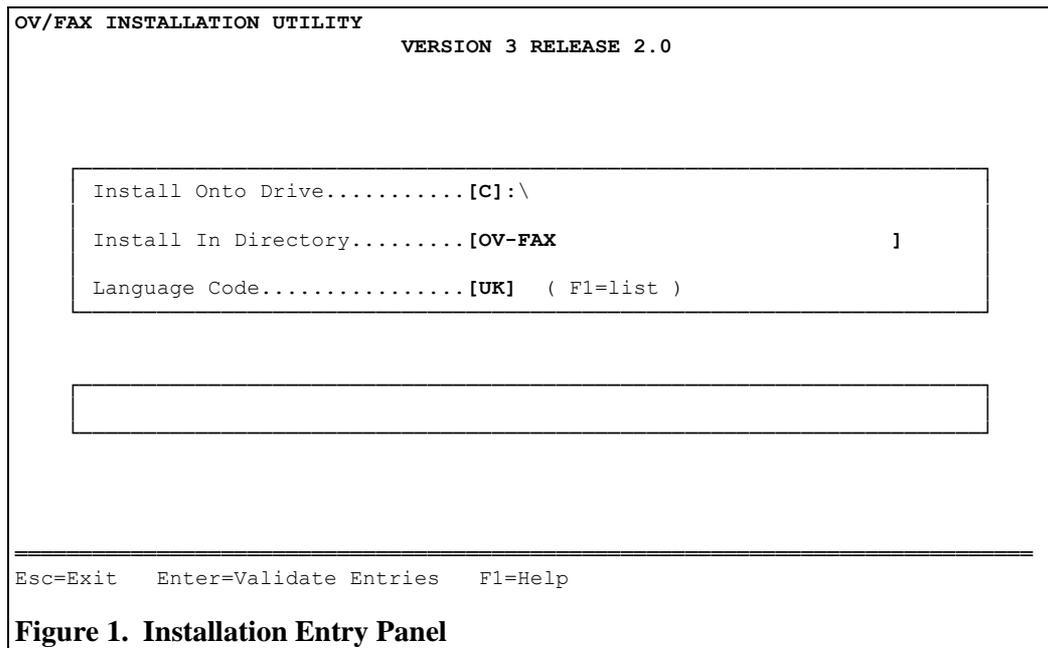
All the fields on this panel are mandatory. The requirements of each are as follows:

Install Onto Drive
Only alphabetic characters are allowed in this field. It specifies the drive on which to install
the server software, and must refer to a fixed disk drive, i.e. C: or above. The drive must have
at least 1 MB of free space for the installation to take place.

Install In Directory
Only alphanumeric characters and punctuation are allowed in this field. It specifies the
directory in which to install the server software. If the directory does not exist, it will be
created, together with its associated subdirectories.

Language Code
Only alphabetic characters are allowed in this field. It specifies the language to be installed
with the server. The installation diskette contains a subdirectory for each of the supported
languages. Press the *F1* help key to obtain a list of the currently supported languages.

Press *Enter* after completing the entries on this panel. If an entry is invalid, the installation
utility will display an appropriate message and force the entry to be corrected. Once all the
entries are valid, the installation utility will create the necessary directories and install the
server software.

1. The name of each file will be displayed in the second box as it is installed. A number of
   the files are provided in a compressed format, including **DUMMY.CVR**,
   OVFAX240.RAS and the font files (**OVFAXFNT.nnn**).

2. On completion of the installation process, the utility displays a small panel indicating that
   the server software has been installed. It is now necessary to configure the hardware and
   software, as described in "Chapter 4. PC Configuration", and to customise the server itself,
   as described in "Chapter 5. Server Customisation".

Upgrading from Previous Releases of OV/Fax

Version 1 Release 4.0 and later of the OV/Fax server software uses the same default directory structure and image files as this release. (Previous releases are not compatible and must be replaced in full). If the installation utility detects a copy of the main server program (FAXSERV.EXE) in the install directory, it assumes that OV/Fax is already installed. The following prompt will be issued:

OV/Fax may already be installed. Press Enter to migrate or Esc to cancel.

Pressing *Enter* will continue the installation process. The executable programs and language files in the OV/Fax directory will be replaced with those from the installation diskette. The configuration file (FXCONFIG.DAT) and outbound fax status file (FXSTATUS.DAT) will be migrated to this release if they already exist.

> **Note:** It is recommended that the server is upgraded only after all outstanding faxes (both inbound and outbound) are processed. If there are outstanding inbound faxes, details of the received CSID's and durations will be lost, though not the faxes themselves. If there are outstanding outbound faxes on the status file, their details will be migrated to the new version of the file. However, the server <u>MUST</u> be run with the **NOUPDATE** option until all the outstanding faxes have been processed.

If the configuration file is migrated from a previous version, a copy of the file will be taken first. This copy is named **FXCONFIG.nnn**, where '**nnn**' is the previous version number. Once the new server is operating correctly, this file may be deleted.

If the status file is migrated from a previous version, a copy of the file will be taken first. This copy is named **FXSTATUS.nnn**, where '**nnn**' is the previous version number. Once the new server is operating correctly and the outstanding faxes are processed, this file may be deleted.

Directory Structure and Contents

The OV/Fax Server software is installed in one main directory with a number of subdirectories. The default main directory is `C:\OV-FAX` but may be changed at installation time.

─────── **UTILS**

The main directory contains the server programs, the language dependant files, and the server configuration and fax status files:

```
FAXADMIN.EXE
FAXSERV.EXE
OVFAXMSG.DLL
FAXADMIN.HLP
FAXADMIN.MSG
FAXADMIN.PAN
FAXSERV.MSG
FAXSERV.PAN
FAXSERV.STP
FXCONFIG.DAT
FAXERROR.DAT
FXSTATUS.DAT
```

The **CONV** subdirectory contains the conversion programs, font files, and any work files used during the conversion process. The server may be configured to use another directory, for example, a RAM disk, to improve performance. In this case, the PC should ensure there is a copy of the CONV subdirectory in the new directory, before the server starts.

```
BARCODE3.COM
BARCODEE.COM
BARCODEU.COM
FAXINIMG.EXE
FAXINRFT.EXE
FAXOTIMG.EXE
FAXOTRFT.EXE
FAXOUT.EXE

OVFAXFNT.610
OVFAXFNT.612
OVFAXFNT.616
OVFAXFNT.620
OVFAXFNT.810
OVFAXFNT.812
OVFAXFNT.816
OVFAXFNT.820
```

The **IMAGE** subdirectory contains the files used for cover sheets, signatures, in-line images, overlays, and landscape images. These files are described in more detail in "Chapter 7. Image Handling". The server may be configured to use another directory, for example, a compressed drive. The image directory may also have an optional node and user-id tree structure. The following files will be installed as a default:

```
DUMMY.CVR
DUMMY.TXT
OVFAX240.RAS
```

The **INFAX** subdirectory contains the GammaLink command files and any RFT documents created from received faxes, prior to transmission to the host. The exact contents depend on the server configuration - in particular whether the GammaLink standard or Fax board is in use.

The **OUTFAX** subdirectory contains the GammaLink command files, documents and fax format files used in the outbound processing. As with the INFAX subdirectory, the actual contents depend on the server configuration.

The **SAMPLES** subdirectory contains the files for the fax number user exit program, as listed for the distribution diskette.

The **UTILS** subdirectory contains the image conversion and editing utilities, as listed for the distribution diskette.

Changing the Language after Installation

If the language of a server is to be changed, the server software can either be reinstalled using the installation utility, or the necessary files can be copied from the diskette:

```
COPY A:\xx\*.* d:\path
```

xx refers to the language required.

d:\path gives the directory in which the server software is installed. If this was not changed at installation time, use C:\OV-FAX. If the installation utility is used, the details of any faxes currently being processed by the server will be kept.

Problems with Installation

The installation utility normally creates all of the required directories, and copies the relevant files into these directories from the installation diskette. Some of the problems and messages that may be encountered are described below.

1. **INSTALL.DAT missing.**
   The installation utility cannot find its message file in the current directory. Check that the installation is being carried out from the root directory of the A: or B: drive.

2. **The directory specified cannot be created or accessed.**
   The main directory for the server (default `C:\OV-FAX`) or its subdirectories (`CONV`, `IMAGE`, `INFAX`, `OUTFAX`, `SAMPLES` or `UTILS`) cannot be created or accessed. Check that they do not already exist as files, and that there is enough disk space available to create the directories. If a different directory has been specified, check for this name instead. Also check that the format of the name is correct. It should not contain leading or trailing backslashes (\).

3. **Unable to copy the file from the installation diskette.**
   The installation utility cannot find the specified file on the installation diskette. Check that the diskette contains the files as listed earlier in this chapter.

4. **Unable to install the file on the required drive and directory.**
   The installation utility cannot copy the file onto the server. Check that the file does not already exist with a read-only attribute, and that there is enough space on the disk for the file.

5. **Unable to copy the packed file from the installation diskette.**
   The installation utility cannot find the specified file on the installation diskette. Check that the diskette contains the files as listed earlier in this chapter.

6. **Unable to unpack the file to the required drive and directory.**
   The installation utility cannot unpack the file onto the server. Check that the file does not already exist with a read-only attribute, and that there is enough space on the disk for the file. Note that the dummy cover sheet image (DUMMY.CVR) uses nearly 500 kb of disk space.

7. **Unable to migrate the FXCONFIG.DAT file.**
   The configuration file already exists on the server, but the installation utility is unable to access it, or is unable to migrate it to this version. It may be necessary to delete the file and recreate it using the administration program provided with the server.

8. **Unable to create the FAXOUT.INI file in the CONV directory.**
   The installation utility cannot create a default FAXOUT.INI file in the conversion directory of the server. Check that the file does not already exist with a read-only attribute, and that there is enough space on the disk for the file.

9. **Unable to create the FAXOTRFT.INI file in the CONV directory.**
   The installation utility cannot create a default FAXOTRFT.INI file in the conversion directory of the server. Check that the file does not already exist with a read-only attribute, and that there is enough space on the disk for the file.

10. **Unable to migrate the FXSTATUS.DAT file.**
    The status file already exists on the server, but the installation utility is unable to access it, or is unable to migrate it to this version. The migration process involves copying all the active records to a new status file. If this process fails, it may be necessary to delete the status file and recreate it using the administration program. The information for any active faxes will be lost in this case.

11. **Unable to migrate the FAXERROR.DAT file.**

The error code mapping file already exists on the server, but the installation utility is unable to access it, or is unable to migrate it to this version. It may be necessary to delete the file and copy a new version from the distribution diskette.

If the installation utility has failed while migrating the configuration file, it will be necessary to restore this file before restarting the installation utility. The file will have been copied to the file **FXCONFIG.nnn**, where **nnn** is the previous version number, for example, FXCONFIG.230. Copy this file back to FXCONFIG.DAT and delete the previous copy:

```
COPY C:\OV-FAX\FXCONFIG.230 C:\OV-FAX\FXCONFIG.DAT
DEL C:\OV-FAX\FXCONFIG.230
```

If the installation utility has failed while migrating the status file, it will be necessary to restore this file before restarting the installation utility. The file will have been copied to the file **FXSTATUS.nnn**, where **nnn** is the previous version number, for example, FXSTATUS.230. Copy this file back to FXSTATUS.DAT and delete the previous copy:

```
COPY C:\OV-FAX\FXSTATUS.230 C:\OV-FAX\FXSTATUS.DAT
DEL C:\OV-FAX\FXSTATUS.230
```

Manual Installation from Diskette

If the installation utility fails to install the server software correctly, it is possible to install it manually, as detailed below. The installation diskette should be in the **A:** drive. (It may alternatively be in the B: drive - simply change the drive references from A: to B: in the examples below). In these examples, the default drive and path is used (**C:\OV-FAX**). A different path, for example, D:\OVFAX31, may be used if required.

> **Note:** If a previous release of OV/Fax is already installed on the server, the configuration details and details for any outstanding faxes will only be migrated if the migration tasks of the installation utility can be used. A selective install may allow these tasks to run. If not, the server <u>MUST</u> be installed in a different subdirectory. Image files used by the previous release will either need to be copied into the new IMAGE directory, or the new server can be configured to use the old image directory.

In the following list, ⤸ indicates that the command continues on the next line here, but should be typed in as one long command line in DOS.

1. Create the required directories on the server:

   ```
   MD C:\OV-FAX
   MD C:\OV-FAX\CONV
   MD C:\OV-FAX\IMAGE
   MD C:\OV-FAX\INFAX
   MD C:\OV-FAX\OUTFAX
   MD C:\OV-FAX\SAMPLES
   MD C:\OV-FAX\UTILS
   ```

2. Copy the main programs and files to the server:

   ```
   COPY A:\OV-FAX\*.* C:\OV-FAX
   ```

3. Copy the language dependent files to the server:

   ```
   COPY A:\xx\*.* C:\OV-FAX
   ```

   where **xx** refers to the required language.

4. Copy the supplied image files to the server, removing compression where necessary:

   ```
   COPY A:\IMAGE\DUMMY.TXT C:\OV-FAX\IMAGE
   A:\UTILS\RASUNPCK A:\IMAGE\DUMMY.PCK ⤸
        C:\OV-FAX\IMAGE\DUMMY.CVR
   A:\UTILS\RASUNPCK A:\IMAGE\OVFAX240.PCK ⤸
        C:\OV-FAX\IMAGE\OVFAX240.RAS
   ```

   RASUNPCK is a separate utility provided with OV/Fax. It displays an initial message, followed by a long sequence of dots, as it removes the compression from the file.

5. Copy the conversion programs to the server:

   ```
   COPY A:\CONV\*.EXE C:\OV-FAX\CONV
   COPY A:\CONV\*.COM C:\OV-FAX\CONV
   ```

6. Copy the font files to the server, removing the compression from the files:

```
A:\UTILS\RASUNPCK A:\CONV\OVFAXPCK.610 ⏎
     C:\OV-FAX\CONV\OVFAXFNT.610
A:\UTILS\RASUNPCK A:\CONV\OVFAXPCK.612 ⏎
     C:\OV-FAX\CONV\OVFAXFNT.612
A:\UTILS\RASUNPCK A:\CONV\OVFAXPCK.616 ⏎
     C:\OV-FAX\CONV\OVFAXFNT.616
A:\UTILS\RASUNPCK A:\CONV\OVFAXPCK.620 ⏎
     C:\OV-FAX\CONV\OVFAXFNT.620
A:\UTILS\RASUNPCK A:\CONV\OVFAXPCK.810 ⏎
     C:\OV-FAX\CONV\OVFAXFNT.810
A:\UTILS\RASUNPCK A:\CONV\OVFAXPCK.812 ⏎
     C:\OV-FAX\CONV\OVFAXFNT.812
A:\UTILS\RASUNPCK A:\CONV\OVFAXPCK.816 ⏎
     C:\OV-FAX\CONV\OVFAXFNT.816
A:\UTILS\RASUNPCK A:\CONV\OVFAXPCK.820 ⏎
     C:\OV-FAX\CONV\OVFAXFNT.820
```

7. Copy the sample programs to the server:

```
COPY A:\SAMPLES\*.* C:\OV-FAX\SAMPLES
```

8. Copy the utilities to the server:

```
COPY A:\UTILS\*.* C:\OV-FAX\UTILS
```

This completes the manual installation. Please refer to the remainder of this guide for further configuration details.

Chapter 4. PC Configuration

Windows NT Configuration

Microsoft Windows NT operating system, (workstation or server) version 4.0 or later.

3270 Emulation Configuration

The server supports both PCA (ISA) and MCA PCs, and allows both a coaxial cable and a network connection to the host controller. The server is designed to work with the IBM Personal Communications product, although other products providing a compatible HLLAPI interface may be used. It is the customer's responsibility to ensure that such products can be used. The server requires the 3270 session id to be defined, this is described in "Chapter 5. Server Customisation".

Hardware Set-up

To use a coaxial connection, the server should have a 3270 emulation adapter installed, as described in its accompanying documentation. If the server is a PCA (ISA) PC, an IBM 3278/79 Emulation Adapter should be used, while an MCA PC uses an IBM 3270 Connection Adapter. No specific configuration is needed for the hardware.

To use a network connection, the server should have a network Adapter installed, as described in its accompanying documentation. The type of adapter used depends on the type of PC and the speed of the network.

IBM Personal Communications Set-up

The emulation is configured using the *Communications/Configure* dialog of Personal Communications.

Select a **Screen size** of *24 x 80.*

The High Level Language Application Program Interface (HLLAPI) needs to be installed. On the **ADVANCED CONFIGURATION OPTIONS** panel set the **Facilities** field to *Yes*. The other fields, in particular the **Printer options** field should be set to *No*. Move forward to the **FACILITIES** panel and set the **HLLAPI** field to *Yes*. All of the other facilities should be set to *No*.

Testing the Set-up

Once the emulation package is installed and configured, test that it is able to access the host system when the appropriate commands are performed. The server itself is unable to modify the configuration and expects the host session to be available when it starts. The verification facilities provided with the administration program will check that the HLLAPI is installed.

GammaLink Hardware and Software Configuration

The server supports one or more Fax boards, in both PCA (ISA) and MCA PCs. The boards should be installed as described in the *GammaLink Fax Software for Microsoft Windows NT Installation & Configuration Guide*
No changes are required to the server if more than one Fax board is being used.
The GammaLink software should be installed as described in the GammaLink guide. The suggested directory in which to install it is `C:\GAMMA`. The default directory is `C:\FAX`. This was used by previous releases of the server software, and is therefore, not recommended.

The configuration of the GammaLink hardware and software depends on the type of board being used. Once installation and configuration are complete, the components should be tested to ensure that the connection to the telephone network is operational. GammaLink provides a suitable test fax format file, called **TEST001.TIF**, which is held in the main GammaLink directory. The GammaLink Send Fax Applet can be used to send this fax.

GammaLink System Service

The GammaLink System Service must be started in order to send or receive faxes. Use the Start GammaLink System Service from the GammaLink Programs directory, or, configure the service from the Control Panel to start automatically when NT is started.

GammaLink Queue File

The GammaLink Queue File is used to send and receive faxes in the background. Ensure that the "Use Queue File" box is checked on the General Properties Tab of the GammaLink Fax Configuration panel.

PostFAX Configuration

The server may be configured to use the KEYWORD PostFAX Formatter to convert PC files from word processors into faxes. The PostFAX software should be installed as described in the *PostFAX Installation and User's Guide.* In particular, the PostFAX-ODX and PostFAX-Legacy components should be installed in one directory, for example, `C:\POSTFAX`; and the PostFAX-TIF component should be installed in a second directory, for example, `C:\GS`. These directories need to be specified as part of the server customisation, described in "Chapter 5. Server Customisation".

Adding Date-Time Stamps and Page Numbers to Outbound Faxes

When a fax is sent, the receiving machine usually adds a line of information at the bottom, giving details of the date and time that the fax was received, the CSID of the sending fax, and so on. The exact contents of this line will depend upon the configuration of the receiving fax machine, and may be absent. It is also possible for the sending fax machine to add a line of information at the top of each page of the fax. Use the GammaLink Configuration applet to add the GFXHEADER configuration statement to the GammaLink configuration. The format for GFXHEADER is documented in *GammaLink Developer's Kit (GDK) Programming Reference Manual for Microsoft Windows NT*

For example, a GFXHEADER value of:
```
&day&abmon&year &12hr:&min&ampm From:&from To:&to Page &page of &user
```
would appear as follows:
```
25Aug97 1:30pm From:408-969-5200 To:1-203-359-9203 Page 1 of 2
```

The fax server sets the `&USER` variable to the total number of pages in the fax.

Note: You must use the OV/Fax Administration Utility and set the use GFXHEADER value to Y=Yes in the GammaLink Configuration panel in order for the header to be printed.

Chapter 5. Server Customisation

Introduction

The customisation of a server is carried out using the administration program provided with the product. This program allows the server to be configured to meet the local operating requirements, and also gives an administrator access to the files used in the day to day processing of the server. It is necessary to perform certain customisation tasks before the server itself will run.

Starting and Using the Server Administration Program

The Server Administration Program, called **FAXADMIN.EXE**, is stored in the main server directory (default `C:\OV-FAX`). An initial menu will be displayed, as shown in the following section. The program consists of a number of menus and data entry panels, which are described in later sections.

Menu Panels

The menu options may be selected by number, by first letter, or by moving the bar to the required option and pressing *Enter*. Pressing *Esc* will return to the previous level menu, or leave the program. Help panels are available for each option by pressing the *F1* key.

Data Entry Panels

A data entry panel consists of a number of related fields. These must be completed as necessary, before validating the details. Some fields only allow certain types of characters to be entered. For example, only numeric characters may be entered for a fax reference number. The following keys are valid on a data entry panel:

Enter	validate the details.
Esc	return to the previous level of the program.
F1	displays a help panel for the field. Some fields have more than one panel of information.
F10	switch panels in the status file maintenance options.
Backspace	delete the previous character.
Del	delete the current character.
Ins	toggle between Insert and Overwrite mode.
Tab	move the next field.
Backtab	move to the previous field.
Cursor Up	move to the previous field.
Cursor Down	Move to the next field.
Ctrl-Home	move to the first field.
Ctrl-End	move to the last field.
Home	move to the beginning of a field.
End	move to the end of a field.
Cursor Left	move left one character.
Cursor Right	move right one character.

PgUp	select the previous page of details.
PgDn	select the next page of details.

Error messages are displayed on the bottom line of the screen. Press *Esc* to return to the field in error.

Initial Menu

The initial menu displays five options:

```
                    OV/FAX ADMINISTRATION UTILITY
                       VERSION 3 RELEASE 2.0



        Select one of the following options




                ┌─────────────────────────────────────┐
                │  1.   Server Configuration          │
                │  2.   Maintain Fax Status Details   │
                │  3.   Image to Raster Conversion    │
                │  4.   Testing Facilities            │
                │  5.   GammaLink Error Code Mapping  │
                └─────────────────────────────────────┘






════════════════════════════════════════════════════════════════════
 Esc Exit    Enter Select Option    F1 Help
```
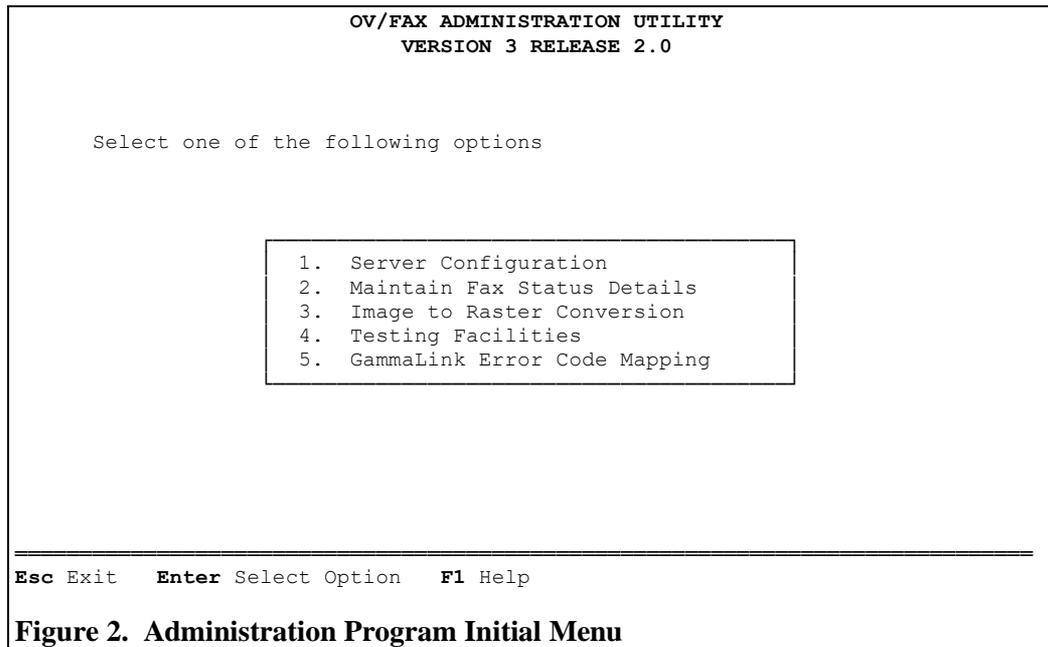
Figure 2. Administration Program Initial Menu

Option 1 allows the configuration of the server to be defined.

Option 2 allows the status file to be maintained. The status file holds details of all the outbound faxes currently being processed by the server. The maintenance facilities are described in "Chapter 6. Server Administration".

Option 3 is a conversion utility. Images which have previously been scanned in as .IMG format may be converted to Raster format. The way in which the image is to be used is also specified here. The utility is described in "Chapter 7. Image Handling".

Option 4 provides a number of facilities designed to test the inbound and outbound parts of the system, and to check that the server has been properly configured. The test facilities are described in "Chapter 9. Diagnostic Facilities".

Option 5 allows the mapping of GammaLink to OV/Fax error codes to be precisely controlled. The facility is described at "GammaLink Error Code Mapping".

Pressing *Esc* exits the program.

Configuration of the Server

The configuration of the server is held in the file **FXCONFIG.DAT**. This is stored in the main server directory, and should only be amended using the administration program. The menu below appears when option 1 is selected from the initial menu:

```
                    OV/FAX ADMINISTRATION UTILITY
                        SERVER CONFIGURATION



        Select one of the following options




                 ┌─────────────────────────────────────┐
                 │  1.   System Configuration          │
                 │  2.   Dialling Codes Setup          │
                 │  3.   Communications Setup          │
                 │  4.   GammaLink Configuration       │
                 │  5.   Fax Conversion Parameters     │
                 │  6.   PostFAX Configuration         │
                 └─────────────────────────────────────┘




  ═══════════════════════════════════════════════════════════════════════
  Esc Exit    Enter Select Option    F1 Help
```

Figure 3. Server Configuration Menu
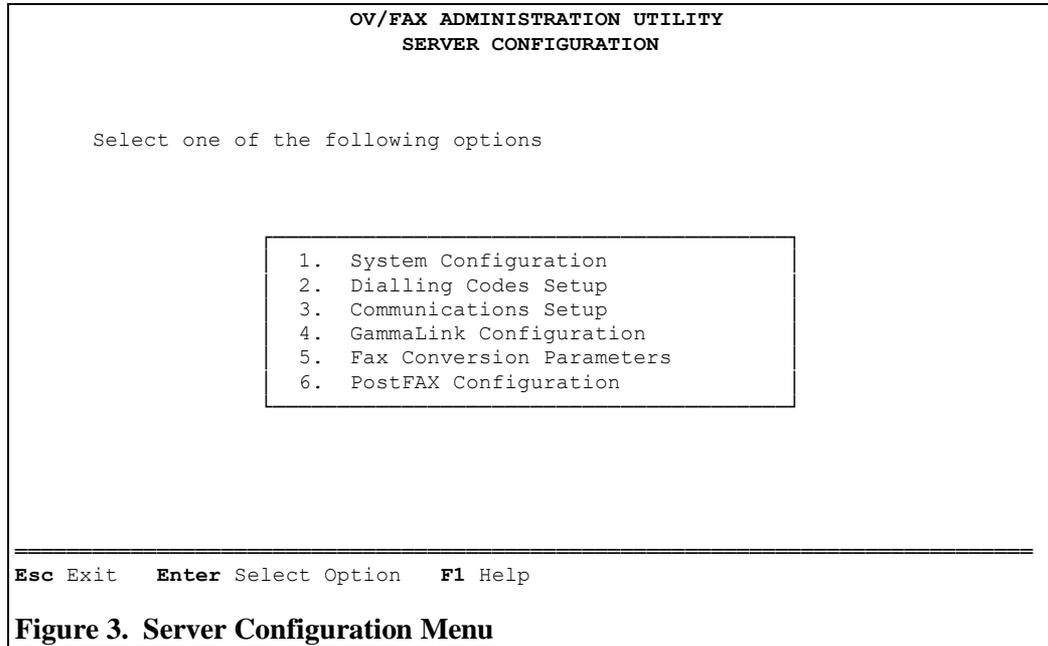
Option 1 allows the general server details and processing options to be defined.

Option 2 allows the dialling requirements of the server to be defined.

Option 3 allows the 3270 emulation details to be defined.

Option 4 allows the GammaLink configuration details to be defined.

Option 5 allows the fax conversion parameters to be defined.

Option 6 allows the PostFAX directories to be defined.

The panels illustrated below show the default values for the fields, as set by the administration program when the configuration file is created.

System Configuration

The following panel is displayed:

```
                    OV/FAX ADMINISTRATION UTILITY
                        SYSTEM CONFIGURATION



    ┌─────────────────────────────────────────────────────────────┐
    │   Server Name..................[SERVER1 ]                     │
    │                                                               │
    │   Processing Option............[O]  ( I=In only, O=Out only, B=both ) │
    │   Server Fax Number............[0121 356 0463              ]  │
    │                                                               │
    │   Inbound Wait/Outbound Rest...[300    ]  ( seconds )         │
    │   Free Disk Space Threshold....[20] ( % )                    │
    │                                                               │
    │   Company Name...[TBS Software Inc.                        ]  │
    └─────────────────────────────────────────────────────────────┘




 ═════════════════════════════════════════════════════════════════
 Esc Exit    Enter Validate Entries    F1 Help
```
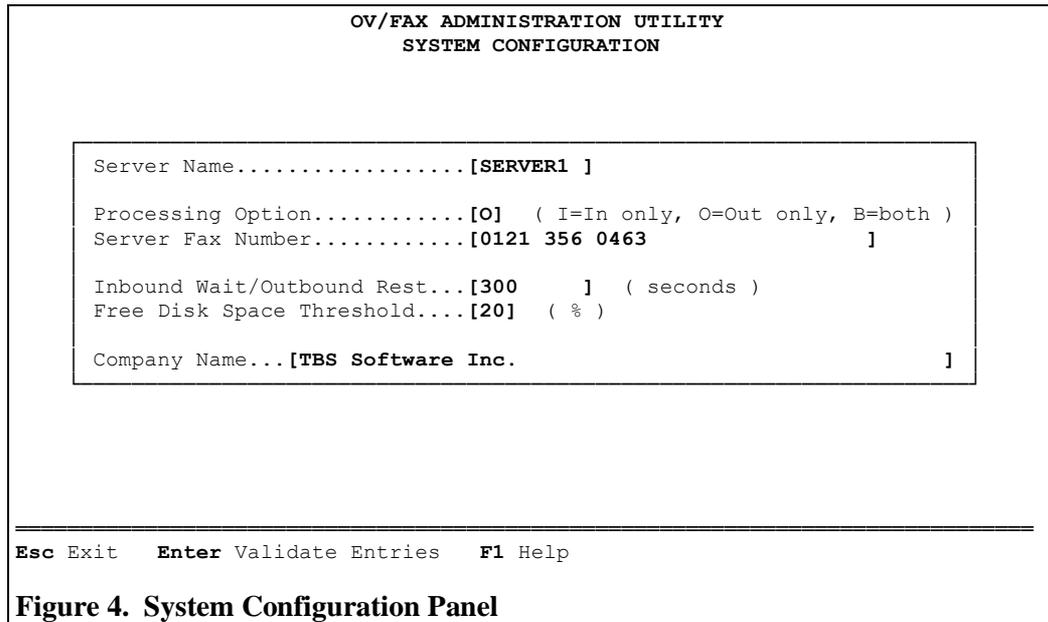
Figure 4. System Configuration Panel

All the fields on this panel are mandatory. The requirements of each are as follows:

Server Name
Only alphabetic and numeric characters are permitted in this field, which identifies the server to the host whenever it polls.

Processing Option
Only alphabetic characters are allowed in this field. It specifies the processing cycle to be used by the server, and may be:

- **I**   Inbound fax processing only.

- **O**   Outbound fax processing only.

- **B**   Both inbound and outbound fax processing.

Server Fax Number
Only digits, spaces and hyphens are allowed in this field. The number is used for reference only, and should normally be the same as the telephone number to which the server is attached.

Inbound Wait/Outbound Rest
Only digits are allowed in this field. The number specifies a delay time (in seconds). When the server is used only to send faxes, it controls the frequency with which the server polls the host. Otherwise, it controls the amount of time that the server waits for an inbound fax.

Free Disk Space Threshold
Only digits are allowed in this field. The server downloads more outbound fax requests from the host only if there is sufficient space on the disk drive. The disk drive checked is the one on which the server software is installed. Space needs to be available for the files of the converted faxes, and for any inbound faxes.

Company Name
Any ASCII character may be entered in this field. The name can be printed on the cover sheet of each outbound fax, if required.

Dialling Codes Set-up

The following panel is displayed:

```
                        OV/FAX ADMINISTRATION UTILITY
                           DIALLING CODES SETUP



     ┌─────────────────────────────────────────────────────────────┐
     │  Line Type....................[T]  ( P=pulse, T=tone )       │
     │  Line Prefix..................[9               ]             │
     │                                                               │
     │  National (Internal) Prefix...[0               ]             │
     │  Local Area Code..............[121             ]             │
     │                                                               │
     │  International Prefix.........[00              ]             │
     │  Country Code.................[44              ]             │
     │                                                               │
     │  Custom Dialling Module.......[               ]             │
     └─────────────────────────────────────────────────────────────┘




═══════════════════════════════════════════════════════════════════════
Esc Exit    Enter Validate Entries    F1 Help
```
Figure 5. Dialling Codes Setup Panel

The requirements of each field are as follows:

Line type
Only alphabetic characters are allowed in this field. The line type depends on the exchange to which the server is connected, and may be:

P   Pulse dialling.

T   Tone dialling.

Line Prefix
Only alphanumeric characters and punctuation are allowed in this field. The field is optional, and is used for any prefix required by the exchange for correct operation. For example, a server connected to a company telephone exchange may require a **9** to get an outside line. It may also be necessary to introduce a short delay into the dialling process, while the outside line is obtained. Use '**,**' for a 1.5 second delay, or '**;**' to delay for up to 15 seconds while a secondary dial tone is obtained. If the server is connected to an external telephone line, a value is probably not needed.

National (Internal) Prefix
Only digits are allowed in this field. This field will only be required in those countries where the area code contains an initial digit (usually **0** or **9**) which is not used when a number is dialled internationally. For example, the area code for Birmingham, UK, is **0121**. However, when dialling Birmingham internationally, the number should begin (+44) **121**. - i.e. the leading zero is dropped. The zero should be placed in this field, and left out of the 'Local Area Code' field which follows. In countries such as the USA and Canada, where the area code is the same whether dialled nationally or internationally, this field should be left blank.

Local Area Code

Only digits are allowed in this field. The code is the STD or Area code for the number to which the server is attached, and is used to identify local calls. In this example, **121** is the area code for Birmingham, UK. Please note that if the area code begins with a **0** or **9**, this digit should be left out of the 'Local Area Code' field and placed in the 'National (Internal) Prefix' field instead.

International Prefix

Only digits are allowed in this field. The number is the prefix to be used when dialling international calls. In this example, **00** is the code used in the United Kingdom.

Country Code

Only digits are allowed in this field. The number is the national prefix for the country in which the server is located, and is used to identify calls to that country. In this example, **44** is the country code for the United Kingdom.

Custom Dialling Module

Only alphanumeric fields and punctuation are allowed in this field. The field is optional, and is used to specify the name of an executable program that replaces the standard number processing functions of the server. The program, if used, should be held in the main server directory. A example of a program is provided in the `SAMPLES` subdirectory.

Communications Set-up

The following panel is displayed:

```
                    OV/FAX ADMINISTRATION UTILITY
                         COMMUNICATIONS SETUP




    ┌─────────────────────────────────────────────────────────────┐
    │  Emulation Session ID.......[A]  ( A to Z )                  │
    │                                                             │
    │  CICS Transaction Prefix....[FAX]                           │
    │                                                             │
    │  Communications Timeout.....[5 ]   ( minutes )             │
    │  AUTOSTART delay...........[5 ]   ( seconds )              │
    │                                                             │
    └─────────────────────────────────────────────────────────────┘




════════════════════════════════════════════════════════════════════
Esc Exit    Enter Validate Entries   F1 Help
```

Figure 6. Communications Setup Panel

All the fields on this panel are mandatory. The requirements of each are as follows:

Emulation Session ID
Only alphabetic characters are allowed in this field. The character specifies which 3270 emulation session is being used by the server.

CICS Transaction Prefix
Only alphanumeric characters are allowed in this field. It specifies the three-character prefix of the CICS transactions initiated by the server. If the transaction prefix on the host has been changed, then this change should be reflected here.

Communications Timeout
Only digits are allowed in this field. The number specifies the maximum time (in minutes) that the server will wait for a response from the host.

AUTOSTART delay
Only digits are allowed in this field. The number specifies the time (in seconds) that the server will wait during AUTOSTART, before polling the host. See Server Operation Facilities for more about AUTOSTART.

GammaLink Configuration

The following panel is displayed:

```
                          OV/FAX ADMINISTRATION UTILITY
                            GAMMALINK CONFIGURATION




      ┌──────────────────────────────────────────────────────────────┐
      │ GammaLink Directory.......[C:\GAMMA                          ] │
      │                                                                │
      │ Call Timeout..............[30]       ( seconds )               │
      │ Retry Counter.............[0]                                  │
      │ Retry Delay...............[30]       ( minutes )               │
      │ Initial BAUD Rate.........[0    ]    ( 0=Max rate )            │
      │ Use GFXHEADER.............[N]        ( Y=Yes, N=No)            │
      │ Delay Request Deletion....[Y]        ( Y=Yes, N=No )          │
      │ Long Numbers Supported....[N]        ( Y=Yes, N=No )          │
      │ Long Numbers Directory....[         ]  ( if Supported=Y )      │
      └──────────────────────────────────────────────────────────────┘




 ══════════════════════════════════════════════════════════════════════
 Esc Exit    Enter Validate Entries    F1 Help
```
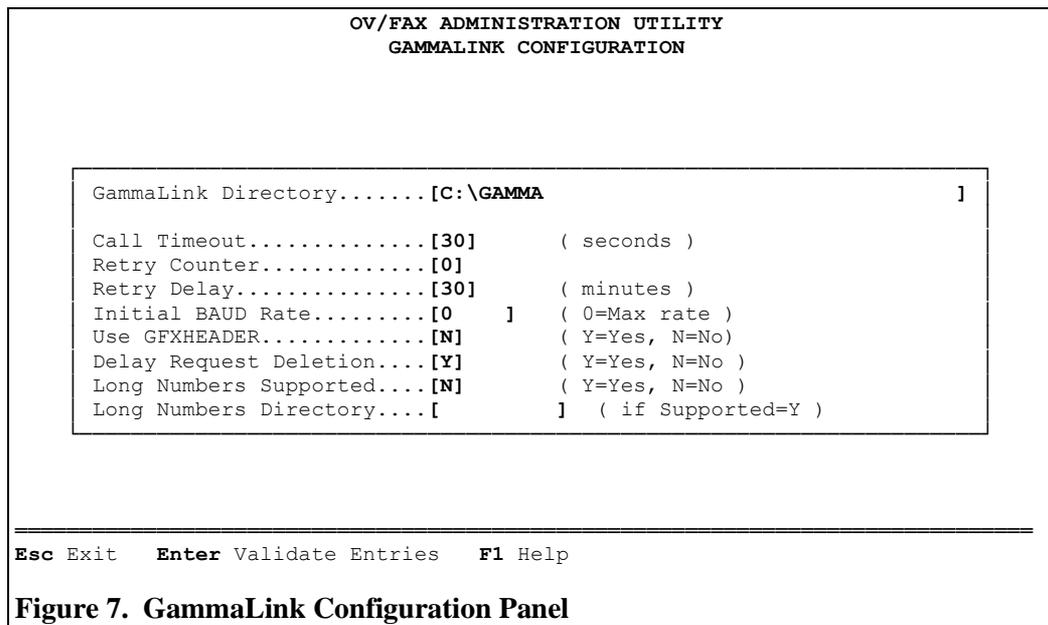
Figure 7. GammaLink Configuration Panel

The requirements of each field are as follows:

GammaLink Directory
Only alphanumeric characters and punctuation are allowed in this field. It specifies the
directory in which the GammaLink software resides. The validation process checks that the
directory exists.

Call Timeout
This field specifies the number of seconds to wait after dialing for answer-tone carrier detect.
It cannot have a value of zero. On overseas calls, the connect time may be 60 to 90 seconds.
Local calls might connect in 10 seconds.

Retry Counter
This field specifies the total number of calls to be attempted before notifying the host that the
transmission failed. Note that even if this value is set to zero, a file still gets one transmission
attempt by default.

Retry Delay
This field specifies the number of minutes that must elapse before another retry is attempted.

Initial BAUD Rate
Only digits are allowed in this field. The number specifies the initial transmission speed for
outbound faxes in bits per second (bps), and may be:

     0, 2400, 4800, 7200, 9600, 12000 or **14400**.

It is recommended that you code 0 in this field, in which case, the GammaLink software will
choose the maximum rate possible when transmitting. Change the value only if a slower rate
is required: for example, when a phone line is known to have poor quality.

Use GFXHEADER
Specify Yes if the GammaLink header is to be printed at the top of each sent fax. If not,

specify No.

Refer to the GammaLink Fax Configuration command GFXHEADER.

Delay Request Deletion

Only alphabetic characters are allowed in this field. It specifies when outbound fax requests are deleted from the GammaLink 'Sent' queue, if a Fax board is in use. The valid values are:

Y   The requests remain on the queue until all outbound fax requests have been processed. This option is recommended if the server will be processing several faxes concurrently.

N   The requests are deleted from the queue as soon as the fax server detects that a fax has been sent. This helps to limit the size of the GammaLink queue file.

Long Numbers Supported

Only alphabetic characters are allowed in this field. It specifies whether fax numbers longer than 20 digits, including all dialling prefixes, are supported. 20 digits is the usual maximum. However, later releases of GammaLink support longer numbers. OV/Fax can allow up to 30 digits to be used. The valid values are:

Y   Long numbers are supported. The 'Long Numbers Directory' field should also be completed.

N   Long numbers are not supported. If fax numbers longer than 20 digits are generated, GammaLink will only use the first 20 digits.

Long Numbers Directory

Only alphanumeric characters and punctuation are allowed in this field. It is only required if the 'Long Numbers Supported' field is set to **Y**. It specifies the drive and directory in which files containing the long fax numbers are stored. This can be the same as the 'GammaLink Directory' if this name is short enough. The validation process checks that the directory exists.

Fax Conversion Parameters

The following panel is displayed:

```
                        OV/FAX ADMINISTRATION UTILITY
                          FAX CONVERSION PARAMETERS


   ┌────────────────────────────────────────────────────────────────┐
   │ Conversion Directory......[C:\OV-FAX\CONV                    ]   │
   │ Image Root Directory......[C:\OV-FAX\IMAGE                   ]   │
   │                                                                  │
   │ Default Font..............[OVFAXFNT]  Var. Length Cover Sheets..[N] │
   │ Default Pitch.............[12]        Var. Length Last Pages....[N] │
   │ Default Lines Per Inch....[6]         IDU Compatible............[N] │
   │ Fill Bits.................[192]       Erase Blank Pages.........[Y] │
   │                                                                  │
   │ Top Margin (pixels).......[50 ]       Text Indent (pixels)....[100] │
   │ Right Margin (pixels).....[50 ]       Image Indent (bytes).....[6 ] │
   │ Bottom Margin (pixels)....[50 ]       - Indent to Command.......[Y] │
   │ Ignore Margins with ASA...[N]         Overlay Indent (bytes)...[0 ] │
   │                                                                  │
   │ RFT Top Margin (lines)....[0 ]        RFT Tabs Supported........[Y] │
   │ RFT Left Margin (chars)...[0 ]        RFT Indents Supported.....[Y] │
   │ Replacement RFT Image ( * = blank ):                             │
   │   [*                                                         ]   │
   └────────────────────────────────────────────────────────────────┘
════════════════════════════════════════════════════════════════════
Esc Exit    Enter Validate Entries    F1 Help
```

Figure 8. Fax Conversion Parameters Panel

The requirements of each field are as follows:

Conversion Directory
Only alphanumeric characters and punctuation are allowed in this field. It specifies the directory in which the conversion software resides. Temporary files will also be held in this directory. The default value is the server's CONV subdirectory but this may be changed, for example, to run from a RAM drive. The server should be set up to copy the server's CONV subdirectory into the specified directory. The validation process checks that the directory exists.

Image Root Directory
Only alphanumeric characters and punctuation are allowed in this field. It specifies the root directory for storing images. The default value is the server's IMAGE subdirectory but this may be changed, for example, to use a compressed drive. If a previous release of the server is installed, then its image directory could be used instead. The validation process checks that the directory exists.

Default Font
Only alphanumeric characters are allowed in this field. It specifies the name of the default font files to use. It may be overridden if another font is specified within the document text. The server is supplied with font files called **OVFAXFNT**. Eight files are required for each font, which are stored in the 'Conversion Directory'. The validation process checks that the file for the default pitch and lines per inch exists.

Default Pitch
Only digits are allowed in this field. The number specifies the default pitch (characters per horizontal inch) to use, and may be:

10, **12**, **13**, **16**, **17** or **20**.

13 pitch actually generates 12.5 pitch, and **17** pitch actually generates 16.7 pitch. The value may be overridden by including format commands within the document text.

Default Lines Per Inch

Only digits are allowed in this field. The number specifies the default lines per vertical inch to use, and may be **6** or **8**.

Fill Bits

Only digits are allowed in this field. The number specifies the minimum number of bits to transmit with each scan line of the fax. Many fax machines require each scan line to take a certain minimum time to transmit, in order to keep up with the transmission. The default value is **192** bits, which corresponds to 20 milliseconds at 9600 baud. The value should not normally need to be changed.

Var. Length Cover Sheets

Only alphabetic characters are allowed in this field. It specifies whether cover pages are to be sent as full A4 pages or not, and may be:

Y   The size of the cover page depends on the size of the image and text used to create it. Smaller cover pages reduce the conversion and transmission time of a fax.

N   The cover page will always be sent as a full A4-size page, irrespective of the size of the image and text used to create the cover page.

Var. Length Last Pages

Only alphabetic characters are allowed in this field. It specifies whether the last page of each fax is to be sent as full A4 pages or not, and may be:

Y   The size of the last page depends on the amount of text (and any images or overlays) used to create it. Smaller last pages reduce the conversion and transmission time of a fax.

N   The last page will always be sent as a full A4-size page, irrespective of the size of the image and text used to create the last page.

IDU Compatible

Only alphabetic characters are allowed in this field. It specifies whether the more restrictive pitches and overlay indents of PC-IDU are to be used instead of the OV/Fax ones. The field may be:

Y   Use the PC-IDU pitches and overlay indents.

N   Use the OV/Fax pitches and overlay indents. This is the default value, and should be used unless compatibility with an old release of the OV/Fax server is require.

Erase Blank Pages

Only alphabetic characters are allowed in this field. It specifies whether blank pages generated within the fax should be deleted, and may be:

Y   Blank pages will be deleted, reducing the transmission time.

N   Blank pages will be kept and transmitted.

Blank pages can occur due to the formatting of pages within or at the end of the document. If it is important that blank pages are retained and sent in the fax, then set this option to **N**.

Top Margin (pixels)

Only digits are allowed in this field. It specifies the number of pixels (or scan lines) to include at the top of every page, before any text or images begin. The field does not apply to RFT documents. There are 200 scan lines per inch in a fax. At 6 lines per inch, each line of text uses 33 scan lines, while at 8 lines per inch, each line uses 25 scan lines. The field may be **0** if required.

Right Margin (pixels)

Only digits are allowed in this field. It specifies the number of pixels to include on the right hand edge of page (which is also the top margin of landscape faxes). There are 200 pixels per horizontal inch in a fax. The field may be **0** if required.

Bottom Margin (pixels)

Only digits are allowed in this field. It specifies the number of pixels (or scan lines) to include at the bottom of every page. No more text will be included on the page once the margin has been reached. The field may be **0** if required.

Ignore Margins with ASA

Only alphabetic characters are allowed in this field. It specifies whether the above margins should be used if the document contains ASA control characters. Print image documents normally contain ASA control characters. The field may be:

    Y   Margins will be ignored when the fax is generated.

    N   Margins will be included when the fax is generated.

Text Indent (pixels)

Only digits are allowed in this field. It specifies the number of pixels to include on the left hand edge of page before the first character of text. The field does not apply to RFT documents. There are 200 pixels per horizontal inch in a fax. The field may be **0** if required. A left margin is recommended since many fax machines lose the first few characters of a line when they receive a fax.

Image Indent (bytes)

Only digits are allowed in this field. It specifies the number of bytes (8 pixels) to include on the left hand edge of page before an image starts. The field may be **0** if required. A margin is recommended for the same reason as a 'Text Indent'. The margin will be ignored if the 'Indent to Command' field is **Y**.

Indent to Command

Only alphabetic characters are allowed in this field. It specifies whether the left hand edge of an included image should start in the same column as the image command, allowing the sender to control the placement of the image. The field may be:

    Y   Images will start in the same column as the command to include them. The 'Image Indent' field is ignored.

    N   All images will start in the 'Image Indent' column.

Overlay Indent (bytes)

Only digits are allowed in this field. It specifies the number of bytes (8 pixels) to include on the left hand edge of page before an overlay starts. The field may be **0** if required. A margin is recommended for the same reason as a 'Text Indent'. Changing the 'Text Indent' or 'Image Indent' fields without changing the 'Overlay Indent' field may result in misalignment of the various components when the fax is generated.

RFT Top Margin (lines)

Only digits are allowed in this field. It specifies the number of text lines to include at the top of every page of an RFT document, in addition to those specified within the formatting of the document. The field does not apply to print image documents. The field may be **0** if required.

RFT Left Margin (chars)

Only digits are allowed in this field. It specifies the number of characters to include on the left hand edge of page before the first character of text, in addition to any margins or indents specified within the formatting of the document. The field does not apply to print image

documents. The field may be **0** if required. A left margin is recommended if the documents are unlikely to include their own margins, since many fax machines lose the first few characters of a line when they receive a fax.

RFT Tabs Supported

Only alphabetic characters are allowed in this field. It specifies whether tab characters within the RFT document are to be interpreted, generating the appropriate number of spaces. The field may be:

Y   Support tab characters, generating spaces.

N   Ignore tab characters.

RFT Indents Supported

Only alphabetic characters are allowed in this field. It specifies whether indent characters within the RFT document are to be interpreted, generating the appropriate number of spaces. The field may be:

Y   Support indent characters, generating spaces.

N   Ignore indent characters.

Replacement RFT Image

Only alphanumeric characters and punctuation are allowed in this field. It specifies how the server should handle unsupported fields within an RFT document, such as graphics commands. The value may be:

blank   An error will be generated during the conversion process, resulting in the fax failing.

*   A small blank image will be substituted in the fax.

filename   The named image file will be substituted in the fax. The image should be an IMDS (.IMG) format image.

PostFAX Configuration

The following panel is displayed:

```
                         OV/FAX ADMINISTRATION UTILITY
                            POSTFAX CONFIGURATION




     ┌──────────────────────────────────────────────────────────────────────┐
     │  PostFAX is Installed......[N]  ( Y=Yes, N=No )                        │
     │                                                                        │
     │  PostFAX-ODX Directory.....[                                        ]  │
     │  PostFAX-TIFF Directory....[                                        ]  │
     └──────────────────────────────────────────────────────────────────────┘








═══════════════════════════════════════════════════════════════════════════════
Esc Exit    Enter Validate Entries    F1 Help
```
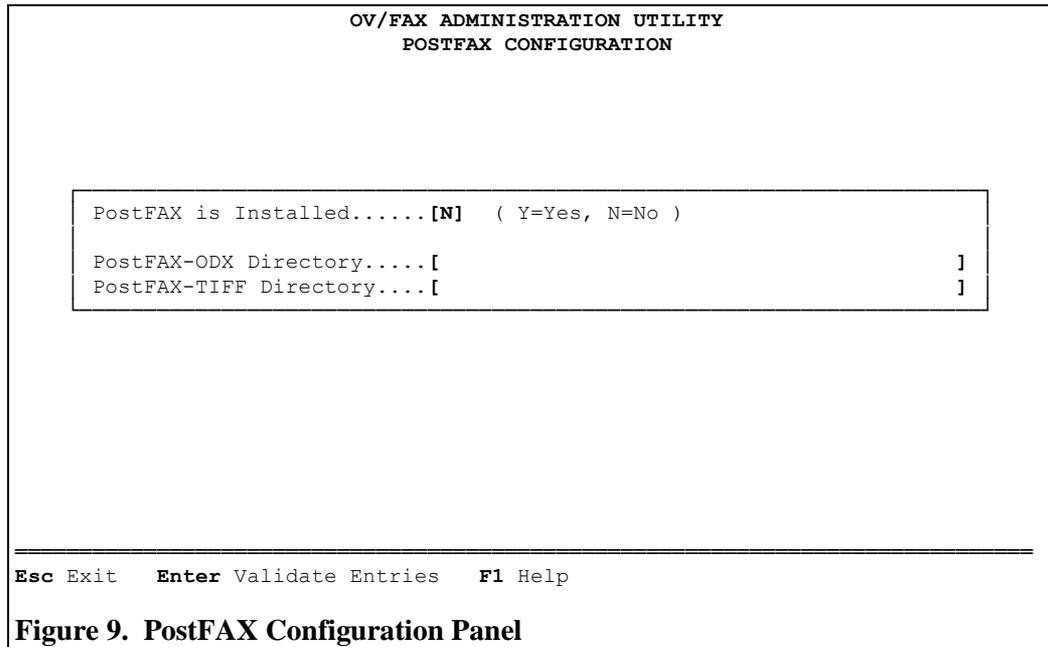
Figure 9. PostFAX Configuration Panel

The requirements of each field are as follows:

PostFAX is Installed
Only alphabetic characters are allowed in this field. It specifies whether the server is to use the PostFAX Formatter to convert PC files into faxes. The field may be:

Y   PostFAX is installed and to be used.

N   PostFAX is not installed. PC files will not be converted by the server.

PostFAX-ODX Directory
Only alphanumeric characters and punctuation are allowed in this field. It is only required if the 'PostFAX is Installed' field is set to **Y**. It specifies the directory in which the PostFAX-ODX and PostFAX-Legacy software resides. The validation process checks that the directory exists.

PostFAX-TIFF Directory
Only alphanumeric characters and punctuation are allowed in this field. It is only required if the 'PostFAX is Installed' field is set to **Y**. It specifies the directory in which the PostFAX-TIFF software resides. The validation process checks that the directory exists.

GammaLink Error Code Mapping

This option is selected from the main administration menu. When it is selected, the following panel is displayed, with the action bar over the first mapping definition:

```
                    OV/FAX ADMINISTRATION UTILITY
                    GAMMALINK ERROR CODE MAPPING

     From   To    Error       From   To    Error       From   To    Error

     0000 - 0000 : 000        3027 - 3027 : 500        3110 - 3111 : 515
     1001 - 1017 : 500        3030 - 3033 : 500        3120 - 3120 : 515
     1021 - 1025 : 500        3035 - 3036 : 500        3130 - 3130 : 500
     1031 - 1034 : 500        3040 - 3041 : 515        3140 - 3141 : 500
     1035 - 1035 : 510        3050 - 3052 : 515        3150 - 3151 : 500
     1036 - 1036 : 500        3060 - 3061 : 500        3160 - 3161 : 500
     2000 - 2999 : 899        3062 - 3062 : 505        3170 - 3171 : 510
     3001 - 3001 : 505        3070 - 3070 : 520        3180 - 3181 : 500
     3002 - 3002 : 500        3071 - 3071 : 525        3190 - 3191 : 500
     3004 - 3006 : 500        3072 - 3072 : 555        3200 - 3201 : 560
     3009 - 3009 : 500        3073 - 3074 : 525
     3013 - 3013 : 500        3080 - 3080 : 515        ┌─────────────────┐
     3019 - 3020 : 500        3090 - 3090 : 515        │                 │
     3022 - 3022 : 500        3100 - 3103 : 500        │ [    ] [    ] [    ] │
     3024 - 3024 : 500        3105 - 3106 : 515        │                 │
                                                       └─────────────────┘

       Action:   A=Amend    D=Delete    I=Insert new entry before
    ═══════════════════════════════════════════════════════════════════════
    Esc Exit   F1 Help   PgDn
     Select the required entry, then enter the action code.
```

Figure 10. GammaLink Error Code Mapping Panel

GammaLink generates a 4-digit code if it is unable to send a fax successfully. For example, if the number is engaged, GammaLink will issue error code 3931. There are a large number of error codes that GammaLink may issue (for a complete list, see the *GammaLink Error Status Codes Manual*). However, as many of them are very similar in meaning, groups of GammaLink error codes are 'mapped' to a smaller range of 3-digit codes which is understood both by the server and the host components of OV/Fax. This reduces the administration overhead, since only a relatively small number of codes need to be defined to the host.

A default error code mapping table is supplied with OV/Fax, as shown in above. There are two further panels of details, which may be viewed by pressing *PgDn* and *PgUp*. The mapping table may be changed if required. For example, later releases of GammaLink software may contain new error codes not catered for in the supplied table. Alternatively, peculiarities in the telephone system may result in one GammaLink code being returned and translated, whereas a different translation may be more appropriate.

Amending an Entry

To amend an entry, move the action bar to that entry and press **A**. The selected entry will appear in the window at the bottom right of the panel. This is shown in the following panel, where the third entry is being amended.

```
                    OV/FAX ADMINISTRATION UTILITY
                    GAMMALINK ERROR CODE MAPPING

    From    To    Error      From    To    Error      From    To    Error

    0000 - 0000 : 000        3027 - 3027 : 500        3110 - 3111 : 515
    1001 - 1017 : 500        3030 - 3033 : 500        3120 - 3120 : 515
    1021 - 1025 : 500        3035 - 3036 : 500        3130 - 3130 : 500
    1031 - 1034 : 500        3040 - 3041 : 515        3140 - 3141 : 500
    1035 - 1035 : 510        3050 - 3052 : 515        3150 - 3151 : 500
    1036 - 1036 : 500        3060 - 3061 : 500        3160 - 3161 : 500
    2000 - 2999 : 899        3062 - 3062 : 505        3170 - 3171 : 510
    3001 - 3001 : 505        3070 - 3070 : 520        3180 - 3181 : 500
    3002 - 3002 : 500        3071 - 3071 : 525        3190 - 3191 : 500
    3004 - 3006 : 500        3072 - 3072 : 555        3200 - 3201 : 560
    3009 - 3009 : 500        3073 - 3074 : 525      ┌──────────────────────┐
    3013 - 3013 : 500        3080 - 3080 : 515      │                      │
    3019 - 3020 : 500        3090 - 3090 : 515      │  [1021] [1025] [500] │
    3022 - 3022 : 500        3100 - 3103 : 500      │                      │
    3024 - 3024 : 500        3105 - 3106 : 515      └──────────────────────┘


     Action:   A=Amend    D=Delete    I=Insert new entry before
═══════════════════════════════════════════════════════════════════════════
 Esc Exit   F1 Help   PgDn
  Amend the details for the entry and press Enter, or press Esc to cancel.
```

Figure 11. Amending a Mapping Entry

Only numerals may be entered in the window. It is possible to alter the range of GammaLink
codes, the OV/Fax error code, or both. Press *Enter* after entering the amended details in the
window, or *Esc* to cancel the request.

Note: It is not possible to amend the first or last entries on the table.

If the range is altered, the program will check that it is still within the range of the
surrounding entries. For example, it would not be possible to amend the entry to:

> **From   To   Error**
>
> **1016 - 1025 : 500**

since the 'From' value is lower than the 'To' value of the preceding entry.

Likewise, it would not be possible to amend the entry to:

> **From   To   Error**
>
> **1021 - 1032 : 500**

since the 'To' value is higher than the 'From' value of the following entry.

It may occasionally be necessary to add a new OV/Fax error code to the system in order to
recognise a new condition, or to increase the sensitivity of OV/Fax to the various error
conditions that arise. For example, the entry amended above may be changed to:

> **From   To   Error**
>
> **1021 - 1025 : 501**

501 is not among the OV/Fax error codes recognised in the default configuration. (These are
listed, together with their meanings, in "Appendix D. Error Codes"). The use of this code will
cause the server no problems, but the host component of OV/Fax will need to be updated to
recognise the new code. Details on how to do this are given in the *OV/Fax Installation and
Customisation Guide*.

Deleting an Entry

To delete an entry, move the action bar to that entry and press **D**. The selected entry will appear in the window at the bottom right of the panel. This is shown in the following panel, where the second entry is being deleted.

```
                    OV/FAX ADMINISTRATION UTILITY
                    GAMMALINK ERROR CODE MAPPING

      From    To     Error     From    To     Error     From    To     Error

      0000 - 0000 : 000     3027 - 3027 : 500     3110 - 3111 : 515
      1001 - 1017 : 500     3030 - 3033 : 500     3120 - 3120 : 515
      1021 - 1025 : 500     3035 - 3036 : 500     3130 - 3130 : 500
      1031 - 1034 : 500     3040 - 3041 : 515     3140 - 3141 : 500
      1035 - 1035 : 510     3050 - 3052 : 515     3150 - 3151 : 500
      1036 - 1036 : 500     3060 - 3061 : 500     3160 - 3161 : 500
      2000 - 2999 : 899     3062 - 3062 : 505     3170 - 3171 : 510
      3001 - 3001 : 505     3070 - 3070 : 520     3180 - 3181 : 500
      3002 - 3002 : 500     3071 - 3071 : 525     3190 - 3191 : 500
      3004 - 3006 : 500     3072 - 3072 : 555     3200 - 3201 : 560
      3009 - 3009 : 500     3073 - 3074 : 525    ┌─────────────────────────┐
      3013 - 3013 : 500     3080 - 3080 : 515    │                         │
      3019 - 3020 : 500     3090 - 3090 : 515    │  [1001] [1017] [500]    │
      3022 - 3022 : 500     3100 - 3103 : 500    │                         │
      3024 - 3024 : 500     3105 - 3106 : 515    └─────────────────────────┘

      Action:   A=Amend    D=Delete    I=Insert new entry before
    ═══════════════════════════════════════════════════════════════════════
    Esc Exit    F1 Help    PgDn
     Press Enter to delete this entry, or Esc to cancel.
```

Figure 12. Deleting a Mapping Entry

Press *Enter* to confirm the deletion of this entry, or *Esc* to cancel the request. When the entry has been deleted, the panel will be re-displayed without the entry.

Note: It is not possible to delete the first or last entries from the table.

Inserting an Entry

The default error code mapping table in OV/Fax contains all the most commonly found GammaLink error codes. However, depending on the level of GammaLink software being used, other codes may occasionally arise which do not occur in the above table. These will be mapped to the general OV/Fax code 899, unless a specific entry is added to this table. The action bar should be positioned on the entry immediately AFTER the position where the new code should be entered, then **I** pressed.

The following example shows how a GammaLink code **1020** could be inserted and mapped to error code **501**. The action bar would need to be placed over the third entry:

```
    From    To      Error

    1021 - 1025 : 500
```

When **I** is pressed, the following panel is displayed:

```
                    OV/FAX ADMINISTRATION UTILITY
                    GAMMALINK ERROR CODE MAPPING

      From    To    Error       From    To    Error       From    To    Error

      0000 - 0000 : 000       3027 - 3027 : 500       3110 - 3111 : 515
      1001 - 1017 : 500       3030 - 3033 : 500       3120 - 3120 : 515
      1021 - 1025 : 500       3035 - 3036 : 500       3130 - 3130 : 500
      1031 - 1034 : 500       3040 - 3041 : 515       3140 - 3141 : 500
      1035 - 1035 : 510       3050 - 3052 : 515       3150 - 3151 : 500
      1036 - 1036 : 500       3060 - 3061 : 500       3160 - 3161 : 500
      2000 - 2999 : 899       3062 - 3062 : 505       3170 - 3171 : 510
      3001 - 3001 : 505       3070 - 3070 : 520       3180 - 3181 : 500
      3002 - 3002 : 500       3071 - 3071 : 525       3190 - 3191 : 500
      3004 - 3006 : 500       3072 - 3072 : 555       3200 - 3201 : 560
      3009 - 3009 : 500       3073 - 3074 : 525
      3013 - 3013 : 500       3080 - 3080 : 515      ┌─────────────────────┐
      3019 - 3020 : 500       3090 - 3090 : 515      │                     │
      3022 - 3022 : 500       3100 - 3103 : 500      │  [1018] [1020] [899] │
      3024 - 3024 : 500       3105 - 3106 : 515      │                     │
                                                     └─────────────────────┘

      Action:   A=Amend    D=Delete    I=Insert new entry before
═══════════════════════════════════════════════════════════════════════════
Esc Exit   F1 Help   PgDn
 Complete the details for the new entry and press Enter, or Esc to cancel.
```

Figure 13. Inserting a New Mapping Entry

The bottom-right window will be pre-filled with values for the entries to be inserted. The GammaLink error code range fills the gap between the previous entry and the current entry, and assigns OV/Fax code 899 to the range. Overtype the values if required and press *Enter* to insert the entry. Press *Esc* to cancel the insertion.

Note: An entry may only be inserted if there is room for it between the previous and current entries. It may therefore be necessary to first amend the range on these entries before inserting a new entry.

Installation Checklist

The following list is a summary of the tasks that should now have been performed, in order to install and configure a server.

1. Install the prerequisite hardware in the server, i.e. the GammaLink board or boards, and either the 3270 emulation adapter or the network adapter. The installation procedures will depend on the type of PC being used (PCA or MCA machine). The instructions supplied with the adapters should be consulted.

2. Install the prerequisite software, i.e. 3270 emulation, and GammaLinkGDK. Configure the software for use with the server. Create a directory for long fax numbers if required. Test the 3270 emulation and GammaLink installation. Refer to "Chapter 4. PC Configuration" for more details.

3. Install the optional PostFAX software if required.

4. Install the server software. Refer to "Chapter 3. Installation of Server Software" for more details.

5. Customise the server, as described in this chapter.

The installation and configuration of the server should now be verified, using the administration facilities provided. Refer to "Chapter 9. Diagnostic Facilities" for more details. On completion of these tests, the server should be ready for use. The creation or conversion of any images (cover sheets, signatures, overlays and general images) may now be carried out. Refer to "Chapter 7. Image Handling" for more details.

PART TWO - ADMINISTRATION

Chapter 6. Server Administration

Introduction

The OV/Fax Server is designed for unattended operation, requiring administrator intervention only for dealing with system problems and for changes to the server configuration. System problems may involve action by the administrator to maintain the server Status File. This is described below. Changes to the server configuration will involve either changes to the system configuration, described in "Chapter 4. PC Configuration"; server customisation, described in "Chapter 5. Server Customisation"; or the images held on the server, described in "Chapter 7. Image Handling".

Status File Maintenance

The status file **FXSTATUS.DAT** stores details of all the outbound faxes currently being processed by the server. The file is stored in the main server directory and should only be maintained using the administration program. In order to perform this maintenance, select option 2 from the initial menu. The following sub-menu will appear.

```
                        OV/FAX ADMINISTRATION UTILITY
                          MAINTAIN FAX STATUS DETAILS


        Select one of the following options



                    ┌─────────────────────────────────────┐
                    │   1.   Work with Fax Status Details  │
                    │   2.   Number of Faxes on File       │
                    │   3.   Last File Reference Code Used  │
                    │   4.   Maintain Archive Flag          │
                    │   5.   Create Status File            │
                    │   6.   Rebuild Status File Lists     │
                    └─────────────────────────────────────┘




═══════════════════════════════════════════════════════════════════════════
Esc Exit    Enter Select Option    F1 Help
```
Figure 14. Status File Maintenance Menu
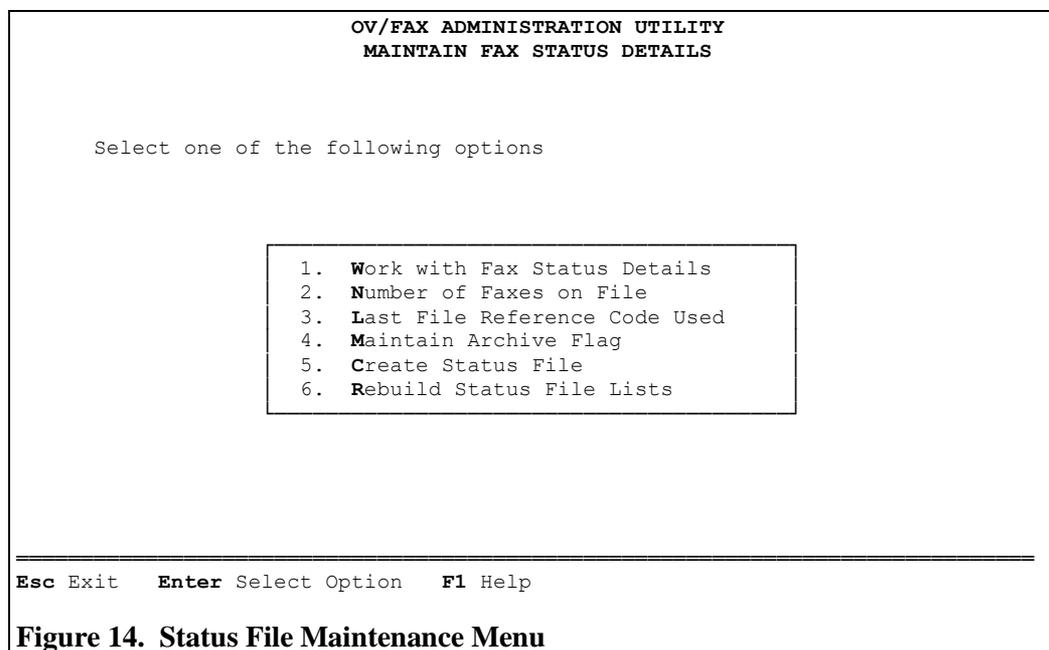
Option 1 allows the status file to be browsed, and actions to be taken against specific items.

Option 2 displays a count of the number of active faxes on the file.

Option 3 allows the file reference code to be displayed and amended.

Option 4 allows the archive flag to be displayed and amended.

Option 5 allows the status file to be re-created. Any existing details will be destroyed.

Option 6 allows the internal status file lists to be recreated in the event of corruption.

Work with Fax Status Details

When this option is selected, a list of active records on the status file is displayed, as shown in the following panel. There may be up to fourteen records displayed on the panel.

```
                    OV/FAX ADMINISTRATION UTILITY
                    WORK WITH FAX STATUS DETAILS


     FAX-REF   FILE    USER      SRCE   FAX NUMBER                    STATUS

     0001322   ABXA    SJS        H     356 0463                      E   520
     0001330   ABXI    RAO        H     0121-356 9940                 C   000
     0001338   ABXQ    KD         H     1.905-707 9376                S   000
     0001339   ABXR    SJS        H     0171-379 1553                 S   000
     0001340   ABXS    RAO        H     356 9940                      R   000










      Action:   A=Amend    D=Delete    E=Enquire    I=Insert new record
===============================================================================
Esc Exit   F1 Help
 Select the required fax record, then enter the action code.
```
Figure 15. Fax Status Details List

One line of basic information is provided for each record. This information is as follows:

FAX-REF
This is a unique reference assigned to the fax by the host. It consists of a seven-digit number. This field allows fax requests on the host to be matched with the corresponding status records on the server.

FILE
All the files generated by the server are named using a common prefix, so that it is easy to identify files which belong together. This field shows the prefix in use. For example, the fax with the reference number 0001322 in the example above would generate files such as OABXA.DAT, OABXA.CMD, and so on.

USER
This field shows the user ID of the sender of the fax.

SRCE
This field identifies the source of the fax, and is either **H** for host or **P** for PC (these would be files created by the server test facilities).

FAX NUMBER
This field shows the fax number to dial (it does not show the prefixes which will be added on when the number is actually dialled).

STATUS
The status shows the current state of the fax, and an error code for any error encountered while converting or trying to send the fax. The following status values are possible:

I   Initial state. The profile has been received from the host but the actual document text is still to come.

T Transmitted from the host. The document text has now been received, but a request to dial the fax number has still to come.

R Request to dial. The host has instructed the server to send the fax, but this request has yet to be processed by the server.

S Submitted. The document has been converted to fax format and has been submitted to the GammaLink software / hardware for transmission. This status will only normally be seen for faxes being processed by a GammaLink Fax board.

E Error. The transmission has failed. The error codes which are possible are listed in "Appendix D. Error Codes".

C Complete. The transmission has completed successfully. The error code will always be set to zero in this case.

To work with one of the items displayed, move the action bar over the item, and press one of the following keys:

A Amend the record.

D Delete the record.

E Enquire further on the details of the status record, without modifying them. It may also be possible to display the fax, using a GammaLink-supplied program.

I Insert a new record onto the file.

For whichever option is chosen, the first Status File Maintenance Panel will be displayed.

If there are more than fourteen records on the status file, the *PgDn* and *PgUp* keys may be pressed to move forwards and backwards through the file.

Status File Maintenance Panels

Maintenance Panel 1

This is the first of two panels giving full details of the items on the status file.

```
                    OV/FAX ADMINISTRATION UTILITY
                       AMEND STATUS RECORD


  ┌──────────────────────────────────────────────────────────────────┐
  │ Record............[    1]     Created..[95/07/14 14:47:18]    Page 1│
  │ Prev/Next..[   -1/    2]     Updated..[95/07/14 14:51:07]          │
  │────────────────────────────────────────────────────────────────── │
  │ Fax Reference...[0001330]     File Code...[ABXI]    Size...[273    ]│
  │ User............[RAO    ]     Node....[ICOMSOLN]    Source (H/P)..[H]│
  │                                                                    │
  │ Status..........[C]           Ascii/Rft/Pc...[A]    Document/Tif..[T]│
  │   - I, T, R, S, E, C          Host Key Field.....[095071401447120001]│
  │                                                                    │
  │ Fax Number......[0121-356 9940          ]    Literal (N/Y).[N]      │
  │ CSID............[0121 356 0463           ]    Cover.....[DUMMY]     │
  │                                                                    │
  │ Baud Rate.......[9600 ]    Calls.......[1   ]    Pages.......[2   ]  │
  │ Received CSID...[+44 121 356 9940       ]    Dur'n...[103    ]      │
  │                                                                    │
  │ Error Code......[000]      Cnvt Error..[0000]    GF Error...[0000]  │
  │ Cnvt Program....[       ]   Invalid Image Name.......[          ]   │
  └──────────────────────────────────────────────────────────────────┘
═══════════════════════════════════════════════════════════════════════
 Esc Exit   Enter Validate Entries   F1 Help   F10 More
  Enter the new details above and press Enter.
```

Figure 16. Status File Maintenance Panel 1

The requirements of each field are as follows:

Record
This field is protected. It specifies the number of this record on the file.

Prev/Next
These fields are protected. They specify the previous and next records in the list of active records in the file.

Created
This field is protected. It specifies the date and time when the record was created.

Updated
This field is protected. It specifies the date and time when the record was last updated.

Fax Reference
This field is mandatory and may only contain digits. The number is the unique reference for this fax and is provided by the host. The number must be seven digits long and right justified. It may not be changed if the fax details are being amended. The reference number may be printed on the fax cover sheet if required.

File Code
This field is mandatory and may only contain alphabetic characters. It specifies the unique file reference code for this fax, and is used to name the files relevant to this fax, for example, **OABXI.DAT**. It is generated by the server. The field must be four characters long.

Size
This field is optional and may only contain digits. The number specifies the size of the document received from the host, and is used to calculate whether the disk space threshold is

being exceeded. If the size is **0** then a Personal Services message is being sent. In this situation, only a cover sheet will be generated for the fax.

User
This field is optional and may contain alphanumeric characters. It shows the user ID of the sender of the fax.

Node
This field is optional and may contain alphanumeric characters. It shows the node of the sender of the fax.

Source (H/P)
This field is mandatory and may only contain alphabetic characters. The character indicates the source of the fax, and may be:

H	Host. The fax was generated by the host component of OV/Fax.
P	PC. The fax was generated by the server testing facilities.

Status
This field is mandatory and may only contain alphabetic characters. The character specifies the current status of the fax, and may be:

I	Initial state. The profile has been received from the host but the actual document text is still to come.
T	Transmitted from the host. The document text has now been received, but a request to dial the fax number has still to come.
R	Request to dial. The host has instructed the server to send the fax, but this request has yet to be processed.
S	Submitted. The document has been converted to fax format and has been submitted to the GammaLink software / hardware for transmission. This status will only be seen for faxes being processed by a GammaLink Fax board.
E	Error. The transmission has failed. The error codes below should give the reason for the error.
C	Complete. The transmission has been successful.

Ascii/Rft/Pc
This field is mandatory and may only contain alphabetic characters. The character specifies the type of document received from the host, and may be:

A	ASCII (or print image) format.
R	RFT format.
P	PC file format.

Document/Tif
This field is mandatory and may only contain alphabetic characters. The character specifies the current format of the fax, and may be:

D	Document format. The document is still in the format received from the host.
T	TIF format. The document has been converted to fax format ready for transmission.

Host Key Field
The field is optional and may only contain digits. The value is a date, time and sequence

number, provided by the host and part of the key field for the host *FAXOT* file. If the source of this record is the host, then the field must NOT be changed.

Fax Number

This field is mandatory and may only contain digits and punctuation. It is the number to be called to send the fax. The number may include a '**%**' sign to generate a standard resolution fax.

Literal

This field is mandatory and may only contain alphabetic characters. The character indicates whether the fax number is to be used literally, or if it is to be scanned for STD, national and international prefixes. The value of this field may be:

Y   Use the number as is, with only the Tone or Pulse dial prefix added.

N   The fax number can be processed to include or exclude STD, international and general prefixes, as necessary.

CSID

This field is mandatory and may only contain digits and punctuation. It is the CSID (Customer Subscriber ID) number as supplied for each user by the host. In effect, it is the sender's own fax number.

Cover

This field is mandatory and may contain digits, alphabetic characters and punctuation. It specifies the name of the cover sheet to be used, and is supplied by the host for each user. If the field contains '*********' (5 asterisks) then the fax will be sent without a cover sheet. If a Personal Services message is being sent (indicated by a 'Size' of **0**), an error will be generated as these may only consist of the cover sheet.

Baud Rate

This field is mandatory and may only contain digits. The number specifies the baud rate to be used for the next transmission attempt, and may be:

0, 2400, **4800**, **7200**, **9600**, **12000** or **14400**.

Calls

This field is optional and may only contain digits. The number specifies the number of times the fax transmission has been attempted.

Pages

This field is optional and may only contain digits. It shows the number of pages (TIF files) created after conversion to fax format. This value can be printed on the cover sheet for the fax if required.

Received CSID

This field is optional and may only contain digits and punctuation. It specifies the CSID of the remote fax machine, and is obtained during the fax transmission process.

Dur'n

This field is optional and may only contain digits. The number is the duration of the transmission, recorded in seconds.

Error Code

This field is optional and may only contain digits. The number denotes the success or failure of the transmission. The values currently used by the server are given in "Appendix D. Error Codes".

Cnvt Error

This field is optional and may only contain digits. The number is usually zero, unless one of

the programs used to convert the fax into TIF format returns an error code. "Appendix D/ Error Codes" lists the likely error codes.

GF Error
This field is optional and may only contain digits. The number contains the GammaLink error code relating to the transmission. A complete list of these can be found in the *GammaLink Reference Manual*.

Cnvt Program
This field is optional and may contain alphanumeric characters. If a return code other than zero is present in the 'Cnvt Error' field above, then this field will contain the name of the conversion program which issued the return code.

Invalid Image Name
If a user requests an image, overlay, cover sheet, font or bar code which is unavailable on the server, then the name of the missing file or bar code data will be shown here. This includes the files which the user is specifically excluded from using.

Maintenance Panel 2

A second panel can be viewed by pressing *F10*.

```
                        OV/FAX ADMINISTRATION UTILITY
                            AMEND STATUS RECORD


    ┌─────────────────────────────────────────────────────────────────┐
    │ Signature Id....[SIGNATURE   ]                          Page 2    │
    │                                                                   │
    │ Document Name...[MEMO 14/07/95 14:43:00                 ]         │
    │ Recipient.......[Product Support Fax Machine   ]                  │
    │                                                                   │
    │ From............[Richard Owen                        ]            │
    │ To...                                                             │
    │    [Simon Smith                                      ]            │
    │                                                                   │
    │ Subject...                                                        │
    │    [New version of OV/Fax                        ]                │
    │                                                                   │
    │ Message...                                                        │
    │    [This document has been sent to demonstrate OV/Fax.    ]       │
    │    [                                                       ]       │
    │    [                                                       ]       │
    │    [                                                       ]       │
    └─────────────────────────────────────────────────────────────────┘
═══════════════════════════════════════════════════════════════════════
Esc Exit    Enter Validate Entries    F1 Help    F10 More
```

Figure 17. Status File Maintenance Panel 2

The requirements of these fields are outlined below. The fields are all optional, and are supplied by the host. All except the 'Signature Id' may be printed on the fax cover sheet if required.

Signature Id
This field may contain digits, alphabetic characters and punctuation. The fax document received from the host will be scanned for this value, prefixed and suffixed by @/. For each occurrence, the signature image for the user will be included in the document. The field is language specific.

Document Name
This field may contain any displayable character.

Recipient

This field may contain any displayable character. It is the description of the short code, obtained from the personal or shared fax address book on the host.

From

This field may contain any displayable character. It is extracted from the Personal Services note header, or from the author field of a document.

To

This field may contain any displayable character. It is extracted from the Personal Services note header, or from the 'Full Name' field when a fax has been sent using the Enterprise Address Book.

Subject

This field may contain any displayable character. It is the Personal Services subject field, and may be extracted from the note header, or from a document.

Message

This field may contain any displayable character. It is the Personal Services message, passed down by the host.

If *F10* is pressed again, the first panel will re-appear.

Displaying Faxes

When enquiring on the details of a status record, it may be possible to display the actual fax. The fax request must have a format of **TIF**. Pressing *Enter* on **Maintenance Panel 1** will cause the GammaLink **FAXD** program to be invoked to display the fax. The FAXD program must exist in the GammaLink directory. Since default parameters are used for the FAXD program, the ability to display the fax may depend on the type of monitor used on the fax server.

Once FAXD has been invoked, the fax image will be displayed. Press *F1* for help details, or *Esc* to end the program and return to the fax status maintenance panel. Different versions of GammaLink use different keys to page through a fax. If the fax appears as white text on a black background, press the **I** key to invert the image. For further details on using the program, please refer to the *GammaLink Reference Manual*.

Number of Faxes on File

The following message is displayed:

        The number of active faxes on the file is: n

where **n** refers to the number of faxes. Only active faxes are now held on the file. These faxes could be awaiting transmission, being transmitted, or waiting for the host to enquire on their status.

Last File Reference Code Used

The file reference code is a four character code used internally by the server to name the files used for an outbound fax. Each fax request uses a different code. Under normal circumstances, the code should not need changing. However, it may be useful to see which code was last used. For testing purposes it may be useful to change the code, to prevent name

---

conflicts with existing active faxes. If the code needs to be reviewed or changed, the following message is displayed:

```
The last File Reference Code used was ........................[ABXS]
```

Enter the new code and press *Enter* to save, or press *Esc* to ignore the changes. It is not advisable to use a lower code as this may cause the files of any outstanding faxes to be overwritten with subsequent requests.

Maintain Archive Flag

The server can be configured so that status records are appended to a text archive file called **FXSTATUS.ARC**, before deletion. This file is held in the main server directory, and could be processed by a separate program to extract usage statistics, or viewed while testing or identifying problems with the server. The file should be reviewed regularly to prevent it using up all the available disk space. When maintaining the flag, the following message is displayed:

```
Archive records before deletion ( Y/N )...........................[Y]
```

Enter **Y** or **N** and press *Enter* to save, or press *Esc* to ignore the changes. If records are archived, they will be written to the archive file in the following format:

```
95/07/14 14:53:12       <-- Date/Time Deleted
95/07/14 14:47:18       <-- Date/Time Created
95/07/14 14:51:07       <-- Date/Time Last Updated
0001330                 <-- Fax Reference
ABXI                    <-- File Code
273                     <-- Size
RAO                     <-- User
ICOMSOLN                <-- Node
0                       <-- Source: 0=Host, 1=PC
5                       <-- Status: 0=I, 1=T, 2=R, 3=S, 4=E, 5=C
0                       <-- Ascii/Rft: 0=ASCII, 1=RFT, 2=PC File
1                       <-- Document/Tif: 0=Document, 1=TIF
095071401447120001      <-- Host Key Field
0121-356 9940           <-- Fax Number
0                       <-- Literal: 0=No, 1=Yes
0121 356 0463           <-- CSID
DUMMY                   <-- Cover
9600                    <-- Baud Rate
1                       <-- Calls
2                       <-- Pages
+44 121 356 9940        <-- Received CSID
0000103                 <-- Duration
000                     <-- Error Code
0000                    <-- Cnvt Error
0000                    <-- GF Error
                        <-- Cnvt Program
                        <-- Invalid Image Name
SIGNATURE                   <-- Signature Id
MEMO 14/07/95 14:43:00      <-- Document Name
Product Support Fax Machine  <-- Recipient
Richard Owen                <-- From
Simon Smith                 <-- To
New version of OV/Fax       <-- Subject
This document has been sent to demonstrate OV/Fax.          <-- Message
                                                           <--
                                                           <--
                                                           <--
****************************************************************  <-- End
```

A line of 64 asterisks marks the end of each record, separating it from the details of the next record.

Create Status File

A new status file will be created in the main server directory. If the file already exists, the following message is displayed:

File already exists, do you want to delete it (Y/N) ....[N]

All entries on the existing file will be removed if **Y** is selected. Any files associated with the entries on the status file need to be deleted manually. These files will be stored in the OUTFAX subdirectory, and possibly in the long fax numbers directory, and can be identified from the File Code for each fax. This option should only be used in exceptional circumstances, as the details for any active faxes on the server will be deleted.

Rebuild Status File Lists

The status file maintains internal lists of active and logically deleted records, to speed up searches of the file. In the event of these lists becoming corrupted, this option should be used first. The following message will be displayed:

Are you sure you want to rebuild the status file lists (Y/N).....[N]

The lists will be rebuilt if **Y** is selected, although the current records may appear in a different order afterwards. If the file is still corrupt after using this option then the file should be recreated.

Image Types

OV/Fax allows various types of images (including overlays) to be incorporated into faxes, through the use of simple commands within the text of the fax. The image files are all held on the server in a simple raster bitmap format, as used by PC/IDU. A directory tree structure may be used to control access to particular images by individual users. This is described later. There are five main groups of images; the file extension determines which particular group an individual image belongs to (file names should therefore be unique within the directory tree visible to each user). Images are included by specifying the relevant name between a pair of `@/` characters.

> **Note:** OV/Fax image commands may ***not*** be used in PC files since these are converted into faxes by the PostFAX software and not by the OV/Fax conversion software.

Inline Images

Inline images are inserted between lines of text, although they may be merged with an overlay. These images are named as follows:

`filename.RAS`

where **filename** is the name of the image. For example, a company may have an image of its logo on the server, named **LOGO.RAS**. This could be included in the fax by specifying the following command at the required point of insertion:

`@/logo@/`

The name may be up to eight characters long. The distributed software includes a simple image called **OVFAX240.RAS**. Images start in the line following the command, and will either be indented to a particular column, or begin in the column of the command, depending on the server's conversion parameter settings.

Signatures

These are a special type of inline image, containing an image of a particular user's signature. They are named as follows:

`userid.SIG`

where **userid** is the user id of the sender of the fax. For example, user RAO will have the signature image **RAO.SIG**. The user id may be up to eight characters long. A special command is used to ensure that a user only has access to his own image:

`@/signature@/`

where **signature** is a language specific text string defined on the host. Users may only access other signatures if the image directory is set up to give them individual access to copies of the image.

Overlays

Overlays are special images that are merged with the text instead of being inserted between it. Overlays can also overlay inline images and signatures, if the overlay is specified first. They are named as follows:

`filename.OVR`

where **filename** is the name of the overlay. For example, a company may have an overlay of its invoice stationery on the server, named **INVOICE.OVR**. This could be included in the fax by specifying the following command at the required point:

@/invoice@/

The name may be up to eight characters long. Overlays start on the line of the command, allowing them to start at the top of a page. They will be indented to a particular column of the fax if the server is configured for this.

Landscape Overlays

These are a special type of overlay, in which the server switches into landscape mode prior to merging the overlay with the converted (and rotated) text and images. They are named as follows:

filename.LND

where **filename** is the name of the landscape overlay. For example, a company may have an overlay for a landscape report, named **REPORT.LND**. This could be included in the fax by specifying the following command at the required point:

@/report@/

The name may be up to eight characters long. The image itself should still be stored in portrait mode - it will not itself be rotated when the final fax is produced. Landscape mode can be ended by including the **@/P@/** format control within the text of the fax.

Cover Sheets

Cover sheet images are used to overlay the cover sheet text, when the cover sheet for a particular fax is created. They are named as follows:

cover.CVR

where **cover** is the cover sheet name. It may be up to five characters long. The cover sheet name for a particular fax is supplied by the host for each user. For example, user RAO may have cover sheet ICOM defined for him. Whenever he sends a fax, the image ICOM.CVR will be used in the creation of the cover sheet. The cover sheet name may however be changed by specifying the name of the required cover sheet within the fax, for example:

@/cover@/

The server is supplied with its own sample cover sheet, called **DUMMY**. The files **DUMMY.CVR** and **DUMMY.TXT** are therefore installed in the server's IMAGE subdirectory. The cover sheet is a general purpose cover sheet, and a more suitable one should be created before live running of the server.

Full page images such as cover sheets take up almost 500 Kb of disk space. If required, smaller images may be used for cover sheets to reduce disk storage. The size of the page transmitted need not then be a full A4 page if the server is customised appropriately.

Image Directories

The fax conversion parameters specify the root directory for images (including overlays). The default value for this is the server's IMAGE subdirectory. This may be changed, for example, to use a compressed drive, or to use the images from a previously installed version of the fax server.

By default, all images in the root directory are available to all users of OV/Fax. However, there may be reasons to limit access to images, or to give specific users their own images. This can be done using a directory tree beneath the root directory. The first level of the tree corresponds to the user nodes, and the second level to the individual users within those nodes. For example, the tree might be set up like this:

The following would apply:

- All users would have access to all images in the `\IMAGE` directory.

- Only users at NODE1, such as USER1 and USER2, would have access to images in the `\IMAGE\NODE1` directory. Only users at NODE2, such as USER3, would have access to images in the `\IMAGE\NODE2` directory.

- Only USER1 at NODE1 would have access to images in the `\IMAGE\NODE1\USER1` directory, and similarly for users USER2 and USER3.

One use for the node directories is for signature images, since their name only contains the user id. Therefore, users with the same user id but at different nodes would share the same image if it was held in the root directory. One use for user directories would be to allow a secretary to have a separate copy of their manager's signature, with a special name, so that only the secretary could use it.

Inclusion and exclusion files can be used to further control access. Inclusion files are named: `image.I` and exclusion files are named: `image.X` where **image** is the name of the relevant image to be controlled. The inclusion and exclusion files are used as follows:

- If **image.X** is in a user directory, that particular user has no access to any type of image with that name, whether held in the node or root directory.

- If **image.X** is in a node directory, then no users at that node have access to any type of image with that name in the root directory.

- If **image.X** is in a node directory, but **image.I** is in a user directory, then that particular user <u>does</u> have access to any image of that name in the root directory.

Image Utilities

The server is supplied with a set of image conversion and editing utilities. These are copied into the server's `UTILS` subdirectory during installation.

BMP2RAS.EXE and RAS2BMP.EXE

These utilities convert between raster images and monochrome Windows bitmap (.BMP) files. They perform direct pixel to pixel conversions, with no scaling. The Windows Paint program is a good way to create high quality images. However, it can be difficult to estimate the size of an image using the Windows Paint program. One suggestion is to use an existing raster image such as the DUMMY.CVR file as a template, and convert this to a .BMP file first.

The format of the BMP2RAS program is:

```
BMP2RAS image.BMP image.RAS [/I]
```

where **image.BMP** is the source Windows bitmap image; **image.RAS** is the required raster image; and **/I** is an optional parameter to invert the colours of the image. The source image must be a monochrome bitmap.

The format of the RAS2BMP program is:

```
RAS2BMP image.RAS image.BMP
```

where **image.RAS** is the source raster image; and **image.BMP** is the required Windows bitmap image.

IMG2RAS.EXE and RAS2IMG.EXE

These utilities convert between raster images and IMDS (.IMG) files (as used by PC/IDU). IMDS files with resolutions of 120 dots per inch either horizontally or vertically will automatically be scaled to 240 dots per inch in the relevant direction, by duplicating pixels in the raster file. Raster files will generate IMDS files with horizontal and vertical resolutions of 200 dots per inch. No other scaling takes place.

The format of the IMG2RAS program is:

```
IMG2RAS image.IMG image.RAS [/DEBUG]
```

where **image.IMG** is the source IMDS image file; **image.RAS** is the required raster image; and **/DEBUG** is an optional parameter to display the decompression of the data in the file.

The format of the RAS2IMG program is:

```
RAS2IMG image.RAS image.IMG
```

where **image.RAS** is the source raster image; and **image.IMG** is the required IMDS image file.

TIF2RAS.EXE and RAS2TIF.EXE

These utilities convert between raster images and TIFF group 3 1-D encoded files (as used by GammaLink). They perform direct pixel to pixel conversions, with no scaling. Raster files wider than 1728 bits will be truncated to this width. A number of software packages are capable of generating the required TIFF 3 format, which can then be converted into raster images. Alternatively, the GammaLink FAXC program could be used to convert from other formats into the required TIFF 3 format first.

The format of the TIF2RAS program is:

```
TIF2RAS image.TIF image.RAS [/DEBUG | /DEBUGONLY]
```

where **image.TIF** is the source TIFF 3 file; **image.RAS** is the required raster image; and **/DEBUG** is an optional parameter to display the decompression of the data in the file. Alternatively, **/DEBUGONLY** will display the decompression, but not actually produce the raster file.

The format of the RAS2TIF program is:

```
RAS2TIF image.RAS image.TIF
```

where **image.RAS** is the source raster image; and **image.TIF** is the required TIFF 3 file.

RASEDIT.EXE and RASVIEW.EXE

These utilities provide simple utilities for creating, editing and viewing raster images.

The format of the RASEDIT program is:

RASEDIT image.ras [A4 | *lines* **[***width***]]**

where **image.ras** is the required raster image to edit. If the image does not exist, include the optional parameters to create a new image with the required dimensions: **A4** will generate a full page image, with 2178 lines and 1728 pixels wide. Alternatively, use *lines* to specify the number of lines, and optionally *width* to specify the number of pixels in each line (this will be rounded up to the next multiple of 8 pixels).

The program uses CGA mode 4 graphics, and the display is in two parts. On the left is a portion of the image, displayed as black and white on a magenta background. Up to 200 pixels will be displayed horizontally and vertically, corresponding to 1 square inch on a fax. The cursor is a single pixel, in magenta or cyan depending on the colour underneath (black or white respectively). On the right are details of the image and cursor positions:

```
RASEDIT V1.2

ovfax240.ras <-- name of file being edited
─────────────
ROWS =    156 <-- total number of rows in file
   1 TO  156 <-- rows currently being displayed


PgUp  PgDn
─────────────
COLS =    480 <-- total number of columns in file
  97 TO  296 <-- columns currently being displayed


Home  End
─────────────
CURSOR =
·  30  √ 140 <-- location of cursor within image
↓  30  → 44      <-- location of cursor within portion
─────────────
F1=Help          <-- function key assignments
F2=Locate
F3=Write
F4=Restore
F5=Mark
F6=Char F7=M
F8=Font 6/10
```
Figure 18. RASEDIT Panel Details

The following keys may be used:

Esc	exit RASEDIT, saving the current portion.
Space	change pixel under the cursor.
Cursor Keys	move the cursor 1 pixel.
Ctrl-Cursor Keys	move the cursor 10 pixels.
PgUp & **PgDn**	scroll image 10 lines up and down.
Home & **End**	scroll image 8 columns left and right.
Ctrl-PgUp & **-PgDn**	scroll image 100 lines up and down.

Ctrl-Home & -End	scroll image 96 columns left and right.
F1	display help panel.
F2	displays a small representation of the image size, with each cursor position equivalent to 100 lines by 96 columns. Move the cursor to the required location and press *Enter* to select, or *Esc* to cancel.
F3	saves the current portion to the file.
F4	rereads the current portion from the file, losing changes made since the last save.
F5	begins marking a block of text. Move the cursor right and down to the end of the required block and press **W** to change to white, **B** to change to black or **I** to invert.
F6	requests a character to write at the current cursor location. The default OVFAXFNT files are used. Use in conjunction with F7 and F8.
F7	changes the character writing mode, between **M**erge (new black pixels overwrite existing white pixels), **R**eplace (all black and white pixels) and **I**nvert (new black pixels convert existing black pixels to white).
F8	changes the pitch and lines per inch font size, cycling around 10, 12, 16 and 20 pitch at both 6 and 8 lines per inch.

The format of the RASVIEW program is:

```
RASVIEW image.ras [/C | /E | /V]
```

where **image.ras** is the required raster image to edit and the optional parameter specifies the screen mode. **/C** is for CGA mode (320 pixels × 200 lines), **/E** is for EGA mode (640 × 200) and **/V** is the default VGA mode (640 × 480). Once the image is displayed the scaling factor determines the portion of image displayed: scaling factor **1** is full size, **2** is half size, **3** is one third size and so on. Scaling factor **5** will display a full A4 page on the screen. The following keys may be used:

Esc	exit RASVIEW.
F1	display help panel.
PgUp & PgDn	scroll image half a screen up and down.
Home & End	scroll image half a screen left and right.
Ctrl-PgUp & -PgDn	scroll image a full screen up and down.
Ctrl-Home & -End	scroll image a full screen left and right.
+ & -	increase and decrease image size horizontally and vertically.
W & w	increase and decrease image width.
H & h	increase and decrease image height.
1 to 5	set scaling factor (maximum horizontally is 4).

RASSCALE.EXE

This utility generates a new raster image from an existing raster image, performing a simple scaling function in the process. Raster images to include in a fax file should have a resolution

of 200×200 pixels per inch, but many packages use different resolutions, for example, most IMDS (.IMG) files have a resolution of 240×240 pixels per inch.

The format of the RASSCALE program is:

```
RASSCALE source.ras dest.ras xx [/H | /V]
```

where **source.ras** is the existing raster image, **dest.ras** is the new raster image and **xx** is the scaling factor:

xx	Scaling Factor
DD	duplicate scan lines (use for converting from standard to fine resolution).
HH	halve scan lines (use for converting from fine to standard resolution).
34	150×150 to 200×200 scaling.
43	200×200 to 150×150 scaling.
56	200×200 to 240×240 scaling.
65	240×240 to 200×200 scaling.

/H only performs horizontal scaling. **/V** only performs vertical scaling. These do not apply to the DD and HH scaling factors.

RASPACK.EXE and RASUNPCK.EXE

These utilities perform simple compression and decompression of files, and may be useful for distributing raster images. The images and font files supplied on the distribution diskette are in a compressed format. The compressed files can only be used with the RASUNPCK utility, and not with the other server programs.

The format of the RASPACK program is:

```
RASPACK image.ras image.pck
```

where **image.ras** is the raster image to be compressed and **image.pck** is the new compressed file.

The format of the RASUNPCK program is:

```
RASUNPCK image.pck image.ras
```

where **image.pck** is the compressed file and **image.ras** is the new raster image.

FONTCONV.EXE

This utility generates new font files for the server, from existing Windows font files. These files can be created using the Windows SDK FONTEDIT program and are described in more detail later. Each font requires eight files to cater for all combinations of pitch and lines per inch.

The format of the FONTCONV program is:

```
FONTCONV windows.fnt ovfax.fnt
```

where **windows.fnt** is the existing Windows font file and **ovfax.fnt** is the new OV/Fax font file.

Creating Images Using PC/IDU

If a copy of the IBM package PC/IDU (and its pre-requisite package ISF2) is available, it may be used to scan in images for use on the server. The PC needs to have PC/IDU and ISF2 installed, and an attached IBM 3117, 3118 or 3119 Scanner. Select **Source** from the main PC/IDU panel, then select the scanner from here. The images should be scanned in *Fine* resolution. Use the PC/IDU **Edit** option to cut the image down to an appropriate size, if necessary. Save the image as a standard IBM IMDS format file (.IMG). Refer to the PC/IDU manual for further information.

The FAXADMIN program includes an option to convert the IMDS file into the required raster format. Select option 3 from the initial menu. The following panel will be displayed.

```
                        OV/FAX ADMINISTRATION UTILITY
                          IMAGE TO RASTER CONVERSION


     ┌─────────────────────────────────────────────────────────────────┐
     │ Source Image (.IMG):                                             │
     │   [                                                            ] │
     │                                                                  │
     │ Destination Node Directory...[       ]  ( optional )            │
     │                                                                  │
     │ Destination User Directory...[       ]  ( optional )            │
     │                                                                  │
     │ Raster File Name.............[       ]                          │
     │                                                                  │
     │ Raster File Type.............[ ]  ( O=Overlay, R=Raster Image )  │
     │                                   ( C=Cover Sheet, S=Signature ) │
     │                                   ( L=Landscape form           ) │
     │                                                                  │
     │ Overwrite Existing File......[N]  ( Y=yes, N=no )               │
     └─────────────────────────────────────────────────────────────────┘


 ══════════════════════════════════════════════════════════════════════
 Esc Exit    Enter Validate Entries    F1 Help
```

Figure 19. Image to Raster Conversion Utility Panel

The requirements of each field are as follows:

Source Image (.IMG)
Only alphanumeric characters and punctuation are allowed in this field. Enter the full name of the image file to be converted, including the drive and path of the file. If the image has been scanned in using PC/IDU, then it will be in the PC/IDU directory unless specified otherwise. The validation process checks that the file exists. A warning will be given if the file does not appear to be an image format file.

Destination Node Directory
Only alphanumeric characters are allowed in this field. The field is optional, and may be used to specify the node subdirectory to use for the new image. If the 'User Directory' is not specified then the image will be available to all users at this node.

Destination User Directory
Only alphanumeric characters are allowed in this field. The field is optional, and may be used to specify the user subdirectory to use for the new image. The 'Node Directory' must also be specified. The new image will only be available to this particular user.

Raster File Name
Only alphanumeric characters are allowed in this field. It specifies the name that the raster image is to have. A file extension cannot be entered, since this is determined from the Raster

File Type. The name should <u>not</u> be any of the following values, as it will not be recognised by the server:

- a single alphabetic character, since most are used for formatting controls.

- the values: **1**, **6**, **8**, **10**, **12**, **13**, **16**, **17** or **20** since these are also formatting controls.

- the language-specific signature strings on the host, if they are less than nine characters in length.

Raster File Type
Only alphabetic characters are allowed in this field. It specifies the type of the image to be created, and is used to generate the file extension. Its values may be:

C   Cover Sheet (with an extension of **.CVR**).

L   Landscape Overlay (with an extension of **.LND**).

O   Overlay (with an extension of **.OVR**).

R   Inline Raster Image (with an extension of **.RAS**).

S   Signature (with an extension of **.SIG**).

Overwrite Existing File
Only alphabetic characters are allowed in this field. It specifies whether to overwrite an existing image file if it already exists. If the reply is **N**, and a file of the same name already exists, the conversion will not take place. The values of the field may be:

Y   Yes (overwrite the image).

N   No (do not overwrite an existing image).

Press *Enter* after completing the entries on this panel. If all the entries are valid, the image will be converted to raster format by using the server's FAXOTIMG program. This will perform appropriate scaling of the image. A message will be displayed once the conversion has completed.

Converting Images from Other Formats

The image utilities BMP2RAS, IMG2RAS and TIF2RAS may be used to create raster images from other formats. For example, the Windows Paint program may be used to create suitable monochrome bitmaps. It is also possible to cut and paste from other applications into the Paint program first. IMDS images created by PC/IDU and other IBM utilities may be converted into raster format using the IMG2RAS utility, or alternatively by using the 'Image to Raster Conversion' option of the FAXADMIN program (the latter will perform appropriate scaling).

A number of software packages can produce TIFF files suitable for conversion with the TIF2RAS utility, including GammaLink. This can save received faxes or scanned pages in the required TIFF group 3 format. If a TIFF file is not in group 3 one-dimensional encoding, it may be possible to use the GammaLink **FAXC** program to convert into this format. For example, to convert from two-dimensional encoding, use:

```
FAXC -n1 image2d.TIF image1d.TIF
```

where **-n1** is the conversion option, **image2d.TIF** is the source TIFF file and **image1d.TIF** is the required TIFF file. FAXC also supports the conversion of PCX files, for example:

```
FAXC -b1 image.PCX image.TIF
```

where **-b1** is the conversion option, **image.PCX** is the source PCX file and **image.TIF** is the required TIFF file. Please refer to the *GammaLink Reference Manual* for more information on using this command.

PC/IDU, if installed, supports a number of image and document formats and may be used to generate IMDS images prior to conversion with the other utilities. For example:

```
IDUCNVT source.fil image.IMG
```

where **source.fil** is the image file to convert and **image.IMG** is the required IMDS image file. The command needs to be run from the PC/IDU directory. Please refer to the *IBM PC/IDU Program Description and Operations Manual* for more information on using this command.

Overlay Alignment

Problems may be encountered when trying to align overlays with underlying text, since the pixel resolution of faxes is often different to other image formats, and because of problems during scanning of images. Faxes nominally have a resolution of 200 pixels per inch horizontally and vertically. This is not an exactly to the CCITT standards, but is used for convenience. The vertical resolution varies depending upon the number of lines per inch being used in the fax.

Page Dimensions

The following points may help when creating overlays:

- Fax pages are normally 2178 scan lines long. In 6 lines-per-inch (lpi) mode, each line of text uses 33 scan lines, and so 66 lines of text fit on a page (if there are no top and bottom margins configured). Six lines of text will therefore only use 198 and not 200 scan lines. The A4 option of RASEDIT creates images with 2178 scan lines.

- In 8 lpi mode, each line of text uses 25 scan lines. In this case, 88 lines of text can fit on a page, extending the page length to 2200 scan lines. Eight lines of text will use exactly 200 scan lines.

- Fax pages are normally 1728 pixels wide. In 10 characters-per-inch (cpi) mode, each character uses 20 pixels horizontally, and so 86 characters fit on a line (if there are no left and right margins configured). Ten characters will therefore use exactly 200 pixels.

- In 12 cpi mode, each character uses 16 pixels horizontally. However, two out of every three characters have their last column duplicated so that they use 17 pixels horizontally. Three characters therefore use 50 pixels and twelve characters use exactly 200 pixels. 103 characters will fit on a line.

- In 12.5 cpi mode, all characters uses 16 pixels horizontally. Twelve and half characters use exactly 200 pixels. 108 characters will fit on a line.

- In 16 cpi mode, each character uses 12 pixels horizontally. However, every other character has its last column duplicated so that it uses 13 pixels horizontally. Two characters therefore use 25 pixels and sixteen characters use exactly 200 pixels. 138 characters will fit on a line.

- In 16.7 cpi mode, all characters use 12 pixels horizontally. Sixteen and two thirds characters use exactly 200 pixels. 144 characters will fit on a line.

- In 20 cpi mode, each character uses 10 pixels horizontally. Twenty characters use exactly 200 pixels. 172 characters will fit on a line.

If landscape mode is being used then the characters sizes are the same but the line and page limits are different:

- The landscape pages are 1728 scan lines long. At 6 lpi, 52 lines will fit on a page (if there are no margins configured). At 8 lpi, 69 lines will fit on a page.

- The landscape pages are 2200 pixels wide. At 10 cpi, 110 characters will fit on a line (if there are no margins configured). At 12 cpi, 132 characters will fit on a line. At 12.5 cpi, 137 characters will fit on a line. At 16 cpi, 176 characters will fit on a line. At 16.7 cpi, 183 characters will fit on a line. At 20 cpi, 220 characters will fit on a line.

If proportional spaced characters are being used, the number of characters on a line, whether in portrait or landscape mode, depends on the actual characters used. The limits will be at least as large as those above.

GammaLink may be configured to include a header line at the top of every page, printing such details as the date and time, from and to fax numbers and the page number. This header is not included in the dimensions of the page since it is added by GammaLink at transmission time.

Example

If a fax is to include text formatted at 6 lpi, and situated 1.5 inches from the top, then it will need 9 blank lines in the document before the text. The lines will begin 297 scan lines down the fax.

If the fax is to include text formatted as 12 cpi and indented by 2 inches, then it will need 24 spaces before it. The first character will begin 400 pixels in from the left edge.

Margins

If the server is configured to include margins on a page, then the number of characters on a line, and the number of lines on a page will be reduced accordingly. Left and right margins are recommended since many fax machines lose the edge of each page during printing.

- A top margin applies to text, images and overlays in portrait mode. It is also used as a left margin for text and images in landscape mode.

- A right margin applies to text in portrait mode. It is also used as a top margin for text and images in landscape mode.

- A bottom margin applies to text and images in portrait mode. It is also used as a right margin for text in landscape mode.

- A text indent applies to text in portrait mode. It is also used as a bottom margin for text and images in landscape mode.

- An image indent applies to images in both portrait and landscape mode. It is only used if the images are not indented to the column of the command.

- An overlay indent applies to overlays in portrait mode (landscape overlays are stored as portrait overlays but invoke landscape mode when the fax is created).

Positioning

Overlays begin to overwrite text from the line on which they are specified. Therefore, including an overlay command on the top line of the page will cause the overlay to begin at the top of the fax (subject to any top margin).

Tab commands may be used to assist in alignment of columns of text. The @> command moves to the next multiple of 100 pixels horizontally (from the left edge of the page). The @< command moves to the previous multiple of 100 pixels.

Creating Overlays

One way to ensure that overlays align with text is to create new overlays using the text as a template. Send the required text to OV/Fax on the host, while running the server with the **KEEP** option (see "Chapter 9. Diagnostic Facilities"). Once the fax has been sent, its TIFF files should be in the server's OUTFAX directory. Locate the required file, and convert it to raster format using the TIF2RAS utility. It can then be converted further, for example, to a Windows bitmap using RAS2BMP, from where it can then be edited.

Draw on the required overlay and erase the original text. Convert the image back to raster format, saving with a **.OVR** extension. Include the command for the overlay at the top of the page of the fax. The text and overlay should then line up in the fax.

> **Note:** If the top line of the page does not include any text, precede the command with a space. Lines that include only image and format commands and no other characters will be removed from the fax (this allows one image to immediately follow another in the fax).

Cover Sheet Customisation

Cover sheets are created from two files, an image file typically created from a company's headed notepaper, and a text file specifying the format of the textual information to be printed on the cover sheet. Both files must exist for the cover sheet to be created. They can be held in any image directory accessible by all the users of that particular cover sheet. The files are named:

```
cover.CVR
cover.TXT
```

cover.CVR is the image file, created as described above, and stored as a raster format file. **cover.TXT** is the format file, created using a text editor, and stored as an ASCII text file. When a cover sheet is created, the format file is used to set up all the textual information, and is then overlaid with the image.

The format file may contain both static information, which will appear unaltered on the final cover sheet, and variable items. The variables will be replaced with information relating to the particular fax, during the conversion process. Variables are specified using the @ character followed by a single alphanumeric character. The variables listed below are recognised by the server - any others will be ignored. Both upper and lower case characters may be used. In all cases, the text of the variable will be padded out with spaces, up to the maximum length specified.

Variable	Max. Length	Description
@C	50	Company name, obtained from the configuration file.
@D	44	Document name.
@F	45	From field, taken from the Personal Services note header, or from the 'author' field associated with a document. If this variable is blank, it will be replaced with the node (**@N**) and user ID (**@U**) of the sender.
@I	30	CSID of the sender.

`@N`	8	Node of the sender.
`@P`	3	Number of pages in the fax.
`@R`	30	Recipient details, taken from the description field in the OV/Fax address books.
`@S`	60	Subject field.
`@T`	64	To field. This may have been scanned in from a 'To:' or 'cc:' line on a note header, or taken from the 'full name' field, if the Enterprise Address book is used to address the fax.
`@U`	8	User id of the sender.
`@X`	30	Fax number to call.
`@0`	64	First message line.
`@1`	64	Second message line.
`@2`	64	Third message line.
`@3`	64	Fourth message line.
`@#`	7	Fax reference number.
`@@`	1	Single @ character.

As an example, a cover sheet is to display the email address of the sender. The command in the format file might be:

`Email: @U @@ @N`

Thus, for user RAO at node ICOMSOLN, this line would be printed on fax cover sheets as:

`Email: RAO      @ ICOMSOLN`

Format Controls

Format controls are commands placed within the text of the fax (or the cover sheet variables) that change the way the text is formatted, allow special characters to be included in the fax, or insert bar codes into the fax. Many of the commands are specified in a similar way to image and overlay commands. The *OV/Fax User Guide* describes all the commands in detail; a summary is given here. All the commands can be used in both portrait and landscape mode. Multiple commands may be active concurrently.

Note: OV/Fax format controls may *not* be used in PC files since these are converted into faxes by the PostFAX software and not by the OV/Fax conversion software.

The following commands generally change the way in which the lines of text are formatted. Unless indicated otherwise, the command should be repeated to turn off that formatting style.

Command	Meaning	Description
`@/A@/`	Superscript	Generate superscript text. Turn off by repeating, or by using `@/V@/` to start subscript mode.
`@/B@/`	Bold	Generate bold text.
`@/C@/`	Centre	Centre the lines. Turn off by repeating on the first non-centred line to follow, or by using `@/J@/`.

`@/D@/`	Draw	Begin line drawing (single line) mode (see below).
`@/E@/`	End of overlay	Continue text at the end of the overlay.
`@/F@/`	Frame	Begin line drawing (double line) mode (see below).
`@/G@/`	Grey	Generate grey text.
`@/H@/`	double Height	Generate double height text. Turn off by repeating on the first line to not have double height.
`@/I@/`	Italics	Generate italic text.
`@/J@/`	right Justify	Right justify the lines. Turn off by repeating on the first non-justified line to follow, or by using `@/C@/`.
`@/L@/`	Landscape	Begin landscape mode.
`@/N@/`	Negative	Generate negative (white on black) text.
`@/O@/`	Overstrike	Generate overstruck text.
`@/P@/`	Portrait	Return to portrait mode from landscape mode.
`@/R@/`	Reset	Turn off all active formatting commands.
`@/S@/`	prop. Spacing	Generate proportional spaced text.
`@/U@/`	Underline	Generate underlined text.
`@/V@/`	Subscript	Generate subscript text. Turn off by repeating, or by using `@/A@/` to start superscript mode.
`@/W@/`	double Width	Generate double width text.
`@/X@/`	eXit overlay	Terminate current overlay at this line.

For 'draw' and 'frame' mode, the following characters will be interpreted as line draw characters instead of normal text characters:

```
7--8--9
|  |  |
4  +  6
|  |  |
1--2--3
```

The following commands generally control the font size used from that point onwards in the fax:

Command	Description
`@/1@/`	Remove cover page (fax begins at page 1).
`@/6@/`	6 lines per inch mode vertically.
`@/8@/`	8 lines per inch mode vertically.
`@/10@/`	10 characters per inch mode horizontally.
`@/12@/`	12 characters per inch mode horizontally.
`@/13@/`	12.5 characters per inch mode horizontally.
`@/16@/`	16 characters per inch mode horizontally.
`@/17@/`	16.7 characters per inch mode horizontally.
`@/20@/`	20 characters per inch mode horizontally.

The following commands insert bar codes into the fax.

Command	Description

`@*33OV/FAX V2.4.0*`	Insert '3 of 9' bar code "OV/FAX V2.4.0" with narrow lines 3 pixels wide.
`@*3E0123456789012*`	Insert EAN bar code "0123456789012" with narrow lines 3 pixels wide.
`@*3U12345678*`	Insert UPC bar code "12345678" with narrow lines 3 pixels wide.

The following miscellaneous commands are also available:

Command	Description
`@@`	Include @ symbol instead of interpreting as a command introducer.
`@<`	Back tab to previous 100-pixel column.
`@>`	Forward tab to next 100-pixel column.
`@+xy`	Include ASCII character with hex code **xy**.
`@"file"`	Reserved (for use with RFT document images).

Font Files

The fax server is supplied with a set of font files called **OVFAXFNT**. There are eight files supplied, with the extension indicating the character size:

- the first digit is **6** or **8**, and refers to the lines per inch setting.

- the second two digits are **10**, **12**, **16** or **20**, and refer to the characters per inch setting. The 12 cpi files are also used for 12.5 cpi formatting; the 16 cpi files are also used for 16.7 cpi formatting.

All the font files store the character bit maps as 33 scan lines of 3 bytes each. Thus each character uses 99 bytes. All 256 characters are held in each bit map, in groups of 99 bytes. However, not all scan lines or bits in each scan line are actually used when the characters are generated. This depends on the current lpi and cpi settings:

- in 6 lpi mode, all 33 scan lines are used. In 8 lpi mode, only the first 25 scan lines are used.

- in 10 cpi mode, only the first 20 bits are used. In 12 and 12.5 cpi mode, only the first 16 bits are used. In 16 and 16.7 cpi mode, only the first 12 bits are used. In 20 cpi mode, only the first 10 bits are used.

The following multilingual character set is supplied in the OVFAXFNT files:

xy	-0	-1	-2	-3	-4	-5	-6	-7	-8	-9	-A	-B	-C	-D	-E	-F
0-		☺	☻	♥	♦	♣	♠	•	◘	○	◙	♂	♀	♪	♫	☼
1-	►	◄	↕	√	☎	▤	▥	↨	↑	↓	→	←	└	↔	▲	▼
2-		!	"	#	$	%	&	'	(	)	*	+	,	-	.	/
3-	0	1	2	3	4	5	6	7	8	9	:	;	<	=	>	?
4-	@	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
5-	P	Q	R	S	T	U	V	W	X	Y	Z	[	\	]	^	_
6-	`	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o
7-	p	q	r	s	t	u	v	w	x	y	z	{	|	}	~	
8-	Ç	ü	é	â	ä	à	å	ç	ê	ë	è	ï	î	ì	Ä	Å
9-	É	æ	Æ	ô	ö	ò	û	ù	ÿ	Ö	Ü	ø	£	Ø	×	ƒ
A-	á	í	ó	ú	ñ	Ñ	ª	º	¿	®	¬	½	¼	¡	«	»
B-	░	▒	▓	│	┤	Á	Â	À	©	╣	║	╗	╝	¢	¥	┐
C-	└	┴	┬	├	─	┼	ã	Ã	╚	╔	╩	╦	╠	=	╬	¤
D-	ð	Ð	Ê	Ë	È	ı	Í	Î	Ï	┘	┌	█	▄	¦	Ì	▀
E-	Ó	ß	Ô	Ò	õ	Õ	µ	þ	Þ	Ú	Û	Ù	ý	Ý	¯	´
F-	-	±	=	¾	¶	§	÷	¸	°	¨	·	¹	³	²	■	

Creating New Font Files

The Windows Software Development Kit includes a **FONTEDIT** program, which may be used to create new Windows font files. The fonts created by this program should have the following properties:

- the fonts should use a **fixed** pitch.

- the first character should be **0**, the last character should be **255**.

- 6 lpi files should have a height of **33**. 8 lpi files should have a height of **25**.

- 10 cpi files should have a width of **20**. 12 cpi files should have a width of **16**. 16 cpi files should have a width of **12**. 20 cpi files should have a width of **10**. It is recommended that alphanumeric characters should have at least one blank column and row. Line draw characters should <u>not</u> have a blank column or row.

The OV/Fax **FONTCONV** utility can then be used to generate the new server font files. When creating alternative font files, all eight files should be created for the new name. Then either change the server's 'Default Font' value or specify the name of the new font within the document text by including the name in the same way as for images and overlays, for example:

```
@/newfont@/
```

PART THREE - OPERATION

Chapter 8. Server Operation

Post Installation Tasks

After installing the server software, as described in "Chapter 3. Installation of Server Software", the following tasks need to be performed:

- Install or configure Windows NT, 3270 emulation and the GammaLink facilities, as described in "Chapter 4. PC Configuration". Install the PostFAX Formatter, if required.

- Use the administration facilities to customise the details for this particular server, as described in "Chapter 5. Server Customisation".

- Create any images, including cover sheets, as described in "Chapter 7. Image Handling".

If these tasks are not performed, the server will be unable to start up, or will fail during processing. It will display an appropriate message indicating the reason for the failure.

Server Startup

- Start the 3270 emulation program, with HLLAPI installed.

- Start the GammaLink System Service if a Fax board is installed.

- Copy any necessary files to RAM drives, if configured.

- Verify the Command Line and Working Directory are correct on the Program Tab of the Properties section.

- Run the server program, **FAXSERV.EXE**, from the main server directory (default `C:\OV-FAX`).

The OV/Fax Server Logo panel is then displayed:

Press *Enter* to continue the server startup, or *Esc* to end. After *Enter*, the main processing panel is displayed

```
                    TBS Software Inc. OV/Fax Server
                         Version 3 Release 2.0


     SERVER: SERVER1          MODE: Outbound Only      CYCLE TIME (SECS): 300

                                 CURRENT STATUS
    ┌──────────────────────────────────────────────────────────────────────────┐
    │ 11:16   Press Enter when logged on to CICS                                 │
    │ Faxes  Submitted:              Complete:               In Error:           │
    └──────────────────────────────────────────────────────────────────────────┘

                                 ERROR MESSAGES
    ┌──────────────────────────────────────────────────────────────────────────┐
    │                                                                            │
    │                                                                            │
    │                                                                            │
    │                                                                            │
    │                                                                            │
    │                                                                            │
    └──────────────────────────────────────────────────────────────────────────┘

    ═══════════════════════════════════════════════════════════════════════════
     End Shutdown    F2 NOHOST=Off    F3 NOGAMMA=Off    F4 STEP=Off    F5 KEEP=Off
```
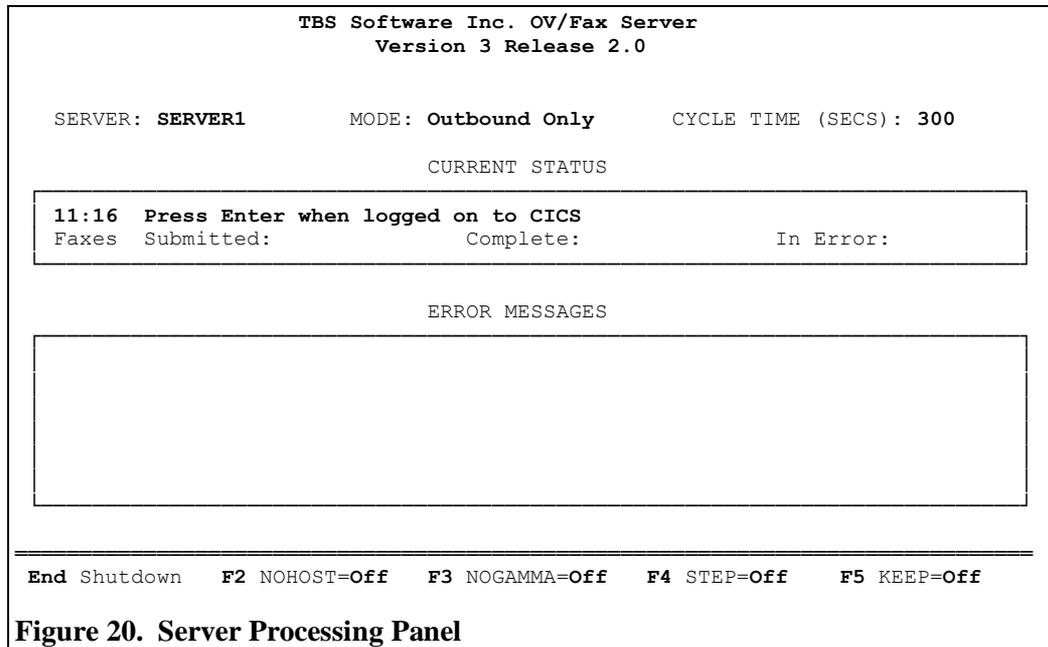
Figure 20. Server Processing Panel

This contains the following details:

- The **SERVER** shows the name of this fax server.

- The **MODE** corresponds to the Processing Option of the configuration details, and may be:

  ◊ **Inbound Only**

  ◊ **Outbound Only**

  ◊ **In & Outbound**

- The **CYCLE TIME** corresponds to the Inbound Wait/Outbound Rest parameter of the configuration details.

- The **CURRENT STATUS** shows the time and describes the general processing that the server is performing at that time. The messages that may be displayed here are listed below. The **Faxes Submitted** value is the number of faxes currently awaiting transmission by GammaLink. The **Complete** value is the number of faxes that have been sent successfully, but whose status has not yet been reported to the host. The **Error** value is the number of faxes with an error that have either not been reported to the host, or are awaiting rescheduling.

- **ERROR MESSAGES** displays a scrolling list of the most recent problems found on the server. Each of these includes a time stamp. These errors may be recorded in a server log file if required. See "Chapter 9. Diagnostic Facilities" for more details. Also see this chapter for details of the facilities available through the function keys *F2*, *F3*, *F4* and *F5*.

- STEP and AUTOSTEP messages are displayed on the bottom line of the panel.

From this panel switch to the 3270 emulation session. If the session is not logged on to the required CICS system, log on manually. Return to the server panel. Press *Enter* to continue server processing.

During normal operation no user intervention should be required. If the server needs to be stopped, press the *End* key. This requires confirmation by pressing the *End* key again, or any other key to continue processing. There may be a delay between the first press of the *End* key, and the confirmation message appearing, as the server only allows shutdown at specific points in its processing cycle. If the server detects a system error during processing, it displays an appropriate message and ends automatically.

Event Log Messages

All operational errors are logged to the Windows event log, unless the NOEVENT command line option has been specified at startup. Event messages are written to the application log, using a source value of OVFAX. The error message number is used as the event id. Refer to Appendix B. Server Operational Error Messages for a description of these error messages.

In addition, event id 100 is issued at server startup, and event id 101 is issued at server shutdown.

In order to write messages to the event log, an application must be registered, with the location of its message DLL, specified in the registry. This registration is checked during OVFax Server startup.

1) The registry should contain an entry for OVFax at the following key

   "SYSTEM \ CurrentControlSet \ Services \ EventLog \ Application \ OVFax"

2) The "eventmessagefile" key should contain the value…

   "%SystemRoot% \ System32 \ OVFAXMSG.DLL"

When either of the above is not found, then OVFax is registered, with these values. The OVFAXMSG.DLL file is copied from the current working directory to the location in the above key.

During OVFax Server operation, should any error arise during the issuing of a message to the event log, an error message indicating this will be issued to the servers message panel (onscreen), and to the servers own log (if the LOG command line option was specified). To prevent an excess of these messages, they will not be issued more than once per hour.

State Messages

The following messages may be displayed in the **CURRENT STATUS** field of the server.

Press Enter when logged on to CICS
The server is waiting for the user to switch to the host session to ensure that the server is logged on to the correct CICS system.

Initialisation completing
The server is completing its initialisation tasks, cleaning up files from a previous run.

Server is being shutdown
The user pressed the End key and confirmed the shutdown of the server.

Waiting for an incoming fax
The server has asked the GammaLink software to wait for inbound faxes.

Converting received faxes for transmission
The server is converting any received faxes into RFT documents, prior to transmission to the host.

Sending received faxes to the host
Received faxes are being transmitted to the host .

Waiting for an outbound fax to process
The server is waiting for outbound fax requests, having processed all host requests and dealt with any faxes being transmitted.

Checking for requests from the host
The server is polling the host to check for requests.

Receiving requests from the host
The server is processing requests (TRANSMIT, DIAL, STATUS, UPDATE or CANCEL) from the host.

Searching for an outbound fax to process
The server is searching through the status file for any faxes with a status of Ready to Dial or Submitted.

Converting an outbound fax to TIF format
A fax with a status of Ready to Dial is being converted from ASCII (print image), RFT or PC file format into fax (TIF) format.

Submitting an outbound fax to the fax adapter
A request is being placed on the GammaLink Queue File Pending List.

Enquiring on the status of a submitted fax
The server is obtaining the status of a submitted fax, and will update the status file with the details.

Cleaning up cancelled outbound faxes.
The details for previously cancelled faxes are being deleted from the GammaLink queue.

Server Processing Cycle

The processing cycle of the server depends on the Processing Option configured for it.

Inbound Only Mode

For each cycle:

- Call the GammaLink software to wait for inbound faxes (inbound rest period).

- Search for received faxes. For each one found:

  ◊ Convert the pages to images and create an RFT document.

- If the host is available, search for RFT documents. For each one found:

  ◊ Obtain received details and transmit to the host.

- Delete the details of any received faxes which have been successfully transmitted to the host.

Repeat from the top.

Outbound Only Mode

For each cycle:

- If the host is available, process host requests (Transmit, Dial, Status, Update or Cancel).

- For each active fax on the server:

  ◊ If Ready to Dial, convert to TIFF format if necessary, and submit to GammaLink for transmission.

  ◊ If Submitted, enquire on the status of the transmission.

- If no active faxes, delete details for cancelled faxes.

- Outbound wait period, unless there are details to report to the host.

Repeat from the top.

Inbound and Outbound Mode

For each cycle:

- Perform outbound processing:

  ◊ If the host is available, process host requests (Transmit, Dial, Status, Update or Cancel).

  ◊ For each active fax on the server:

    - If Ready to Dial, convert to TIFF format if necessary, and submit to GammaLink for transmission.

    - If Submitted, enquire on the status of the transmission.

  ◊ If no active faxes, delete details for cancelled faxes.

- Perform inbound processing:

  ◊ Call the GammaLink software to wait for inbound faxes.

  ◊ Search for received faxes. For each one found:

    - Convert the pages to images and create an RFT document.

  ◊ If the host is available, search for RFT documents. For each one found:

    - Obtain received details and transmit to the host.

  ◊ Delete the details of any received faxes which have been successfully transmitted to the host.

Repeat from the top.

Inbound Conversion Processing

Each page of a received fax is held as a separate fax (TIF) format file in the GammaLink directory on the server. The inbound conversion processing performs the following tasks:

- Count the number of pages in the fax.

- Create an RFT control file.

- For each page:

    ◊ If 99 pages have already been converted:

        - Create an RFT document using FAXINRFT.

        - Create a new RFT control file.

    ◊ Convert each page to IMDS using FAXINIMG.

    ◊ Add a record to the RFT control file.

- Create the final RFT document using FAXINRFT.

Error Handling

Inbound faxes are stored in the GammaLink directory, until they are processed by the server. The names of the faxes will be of the format A001P001.TIF, where A001 is the sequence number for the fax, and P001 is the page number of the fax. There will also be a data file containing details of the inbound fax, named with the format A001.DAT. If, for any reason, the server is unable to convert a fax into an RFT document, the fax will be renamed to prevent it being processed again. The files will still be available in the GammaLink directory, so that they may be converted manually using the relevant GammaLink utilities.

The files will be renamed to the format AAAAP001.BAD, where AAAA is a new sequence code for the fax. The data file will also be renamed, to the format AAAA.DAT. An RFT document will be created containing a message that the server was unable to process an inbound fax. This document will be sent to the host inbound recipients defined for this particular server.

Outbound Conversion Processing

For an outbound fax, the processing depends on the type of document to be sent.

Personal Services Message

The server performs the following tasks:

- Create the cover sheet using FAXOUT.

ASCII (Print Image) Document

The server performs the following tasks:

- Convert to fax format using FAXOUT.

- If a cover sheet is required:

    ◊ Count the number of pages in the fax.

◊ Renumber the pages to insert a cover sheet.

◊ Create the cover sheet using FAXOUT.

RFT Document

The server performs the following tasks:

- Use FAXOTRFT to convert RFT to ASCII and extract embedded RFT images.

- For each image extracted:

  ◊ Convert to raster format using FAXOTIMG.

- Convert to fax format using FAXOUT.

- If a cover sheet is required:

  ◊ Count the number of pages in the fax.

  ◊ Renumber the pages to insert a cover sheet.

  ◊ Create the cover sheet using FAXOUT.

PC File

The server performs the following tasks:

- Convert to PostScript format using the PostFAX-ODX and PostFAX-Legacy software.

- Convert the PostScript to a single fax format file using the PostFAX-TIFF software.

- Split the single fax format file into multiple pages.

- Generate a cover sheet:

  ◊ Count the number of pages in the fax.

  ◊ Renumber the pages to insert a cover sheet.

  ◊ Create the cover sheet using FAXOUT.

Error Handling

If an error is detected during the conversion stage, for example, a missing image, the relevant details will be stored on the status file and passed back to the host as soon as possible. These details can include the conversion program name and error code, or could be the name of the missing image. The host will report the error to the sender, setting the fax request to a status of error without retrying. The server will be instructed to delete the request and all its files.

Chapter 9. Diagnostic Facilities

Server Operation Facilities and Command Line Options

Diagnostic facilities are available within the server to enable operational problems to be identified. The facilities allow an administrator to monitor the individual processing steps of the server; permit the server to operate temporarily without communications links to the host or the fax network; allow the progress of outbound faxes to be logged, and keep a copy of outbound files for later inspection.

The diagnostic options required may be specified as parameters to the FAXSERV program. For example, if the standard step-through option is required, the command line would be:

```
FAXSERV STEP
```

As many options as are required may be entered on the command line. The server program will terminate if an invalid option is specified.

STEP and AUTOSTEP Options

These allow the processing steps of the server to be monitored. Two options are available, but only one should be entered at a time:

STEP   The processing steps are stepped through individually, each requiring confirmation before continuing. The next step in the processing is carried out when *Enter* is pressed. A shutdown is requested by pressing *End* - the shutdown itself will be delayed to a suitable point later in the processing cycle. A DOS session (command prompt) can be invoked by pressing *F1* - this permits the examination of the server files. Type **EXIT** in DOS to return to the same point in the server processing cycle.

AUTOSTEP   The processing steps are displayed but there is no opportunity to interrupt the processing.

The messages describing each processing step are held in one of the language files installed with the server (FAXSERV.STP). If the file does not exist, the step numbers are displayed instead. The messages are listed in "Appendix C. Step Messages".

NOHOST and NOGAMMA Options

It is possible to operate the server without a connection to the host, or to the GammaLink software. This makes it possible to test specific parts of the server processing cycle. Two options are available. Either or both may be used:

NOHOST   This operates the server without a host connection. Requests from the host for fax transmissions and the faxes themselves will not be received, nor will any inbound faxes be sent to the host. By using this option, the installation of the server and GammaLink components can be tested, without requiring faxes to be sent from the host.

NOGAMMA   This operates the server without actually using the GammaLink software. Thus faxes will be converted to fax format but will not actually be sent. Incoming faxes may not be received, or will not have their details accessed. By using this option, the communications link with the host can be tested, but without the associated delay while a fax is actually sent. The fax is likely to return an error status to the host in this case.

Using the two options together allows the fax conversion routines to be tested in isolation. This may be useful for testing the format of new cover sheets, or for overlaid images. The GammaLink utility **FAXD** may be used to display the resulting fax files. Please refer to the *GammaLink Reference Guide* for more details on how to use this utility.

NOUPDATE Option

This options disables the UPDATE mode used in the improved protocol between the server and the host components.

NOUPDATE   This option is only relevant when both the host and server components are version 2.4.0. UPDATE mode results in the server only reporting status information to the host for faxes whose status has been updated since the last poll, instead of reporting the status of all faxes being processed. However, in the event of the host and server losing synchronisation it may be necessary to clear the server queues by running without UPDATE mode temporarily.

Note: If the server has been upgraded from a previous release while there were still outstanding faxes, the NOUPDATE should be used until all those faxes have been processed.

LOG Option

This option allows the general status of the server, and the progress of outbound faxes in particular, to be logged.

LOG   The progress of faxes will be logged in the file **FAXSERV.LOG**, stored in the server's main directory (default `C:\OV-FAX`).

The log file is an ASCII text file that may contain the following details:

- When the server was started, and when it ended (by the operator pressing the *End* key; by the automatic restart facility; or by aborting in exceptional cases).

- Each TRANSMIT request from the host. These show the Fax Reference number, the File Code, the node and user-id of the sender, and the cover sheet to be used.

- Each DIAL request from the host. These show the Fax Reference number, the File Code, and the fax number to call (as provided by the host).

- Each STATUS request from the host. These show the Fax Reference number, the File Code, the current status and OV/Fax error code, any error codes from the conversion and GammaLink programs, the number of pages in the fax, and the duration of the transmission.

- Each UPDATE request from the host. These show the same details as the STATUS requests. An UPDATEs COMPLETE message will also be logged for the first occurrence after a set of UPDATEs.

- Each CANCEL request from the host. These show the Fax Reference number and the File Code.

- Each fax request submitted to GammaLink. These show the Fax Reference number, the File Code, the BAUD Rate to use, and the number to dial.

- Each inbound fax received and sent up to the host. These show the file name and the received CSID.

- Each error message displayed on the server, except for the message indicating that the host is unavailable. Only the first occurrence of these will be logged each time.

Each line begins with the time the entry was logged. The date is included each time the server starts. The Fax Reference or File Code can be used to identify entries for the same fax request.

> **Note:** The server only appends details to the log file, it never deletes any details. Therefore, if logging is used for long periods of time, ensure that the file is cleaned down periodically so that there is sufficient disk space for faxes to be processed.

KEEP Option

This option allows all the files for outbound faxes to be retained for later inspection or testing. The option can be useful, for example, when setting up new images or overlays.

KEEP   A CANCEL request from the host usually results in the record on the status file being deleted (possibly after archival) followed by all the files for the fax in the OUTFAX subdirectory and long fax numbers directory being deleted. The KEEP option prevents the deletion of files taking place. All the files for a particular fax begin with '**O**' and the four character File Code.

AUTOSTART Option

This option causes the SERVER to start without user interaction. When AUTOSTART is specified, the server will immediately enter a short delay, and then begin polling the Host. The delay allows some time for the 3270 emulator session to be acquired by CICS. During this time, the screen displays the message, "Autostart in progress - currently waiting for the host".The 'Autostart delay' value can be set using the FAXADMIN application, on the communications setup panel.

AUTOSTART   Start the Server without any user interaction.

NOEVENT Option

This option prevents the SERVER from logging errors to the Windows event log.

NOEVENT   The SERVER will not log messages to the Windows event log.

Dynamic Configuration of Processing Options

All options, except for logging, may also be invoked while the server program is running, by pressing the appropriate function key as shown on the server's main processing panel.

F2   This key toggles the server between the following options:

- NOHOST=Off (i.e. normal server operation)

- NOHOST=On (as explained above)

F3   This key toggles the server between the following options:

- NOGAMMA=Off (i.e. normal server operation)

- NOGAMMA=On (as explained above)

F4   This key toggles the server between the following options:

- STEP=Off   (i.e. normal server operation)

- STEP=On   (i.e. server is running in STEP mode)

- STEP=Auto (i.e. server is running in AUTOSTEP mode)

F5   This key toggles the server between the following options:

- KEEP=Off (i.e. delete the outbound fax files as normal)

- KEEP=On (i.e. retain the files)

The server will only change to the desired mode when it reaches a convenient point in its processing cycle. Therefore, a slight delay may be noticed before the request takes effect.

Note: When changing the STEP mode from **ON** to **AUTO** or **OFF**, press *Enter* to complete the current step. The new mode does not take effect until the current step is completed.

Administration Test Facilities

A variety of diagnostic tools is available for testing each part of the server software, and for verifying that the server is configured correctly. Type in FAXADMIN from the OV/Fax directory and select option 4 from the initial menu to access the testing utilities. The following menu will be displayed:

```
                    OV/FAX ADMINISTRATION UTILITY
                          TESTING FACILITIES


       Select one of the following options



                ┌─────────────────────────────────┐
                │  1.  GammaFax Installation       │
                │  2.  Inbound Fax Test Setup      │
                │  3.  Outbound Fax Test Setup     │
                │  4.  Verify Server Installation  │
                └─────────────────────────────────┘




 ═══════════════════════════════════════════════════════════════
 Esc Exit    Enter Select Option    F1 Help
```
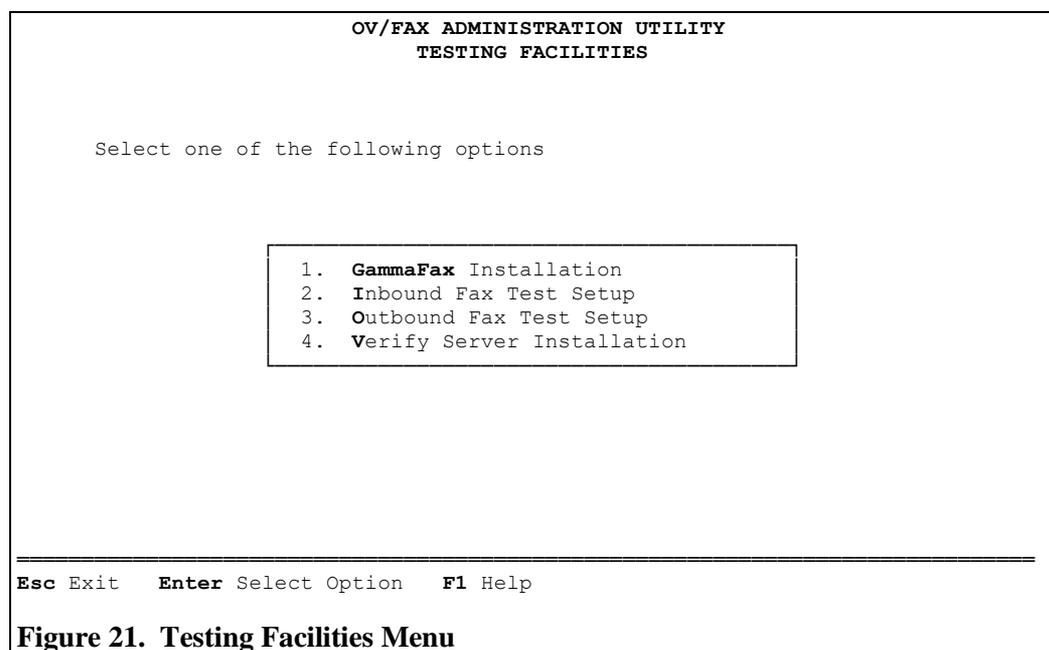
Figure 21. Testing Facilities Menu

The facilities are described in order in the following sections.

Testing the GammaLink Installation

This option has been removed since the GammaLink software supplies it's own software to submit a fax. Refer to the "Send Fax Applet" in the GammaLink Programs menu.

Testing the Inbound Conversion Routines

Inbound faxes are collected by the GammaLink board and stored on the server as .TIF files. These files are converted to RFT/Extended format by the server software before passing them up to the host. To test this conversion process, select option 2 on the Testing Facilities menu. The following panel will be displayed:

```
                    OV/FAX ADMINISTRATION UTILITY
                      INBOUND FAX TEST SETUP




       ┌─────────────────────────────────────────────────────────────┐
       │ Received Fax To Use:                                          │
       │   [C:\GAMMA\TEST001.TIF                                     ] │
       │                                                               │
       │ Received CSID Number.........[                             ]  │
       │                                                               │
       │ Duration....................[     ]   (seconds)              │
       └─────────────────────────────────────────────────────────────┘




─────────────────────────────────────────────────────────────────────────
Esc Exit    Enter Validate Entries    F1 Help
```

Figure 22. Inbound Test Utility Panel

All the fields on this panel are mandatory. The requirements of each are as follows:

Received Fax To Use
Only alphanumeric characters and punctuation are allowed in this field. It specifies the name of the file to be used in the conversion. It must be in the correct TIF format. The field defaults to the file TEST001.TIF in the GammaLink directory, since this is shipped with the GammaLink software. It is a single page test chart. The validation process checks that the file exists.

Received CSID Number
Digits, punctuation and spaces are allowed in this field. The CSID (Customer Subscriber ID) is the number from which the fax was received. For a genuine inbound fax, OV/Fax obtains this number from the GammaLink software. Enter a suitable number here. The number will be stored within the text of the RFT document produced by the server.

Duration
Only digits are allowed in this field. The duration is the time it took for the fax to be received. For a genuine inbound fax, OV/Fax obtains this time from the GammaLink software. Enter a suitable time (in seconds) here. The duration will be stored within the text of the RFT document produced by the server.

Press *Enter* after completing the entries on this panel. If all the entries are valid, the utility will generate the files needed by the server to simulate an inbound fax. Two files will be

created, a sample inbound fax called **T001P001.TIF** (copied from the Received Fax specified on the panel), and details of this fax, in file **T001.DAT**.

If the server is configured for inbound faxes, it will create an RFT document from the sample inbound fax. Provided that the host software is configured to accept inbound faxes, this document will be uploaded and mailed to the spill-operator defined for the server.

Testing the Conversion and Submission of Outbound Faxes

Outbound faxes are normally received from the host as a file in either ASCII (or Print Image) format, in RFT document format, or as a PC file. The server converts these into TIF format and submits them to the GammaLink software, for subsequent transmission to another fax machine. Option 3 from the Testing Facilities menu creates a simple ASCII file that can be converted and transmitted, without having to create a fax on the host. The server can therefore be tested independently of the host. The following panel will be displayed:

```
                     OV/FAX ADMINISTRATION UTILITY
                      OUTBOUND FAX TEST SETUP




        ┌────────────────────────────────────────────────────────────┐
        │  Fax Reference................[9999999]                      │
        │                                                              │
        │  File Code....................[TEST]                         │
        │                                                              │
        │  Fax Number...................[                           ]  │
        └────────────────────────────────────────────────────────────┘






        ════════════════════════════════════════════════════════════════
        Esc Exit    Enter Validate Entries    F1 Help
```

Figure 23. Outbound Test Utility Panel

All the fields on this panel are mandatory. The requirements of each are as follows:

Fax Reference
Only digits are allowed in this field. It identifies a particular fax, and is normally provided by the host. For the purpose of testing, it must be entered here, and must be seven digits long. It defaults to **9999999** in order to avoid any conflict with faxes that have been sent from the host. It may be changed if required.
Note: Do not create more than one fax with the same reference number.

File Code
Only alphabetic characters are allowed in this field. It is also unique for a fax, but is only used on the server. It is used to name the files relevant to the fax. For the purpose of testing it must be entered here, and must be four characters long. It defaults to **TEST**, but may be changed if required.

Fax Number
Digits, punctuation and spaces are allowed in this field. It specifies the number of the fax machine to send the test fax to. It should not include any dialling prefixes, because these will

be added by the server. The number may include a '**%**' sign to generate a standard resolution fax.

Press *Enter* after completing the entries on this panel. If all the entries are valid, the utility will generate the files needed by the server to simulate an outbound fax. A simple ASCII test page file will be produced for conversion, and a record will be added to the status file FXSTATUS.DAT (with a Source of PC). The test page includes the complete fax character set and the server configuration in abbreviated format.

If the server program FAXSERV is started, configured for outbound mode, the test fax will be converted and a transmission will be attempted. It may be necessary to start the server using the **NOHOST** option, to prevent it trying to communicate with the host. The success of the conversion and transmission can be determined by referring to the error code fields on the status file. See "Chapter 6. Server Administration" for details on how to enquire on these details. If the fax was not transmitted successfully, it can be retried by amending the status of the record back to **R** (Ready to Dial) and restarting the server program.

Once testing is complete, details of the fax need to be removed. (This is done automatically for faxes sent from the host). The record on the status file should be deleted (it will be written to the archive file if this option is configured). The files for the fax also need to be deleted. There will be several of these, all with a prefix of '**O**' and the File Code entered on the panel, i.e. **TEST** in the example above. These files are held within the OUTFAX subdirectory. A suitable command in this case would be:

```
DEL C:\OV-FAX\OUTFAX\OTEST*.*
```

Note: The information included in the status file record created by this utility is very basic and does not, for example, contain any details to go on the cover sheet of the fax. If such details are required, then the record can be amended using the administration facilities, prior to starting the server program.

Verifying the Server Installation

In order for the server to operate correctly, there are several items of prerequisite hardware and software that must first be installed and configured correctly, i.e. 3270 emulation, and GammaLink. The server itself must also be customised to match these items. If option 4 on the Testing Facilities menu is selected, the verification utility will attempt to identify any conflicts in the configuration and customisation of the server

The utility will verify disk space, 3270 emulation HLLAPI and GammaLink software. If any discrepancies are found, a panel will be displayed indicating the nature of the problem. The details should be noted for subsequent correction, if necessary. When the utility has run, make any recommended changes and re-run the utility.

This completes the server verification process. The server should now be ready to use.

APPENDICES

Appendix A. Server Administration Error Messages

The following messages may be displayed while using the server administration program, FAXADMIN.

A.1 General Messages

0. Incorrect message number specified.
This message is reserved for system use.

1. The configuration file FXCONFIG.DAT does not exist.
The configuration file does not exist in the main OV/Fax directory. Use the FAXADMIN System Configuration options to create a new file.

2. Unable to create the configuration file FXCONFIG.DAT.
A new configuration file cannot be created in the main server directory. Check that there is free disk space on the server.

3. Unable to open the configuration file FXCONFIG.DAT.
The configuration file cannot be accessed in the main server directory. Check that it exists, and is not set to Read-Only status. Under normal circumstances the file should exist, as it is automatically created if missing.

4. Unable to read the configuration file FXCONFIG.DAT.
The configuration file contains incorrect data. It may be corrupted data, or the file may have become truncated. Delete the file and restart the administration program to recreate the file.

5. Unable to write to the configuration file FXCONFIG.DAT.
The configuration file could not be updated with new details. This indicates corruption of the file itself.

6. An incorrect version of the configuration file FXCONFIG.DAT is present.
The configuration file is present but is not compatible with Version 3 Release 1. Check where the file has come from, and delete / recreate if necessary.

7. The status file FXSTATUS.DAT does not exist.
The status file does not exist in the main OV/Fax directory. Use the FAXADMIN Status File maintenance facilities to create a new file.

8. Unable to create the status file FXSTATUS.DAT.
A new status file cannot be created in the main server directory. Check that there is free disk space on the server, and that the file does not already exist with a Read-Only status.

9. Unable to open the status file FXSTATUS.DAT.
The status file cannot be accessed in the main server directory. Create the file if it does not already exist. If it does exist, check that it does not have a Read-Only status.

10. Unable to read the status file FXSTATUS.DAT.
The status file contains incorrect data. It may be corrupted data, or the file may have become truncated.

11. Unable to write to the status file FXSTATUS.DAT.
New data could not be added to the status file. Check that there is free disk space on the server.

12. Unable to amend the status file FXSTATUS.DAT.
The status file could not be updated with new details, indicating corruption of the file itself.

13. Unable to delete from the status file FXSTATUS.DAT.
A record on the status file could not be flagged as deleted. This indicates corruption of the file itself.

14. Unable to read the header record of the status file FXSTATUS.DAT.
The status file has a header record which contains information about the software version and file sequence. This information is incorrect. It may be corrupted or the file may have become truncated.

15. Unable to write the header record of the status file FXSTATUS.DAT.
The header record could not be updated with new details. This indicates corruption of the file itself.

16. An incorrect version of the status file FXSTATUS.DAT is present.
The status file is present but is not compatible with Version 3 Release 1. Check where the file has come from, and recreate if necessary.

17. Unable to open the error mapping file FAXERROR.DAT.
The Error table cannot be accessed in the main server directory. Check that it exists, and is not set to Read-Only status. Under normal circumstances the file should exist. Copy the file from the installation diskette if necessary.

18. Unable to read the header record of the error mapping file FAXERROR.DAT.
The status file has a header record which contains information about the software version. This information is incorrect. It may be corrupted or the file may have become truncated. Copy the file from the installation diskette if necessary.

19. Unable to write the header record to the error mapping file FAXERROR.DAT.
The header record could not be updated with new details. This indicates corruption of the file itself.

20. An incorrect version of the error mapping file FAXERROR.DAT is present.
The error mapping file is present but is not compatible with Version 3 Release 1. Check where the file has come from. Copy the file from the installation diskette if necessary.

21. Unable to read the entries from the error mapping file FAXERROR.DAT.
The error mapping file contains incorrect data. It may be corrupted data, or the file may have become truncated. Copy the file from the installation diskette if necessary.

22. Unable to write the entries to the error mapping file FAXERROR.DAT.
The error mapping file could not be updated with new details. This indicates corruption of the file itself.

23. Panel definition file FAXADMIN.PAN is missing.
The language dependent file FAXADMIN.PAN is not present in the main server directory. This indicates that the installation of the server software did not complete successfully.

A.2 System Configuration Messages

24. Please enter the Name of this Server:
This field is mandatory. Enter details in the field and press *Enter*.

25. Please enter the processing option (In only, Out only or Both).
This field is mandatory. Enter details in the field and press *Enter*.

26. Please enter the Fax Number (CSID) for this Server.
This field is mandatory. Enter details in the field and press *Enter*.

27. Please enter the Wait or Rest time for the Server.
This field is mandatory. Enter details in the field and press *Enter*.

28. Please enter the Free Disk Space Threshold.
This field is mandatory. Enter details in the field and press *Enter*.

29. Please enter the Company Name, which appears on the fax cover sheet.
This field is mandatory. Enter details in the field and press *Enter*.

30. The Fax Number may only contain the digits 0 to 9, spaces, or hyphens.
Invalid characters have been entered in the Fax Number field. Remove them and validate again.

31. The Processing Option may only be I, O or B.
The processing option specified is not correct. It may only be I (for Inbound Only), O (for Outbound Only), or B (for both Inbound and Outbound). Correct the entry and validate again.

A.3 Dialling Codes Setup Messages

32. Please enter the Line Type, which should be P (for Pulse) or T (for Tone).
This field is mandatory. Enter details in the field and press *Enter*.

33. Please enter the Local Area Code.
This field is mandatory. Enter details in the field and press *Enter*.

34. Please enter the International Prefix.
This field is mandatory. Enter details in the field and press *Enter*.

35. Please enter the Country Code.
This field is mandatory. Enter details in the field and press *Enter*.

36. The Custom Dialling Module does not exist.
Check that the specified module exists in the main server directory. The module should be an executable program.

A.4 Communications Setup Messages

37. Please enter the Emulation Session ID.
This field is mandatory. Enter details in the field and press *Enter*.

38. Please enter the CICS Transaction Prefix.
This field is mandatory. Enter details in the field and press *Enter*.

A.5 GammaLink Configuration Messages

42. Please enter the directory path to the GammaLink software.
This field is mandatory. Enter details in the field and press *Enter*.

45. Please enter the Initial BAUD Rate.
This field is mandatory. Enter details in the field and press *Enter*.

46. Please enter the Delay Request Deletion value.
This field is mandatory. Enter details in the field and press *Enter*.

47. Please specify whether Long Numbers are Supported.
This field is mandatory. Enter details in the field and press *Enter*.

48. Please enter the directory path to be used for Long Numbers.
This field is mandatory if long numbers are supported. Enter details in the field and press *Enter*.

49. The directory specified does not exist.
The directory path specified does not refer to an existing directory, or is not a suitable specification for an existing directory. Correct the entry and validate again. It may be necessary to exit the administration program and create the directory first.

52. The BAUD rate may only be 0, 2400, 4800, 7200, 9600, 12000 or 14400.
An invalid baud rate has been specified. Enter one of the allowed rates and validate again.

53. The Delay Request Deletion value must be Y or N.
The value specified is not correct. It may only be Y (to delay the deletion), or N (to delete the request immediately). Correct the entry and validate again.

54. The Long Numbers Supported value must be Y or N.
The value specified is not correct. It may only be Y (if the numbers are supported), or N (if the numbers are not supported). Correct the entry and validate again.

55. The directory specified for long numbers does not exist.
The directory path specified does not refer to an existing directory, or is not a suitable specification for an existing directory. Correct the entry and validate again. It may be necessary to exit the administration program and create the directory first.

A6. Fax Conversion Parameters Messages

56. Please enter the Conversion Directory.
This field is mandatory. Enter details in the field and press *Enter*.

57. Please enter the Image Directory.
This field is mandatory. Enter details in the field and press *Enter*.

58. Please enter the name of the Default Font files to use.
This field is mandatory. Enter details in the field and press *Enter*.

59. Please enter the Default Pitch to use.
This field is mandatory. Enter details in the field and press *Enter*.

60. Please enter the Default Lines Per Inch to use.
This field is mandatory. Enter details in the field and press *Enter*.

61. Please enter the Fill Bits to be used for each scan line.
This field is mandatory. Enter details in the field and press *Enter*.

62. Please specify whether Variable Length Cover Sheets are to be used.
This field is mandatory. Enter details in the field and press *Enter*.

63. Please specify whether Variable Length Last Pages are to be used.
This field is mandatory. Enter details in the field and press *Enter*.

64. Please specify whether IDU Compatible pitches and indents are to be used.
This field is mandatory. Enter details in the field and press *Enter*.

65. Please specify whether Blank Pages are to be Erased.
This field is mandatory. Enter details in the field and press *Enter*.

66. Please enter the Top Margin of the fax.
This field is mandatory. Enter details in the field and press *Enter*.

67. Please enter the Right Margin of the fax.
This field is mandatory. Enter details in the field and press *Enter*.

68. Please enter the Bottom Margin of the fax.
This field is mandatory. Enter details in the field and press *Enter*.

69. Please specify whether margins are to be ignored with ASA controls present.
This field is mandatory. Enter details in the field and press *Enter*.

70. Please enter the Text Indent.
This field is mandatory. Enter details in the field and press *Enter*.

71. Please enter the Image Indent.
This field is mandatory. Enter details in the field and press *Enter*.

72. Please specify whether images are to be Indented to the image Command.
This field is mandatory. Enter details in the field and press *Enter*.

73. Please enter the Overlay Indent.
This field is mandatory. Enter details in the field and press *Enter*.

74. Please enter the Top Margin to be used for RFT documents.
This field is mandatory. Enter details in the field and press *Enter*.

75. Please enter the Left Margin to be used for RFT documents.
This field is mandatory. Enter details in the field and press *Enter*.

76. Please specify whether RFT Tabs are Supported.
This field is mandatory. Enter details in the field and press *Enter*.

77. Please specify whether RFT Indents are supported.
This field is mandatory. Enter details in the field and press *Enter*.

78. The Conversion Directory specified does not exist.
The directory path specified does not refer to an existing directory, or is not a suitable specification for an existing directory. Correct the entry and validate again. It may be necessary to exit the administration program and create the directory first.

79. The Image Directory specified does not exist.
The directory path specified does not refer to an existing directory, or is not a suitable specification for an existing directory. Correct the entry and validate again. It may be necessary to exit the administration program and create the directory first.

80. The Default Pitch may only be 10, 12, 13, 16, 17 or 20.
An invalid pitch (characters per inch) has been specified. Enter one of the allowed values and validate again.

81. The Default Lines Per Inch may only be 6 or 8.
The Lines Per Inch specified is not correct. It may only be 6 or 8. Correct the entry and validate again.

82. The Default Font file specified does not exist.
The font file with the specified default name, pitch and lines per inch does not exist in the Conversion Directory. Specify a valid font file and validate again.

83. The Variable Length Cover Sheets value must be Y or N.
The value specified is not correct. It may only be Y (to allow shorter cover sheets) or N (to always create A4 cover sheets). Correct the entry and validate again.

84. The Variable Length Last Pages value must be Y or N.
The value specified is not correct. It may only be Y (to allow shorter last pages) or N (to always create A4 last pages). Correct the entry and validate again.

85. The IDU Compatible value must be Y or N.
The value specified is not correct. It may only be Y (to use PC/IDU pitches and overlay indents) or N (to use OV/Fax pitches and indents). Correct the entry and validate again.

86. The Erase Blank Pages value must be Y or N.
The value specified is not correct. It may only be Y (to delete any blank pages created) or N (to keep blank pages in the fax). Correct the entry and validate again.

87. The Ignore Margins with ASA value must be Y or N.
The value specified is not correct. It may only be Y (to ignore margins) or N (to include margins). Correct the entry and validate again.

88. The Indent to Command value must be Y or N.
The value specified is not correct. It may only be Y (to indent inline and signature images to the column of the command) or N (to use the Image Indent value instead). Correct the entry and validate again.

89. The RFT Tabs Supported value must be Y or N.
The value specified is not correct. It may only be Y (to replace tabs with the appropriate number of spaces) or N (to ignore tabs). Correct the entry and validate again.

90. The RFT Indents Supported value must be Y or N.
The value specified is not correct. It may only be Y (to replace indents with the appropriate number of spaces) or N (to ignore indents). Correct the entry and validate again.

91. The Replacement RFT Image specified does not exist.
The IMDS image file to be used in place of unsupported RFT image types does not exist. Specify a valid image or one of the alternative values and validate again.

92. The customised conversion module does not exist.
This message is not used.

93. Unable to create the FAXOUT.INI configuration file.
The configuration file used by the FAXOUT conversion program cannot be created in the Conversion Directory (or the OV/Fax `CONV` subdirectory if different). Check that there is free disk space on the server, and that the file does not already exist with a Read-Only status.

94. Unable to create the FAXOTRFT.INI configuration file.
The configuration file used by the FAXOTRFT conversion program cannot be created in the Conversion Directory (or the OV/Fax `CONV` subdirectory if different). Check that there is free disk space on the server, and that the file does not already exist with a Read-Only status.

A.7 PostFAX Configuration Messages

95. The PostFAX is Installed value must be Y or N.
The value specified is not correct. It may only be Y (if PostFAX is installed and is to be used by the server) or N (if PostFAX is not to be used). Correct the entry and validate again.

96. Please enter the directory path to the PostFAX-ODX software.
This field is mandatory. It specifies where the PostFAX-ODX and PostFAX-Legacy components are installed. Enter details in the field and press *Enter*.

97. The PostFAX-ODX directory specified does not exist.
The directory path specified does not refer to an existing directory, or is not a suitable specification for an existing directory. Correct the entry and validate again. It may be necessary to exit the administration program and create the directory first.

98. Please enter the directory path to the PostFAX-TIFF software.
This field is mandatory. It specifies where the PostFAX-TIFF component is installed. Enter details in the field and press *Enter*.

99. The PostFAX-TIFF directory specified does not exist.
The directory path specified does not refer to an existing directory, or is not a suitable

specification for an existing directory. Correct the entry and validate again. It may be necessary to exit the administration program and create the directory first.

A.8 Status File Maintenance Messages

100. There are no records on the file. Press I to Insert, or Esc to Exit.
This is an informational message. The status file has been newly created, and there are no records which can be displayed. The first record may be inserted by pressing 'I'.

101. The required record cannot be accessed.
An action has been entered against a record that is no longer on the status file. The file may have become corrupted or truncated.

102. The Fax Reference must be seven digits long.
This field is mandatory, and must contain seven digits, padded with zeros and right justified if necessary. Correct the entry and validate again.

103. The File Code must be four characters long.
This field is mandatory and must contain four alphabetic characters. Correct the entry and validate again.

104. The Source must be H or P.
The fax source specified is not correct. It may only be H (for faxes from the Host), or P (for faxes created on the server). Correct the entry and validate again.

105. The Status indicator may only be I, T, R, S, E or C.
The status specified is not correct. It may only be:

I   Initial state

T   Transferred from the host

R   Ready to Dial

S   Submitted

E   Error

C   Complete

Correct the entry and validate again.

106. The Send Type must be A, R or P.
The send type specified is not correct. It may only be A (for an ASCII or print image document), R (for an RFT document), or P (for PC file). Correct the entry and validate again.

107. The Format must be D or T.
The format specified is not correct. It may be D (if only the document is present), or T (if it has been converted to fax (TIF) format. Correct the entry and validate again.

108. Please enter the Fax Number to call.
This field is mandatory. Enter details in the field and press *Enter*.

109. The Literal indicator must be Y or N.
The literal indicator specified is not correct. It may only be Y (for Yes) or N (for No). Correct the entry and validate again.

110. Please enter the CSID from where the fax is originating.
This field is mandatory. Enter details in the field and press *Enter*.

111. Please enter the name of the Cover sheet to be used.
This field is mandatory. Enter details in the field and press *Enter*.

112. Please enter BAUD rate to be used for the next transmission.
This field is mandatory. Enter details in the field and press *Enter*.

113. The BAUD rate may only be 0, 2400, 4800, 7200, 9600, 12000 or 14400.
An invalid Baud rate has been specified. Enter one of the allowed rates and validate again.

A.9 Image To Raster Conversion Messages

114. Please enter the name of the Source Image.
This field is mandatory. Enter the name of the .IMG file to be converted to Raster format, and press *Enter*.

115. Please enter the Raster File Name to be used.
This field is mandatory. Enter the name of the output .RAS file to be created, and press *Enter*.

116. Please enter the Raster File Type (which should be C, L, O, R or S).
The raster file type specified is not correct. It may only be:

    C   Image to be used as a cover sheet (.CVR).

    L   Image to be used as a landscape overlay file (.LND).

    O   Image to be used as an overlay (.OVR).

    R   Image to be used as an inline image (.RAS).

    S   Image is to be used as a signature (.SIG).

Correct the entry and validate again.

117. Please enter the Overwrite option (which should be Y or N).
This field is mandatory. Enter details in the field and press *Enter*.

118. The specified image file does not exist.
The image file to be converted does not exist. Re-type the correct file name, and press *Enter*.

119. The Node Directory does not exist below the image root directory.
The specified subdirectory does not refer to an existing directory, or is not a suitable specification for an existing directory. Correct the entry and validate again. It may be necessary to exit the administration program and create the directory first.

120. Please enter the Node Directory for the user.
A user directory has been specified but no node directory. The node directory is mandatory in this case. Enter details in the field and press *Enter*.

121. The User Directory does not exist below the node directory.
The specified subdirectory does not refer to an existing directory, or is not a suitable specification for an existing directory. Correct the entry and validate again. It may be necessary to exit the administration program and create the directory first.

122. The File Type may only be C, L, O, R or S.
The raster file type specified is not correct. Correct the entry and validate again.

123. The Overwrite option may only be Y or N.
The overwrite option specified is not correct. It may only be Y (for Yes) or N (for No). Correct the entry and validate again.

124. The raster file already exists, but the overwrite option is set to No.
The raster file to be created already exists, but the overwrite option has been specified as 'N'.
The utility is therefore unable to convert the image file.

125. The image file may not be valid. Press Enter to continue, Esc to cancel.
The image file to be converted may not be in the correct format. Press *Enter* to continue with
the conversion, which may result in an error occurring. Press *Esc* to return to the panel and
enter another image name.

126. The specified image file contains no information.
The image file to be converted is empty - it has a zero length. Specify a valid image name.

127. Converting image to raster format. Please wait.
This message is displayed while the conversion is in progress.

128. Unable to start the conversion program FAXOTIMG.EXE.
The program used to perform this conversion is not in the directory configured for the server.

129. Image has been successfully converted to raster format.
Processing has terminated successfully. The raster file is now ready to use.

130. A conversion error (n) has occurred running the FAXOTIMG.EXE program.
The module performing the conversion has returned an error code (given in brackets). Refer
to "Appendix D. Error Codes" for more information.

A.11 Inbound Fax Test Setup Messages

139. Please enter the name of the Received Fax to be used for the inbound fax.
This field is mandatory. Enter details in the field and press *Enter*.

140. Please enter the Received CSID Number to be used.
This field is mandatory. Enter details in the field and press *Enter*.

141. Please enter the Duration of the transmission, in seconds.
This field is mandatory. Enter details in the field and press *Enter*.

142. The Received Fax file does not exist. Please specify another.
The received fax file to use does not exist. Correct the entry and validate again.

143. Creating the test files. Please wait.
This message is displayed while the test files are created.

144. Unable to access the Received Fax file.
The received fax file to use exists, but the server cannot open it. It may be corrupted.

145. Unable to create the new test fax file.
The server is unable to create the test fax file T001P001.TIF in the GammaLink directory.
Check that there is free disk space on the server, and that the file does not already exist with a
Read-Only status.

146. An error has occurred while creating the new test fax file.
An error has occurred during the creation of the test fax file T001P001.TIF. Check that there
is free disk space on the server.

147. Unable to create the T001.DAT file in the GammaLink directory.
The T001.DAT file is an interim file created by the test utility to store the CSID, Duration
and other details for the test. The utility was unable to create the file. Check that there is free
disk space on the server, and that the file does not already exist with a Read-Only status.

148. Files for the inbound fax T001P001 have been created.
The utility has successfully created the inbound test files.

A.12 Outbound Fax Test Setup Messages

149. Please enter the Fax Reference to be used.
This field is mandatory. Enter details in the field and press *Enter*.

150. Please enter the File Code to be used for the test files.
This field is mandatory. Enter details in the field and press *Enter*.

151. Please enter the Fax Number to call.
This field is mandatory. Enter details in the field and press *Enter*.

152. The Fax Reference must be seven digits long.
This field must contain seven digits, padded with zeros and right justified if necessary.
Correct the entry and validate again.

153. The File Code must be four characters long.
This field must contain four alphabetic characters. Correct the entry and validate again.

154. Creating the test files. Please wait.
This message is displayed while the test files are created.

155. Status file record and test document have been created successfully.
The utility has successfully created the outbound test files.

156. Unable to create the test fax document.
The server is unable to create the test fax document in the server's OUTFAX directory. Check
that there is free disk space on the server, and that the file does not already exist with a Read-
Only status.

A.13 Verify Server Installation Messages

158. Verification completed successfully.
The utility has checked the server installation, and found no anomalies.

159. Verification completed. Please note the warning messages displayed.
The utility has checked the server installation, and has found some irregularities which should
be resolved before the server is operated.

161. Verifying the 3270 emulation configuration. Please wait.
While this message is being displayed, the utility is checking that the HLLAPI interface is
installed and available.

163. Verifying the GammaLink Fax board configuration. Please wait.
While this message is being displayed, the utility is checking the GammaLink configuration
files to be sure that the various parameters have been set to the values recommended for
OV/Fax.

A.14 GammaLink Error Code Mapping Messages

164. There are already 200 entries in the table. No more may be inserted.
This error will occur when attempting to insert a new entry into the Error Code Mapping
Table. If the file already contains 200 entries, no more may be added.

165. A new entry may not be inserted before this one.
This error will occur when attempting to insert a new entry into the Error Code Mapping

Table. The action bar is on the line containing the 'zero' value codes. Move the action bar to an appropriate slot and try again.

166. There is no room to insert an entry before this one.
This error will occur when attempting to insert a new entry into the Error Code Mapping Table. It would occur if all the codes in a range have been defined, and an attempt is made to insert within the range. For example, the table may contain the following entries:

```
From    To     Error

1001 – 1007 : 500
1008 – 1009 : 500
```

If the action bar were placed on the second entry, and insert requested, then the above message would occur, because there is no space to insert a new entry between the first entry (which ends with code 1007) and the second entry (which begins at code 1008). A new entry can only be added here if the range of the first entry is reduced, for example:

```
From    To     Error

1001 – 1005 : 500
1008 – 1009 : 500
```

167. This entry may not be amended.
The first entry on the file (0000) and the last entry (9999) may not be amended.

168. This entry may not be deleted.
The first entry on the file (0000) and the last entry (9999) may not be deleted.

169. The From value must be greater than the previous To value.
An attempt has been made to add an entry which overlaps with the range of the preceding entry.

170. The To value may not be less than the From value.
An attempt has been made to add an entry such as the following:

```
From    To     Error

1004 – 1003 : 500
```

171. The To value must be less than the next From value.
An attempt has been made to add an entry which overlaps with the range of the following entry.

172. The Error code must be in the range 500 to 899 inclusive.
An OV/Fax error code has been entered which is outside the permitted range.

Appendix B. Server Operational Error Messages

The following messages may be displayed while the server program FAXSERV is in operation. Some messages are for information only, others will be displayed when the server discovers an error. Each message begins with an identification number. The list below is in numeric order.

00. Incorrect message number specified.
This message is reserved for system use.

02. Unable to access the OV/Fax conversion software directory.
The conversion directory specified in the server configuration cannot be accessed.

03. Unable to open the configuration file FXCONFIG.DAT.
The configuration file cannot be accessed in the main server directory.

04. Unable to read the configuration file FXCONFIG.DAT.
The configuration file contains incorrect data. This may be corrupted data, or the file may have become truncated.

05. An incorrect version of FXCONFIG.DAT is present.
The configuration file is present but is not compatible with Version 3 Release 1.

06. Unable to open the status file FXSTATUS.DAT.
The status file cannot be accessed in the main server directory.

07. Unable to read the status file FXSTATUS.DAT.
The configuration file contains incorrect data. This may be corrupted data, or the file may have become truncated.

08. Unable to write to the status file FXSTATUS.DAT.
New data could not be added to the status file. This indicates corruption of the file itself.

09. Unable to amend the status file FXSTATUS.DAT.
The status file could not be updated with new details. This indicates corruption of the file itself.

10. Unable to delete from the status file FXSTATUS.DAT.
A record on the status file could not be flagged as deleted. This indicates corruption of the file itself.

11. Unable to read the header record of the status file FXSTATUS.DAT.
The header record of the status file contains incorrect data. This may be corrupted data, or the file may have become truncated.

12. Unable to write the header to the status file FXSTATUS.DAT.
The header record of the status file could not be updated with new details. This indicates corruption of the file itself.

13. An incorrect version of FXSTATUS.DAT is present.
The status file is present but is not compatible with Version 3 Release 1.

14. Unable to open the error mapping file FAXERROR.DAT.
The error mapping file cannot be accessed in the main server directory. Check that it exists, and is not set to Read-Only status.

15. Unable to read the header of the error file FAXERROR.DAT.
The error mapping file has a header record which contains information about the software

version and file sequence. This information is incorrect. It may be corrupted or the file may have become truncated.

16. An incorrect version of FAXERROR.DAT is present.
The error mapping file is present but is not compatible with Version 3 Release 1.

17. Unable to read the error mapping file FAXERROR.DAT.
The error mapping file contains incorrect data. It may be corrupted data, or the file may have become truncated.

18. Panel definition file FAXSERV.PAN is missing.
The language dependent file FAXSERV.PAN is not present in the main server directory.

21. The following file is missing: d:\path\filename.ext
The server checks for a number of required GammaLink and conversion files during startup, and has discovered that one of the files is missing.

22. Communications error (n) while initialising the host.
A communications error 9 normally occurs when the HLLAPI is not installed, in which case the server will stop. Refer to the documentation for the 3270 emulation package for details on installing the HLLAPI. Other communication errors typically occur when the host session is locked. This situation may be a temporary problem. If it persists, the server will automatically restart, provided that this facility is configured.

23. Unable to send a key to the host program.
The server has been unable to send a control key (such as *Enter*, *Reset* or *Clear*) to the host session, during communications with the host.

24. Unable to type text onto the host screen.
The server has been unable to send characters to the host session, during communications with the host.

25. Error detected while receiving data from the host.
The server has been sent an Error status by the host, during the transmission of fax details either to or from the host.

26. Unable to get valid data from the host.
The server has received an incorrect response from the host, during communications with the host programs.

27. Unable to send data to the host.
The server has been unable to send data to the host session, during communications with the host.

29. An error has been detected while trying to receive faxes.
The server has asked the GammaLink software to wait for inbound faxes, but an internal error has been detected.

30. Unable to access a TIF file for fax A001.
The server is no longer able to access one of the pages of an inbound fax. The file name of the fax is given in the message.

31. Unable to create the RFT text file for fax A001.
During conversion of an inbound fax into an RFT document, a text file is built for the conversion program FAXINRFT. The server has detected an error creating this file. The file name of the affected fax is included in the message.

32. Unable to start the conversion program FAXINIMG.EXE.
The OV/Fax program FAXINIMG.EXE cannot be run from the conversion directory.

33. Conversion error (n) while running FAXINIMG.EXE.
A conversion error (n) has been obtained from the FAXINIMG program **while** creating an RFT document from a received fax. Refer to "Appendix D. Error Codes" for details of the error.

34. Unable to start the conversion program FAXINRFT.EXE.
The OV/Fax program FAXINRFT.EXE cannot be run from the conversion directory.

35. Conversion error (n) while running FAXINRFT.EXE.
A conversion error (n) has been obtained from the FAXINRFT program while creating an RFT document from a received fax. Refer to "Appendix D. Error Codes" for details of the error.

36. An error has occurred sending fax A001 to the host.
The server is no longer able to access the RFT document containing the inbound fax details. The name of the RFT file is included in the message.

37. An incorrect response has been obtained from the host.
The server was expecting a COMPLETE or RECEIVE response from the host during the upload of an RFT document, but the response was not obtained.

38. The server has insufficient disk space to download a fax.
The host has attempted to download a fax to the server, telling it how large the fax is. The server has checked the space threshold parameter, and decided that it does not have sufficient space to accept the fax at the current time.

39. Unable to download the document for fax 0000001.
The Server is unable to open the files into which it intends to download a fax. The reference number of the affected fax is given in the message.

40. Error writing to the document of fax 0000001.
The server is downloading a fax document from the host, but has detected an error while writing it to disk. The reference number of the affected fax is included in the message.

42. Error detected while trying to submit an outbound fax.
The server has asked the GammaLink software to send a fax. An internal error has been detected during this process.

44. Error detected while trying to enquire on an outbound fax.
The server has asked the GammaLink software to enquire on the details of the transmission. An internal error has been detected during this process.

45. Unable to obtain the status of a submitted fax (0000001).
A file used internally by the server for enquiring on the status of transmitted faxes, is missing or is corrupt. The reference number of the affected fax is given in the message.

46. Unable to start the conversion program FAXOUT.EXE.
The OV/Fax program FAXOUT.EXE cannot be run from the conversion directory.

47. Unable to open the results file from FAXOUT.EXE.
The conversion program FAXOUT has not generated the file FAXOUT.RES, containing the results of the conversion process.

48. A specified image is missing for fax 0000001.
An outbound fax has requested the inclusion of a non-existent image, and will be rejected. The fax reference number is included in the message.

49. Conversion error (n) while running FAXOUT.EXE.
A conversion error (n) has been returned by the FAXOUT program while creating fax format files. Refer to "Appendix D. Error Codes" for details of the error.

50. Unable to start the conversion program FAXOTRFT.EXE.
The OV/Fax program FAXOTRFT.EXE cannot be run from the conversion directory.

51. Conversion error (n) while running FAXOTRFT.EXE.
A conversion error (n) has been returned by the FAXOTRFT program while converting RFT to ASCII text or while extracting imbedded images. Refer to "Appendix D. Error Codes" for details of the error.

52. Unable to start the conversion program FAXOTIMG.EXE.
The OV/Fax program FAXOTIMG.EXE cannot be run from the conversion directory.

53. Conversion error (n) while running FAXOTIMG.EXE.
A conversion error (n) has been returned by the FAXOTIMG program while converting imbedded images to raster format. Refer to "Appendix D. Error Codes" for details of the error.

55. Error detected while trying to delete cancelled faxes.
If there are no outbound faxes to process, the server attempts to delete requests from the GammaLink queues, for any faxes that have been cancelled. An error has been found performing this operation.

56. The required cover sheet does not exist for fax 0000001.
The .TXT or .CVR file for the requested cover sheet is missing from the IMAGE subdirectory. The reference number of the fax concerned is given in the message.

57. Unable to renumber the pages of fax 0000001.
The server is unable to renumber pages to insert a cover sheet as the first page. The file name of the affected fax is given in the message.

58. Unable to create the outbound cover sheet for fax 0000001.
The server is unable to access the .TXT format file used to create the cover sheet for the fax. The reference number of the fax is included in the message.

59. Unable to start the conversion program FAXOUT.EXE.
The OV/Fax program FAXOUT.EXE cannot be run from the conversion directory.

60. Conversion error (n) while running FAXOUT.EXE.
A conversion error (n) has been returned by the FAXOUT program while generating the TIF files for an outbound fax. Refer to "Appendix D. Error Codes" for details of the error.

61. Unable to access the PostFAX-ODX directory.
The PostFAX-ODX directory specified in the server configuration cannot be accessed.

62. Unable to start the conversion program KW.EXE.
The PostFAX program KW.EXE cannot be run from the PostFAX-ODX directory.

63. Conversion error (n) while running KW.EXE.
A conversion error (n) has been returned by the KW program while generating a PostScript file from the PC file document. Refer to the *PostFAX Installation and User's Guide* for details of the error.

64. Unable to access the PostFAX-TIFF directory.
The PostFAX-TIFF directory specified in the server configuration cannot be accessed.

65. Unable to start the conversion program GS386.EXE.
The PostFAX program GS386.EXE cannot be run from the PostFAX-TIFF directory.

66. Conversion error (n) while running GS386.EXE.
A conversion error (n) has been returned by the GS386 program while converting the

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PostScript file to a fax file. Refer to the *PostFAX Installation and User's Guide* for details of the error.

67. Unable to start the conversion program TIF2TIFS.EXE.
The PostFAX program TIF2TIFS.EXE cannot be run from the PostFAX-TIFF directory.

68. Conversion error (n) while running TIF2TIFS.EXE.
A conversion error (n) has been returned by the TIF2TIFS program while converting the fax file to individual fax pages.

Appendix C. Step Messages

The following messages may be displayed while running the server in step-through mode, i.e. with the STEP or AUTOSTEP option specified on the command line. The messages are listed in numerical order. If the step message file is missing, only the step number is displayed. In STEP mode, the message is followed by '...' after *Enter* has been pressed to confirm the continuation of the step.

0. Incorrect message number specified.
This message is reserved for system use.

1. Opening the message file.
The server is about to access the language dependent server message file FAXSERV.MSG. These messages are described in "Appendix B. Server Operational Error Messages".

2. Opening the panels file.
The server is about to access the language dependant server panel file FAXSERV.PAN. This file contains the panel details and status messages used by the server.

3. Checking for a restart.
The server is about to check whether the user has pressed the *End* key at some stage.

4. Terminating the server.
The server is about to end, either due to a system error, or following a request from the user to shutdown.

5. Getting details from the FXCONFIG file.
The server is about to read the configuration details, and verify the version of the configuration file.

6. Getting details from the FXSTATUS file.
The server is about to read the status file header record to verify the version of the status file.

7. Getting details from the FAXERROR file.
The server is about to read the FAXERROR.DAT file in order to obtain details of the mapping of GammaLink to OV/Fax error codes.

8. Checking the fax server conversion files.
The server is about to check the presence of the programs and font files required for converting to and from fax format.

9. Checking the GammaLink files.
The server is about to check that the required GammaLink files exist in the GammaLink directory.

10. Checking that CICS is available.
The server is about to ask the user to verify that the host session is logged onto the correct CICS system.

11. Doing startup processing for the GammaLink board.
The server is about to perform any initialisation tasks required for the GammaLink board, including cleaning up files from a previous run.

12. Doing INBOUND processing only.
Informational message only.

13. Doing OUTBOUND processing only.
Informational message only.

14. Doing INBOUND and OUTBOUND processing.
Informational message only.

15. Checking that the host is available.
The server is about to execute the FAXU transaction on the host to check if the CICS system is available.

16. Waiting for a response from the host.
The server is waiting for a reply from the host session.

17. Sending a screen to the host.
The server is about to send some information to the host.

18. Sending an error message to the host.
The server is about to send an error code to the host, because a transmission error has been detected.

19. Calling the fax card routines to receive faxes.
The server is about to call the GammaLink software to wait for inbound faxes.

20. About to convert received faxes into RFT format.
The server is about to process any received faxes, and convert them into RFT documents.

21. Uploading received faxes to the host.
The server is about to send received faxes (as RFT documents) to the host.

22. Deleting the details of the uploaded faxes from the Server.
The server is about to delete the details for the faxes that have been transferred to the host.

23. Counting the number of pages in a received fax.
The server is about to count the number of pages in a received fax.

24. Setting up the new files for the received fax.
The server is about to create the text file used to create the RFT document for the inbound fax.

25. Using FAXINIMG to generate an image file from the TIF file.
The server is about to run the OV/Fax program FAXINIMG.EXE to convert one of the pages of the received fax into an IMDS image format file.

26. Using FAXINRFT to create the RFT document.
The server is about to run the OV/Fax program FAXINRFT.EXE to create the RFT document from the images.

27. Getting details for a received fax.
The server is about to get the received CSID and duration details for the received fax.

28. Initialising the host for an upload.
The server is about to check that the host session is available, so that received faxes can be uploaded.

29. Running FAXR on the host.
The server is about to execute the FAXR transaction on the host to upload received faxes.

30. Sending the profile to the host.
The server is about to send details of a received fax to the host.

31. Sending the document to the host.
The server is about to send the actual RFT document to the host.

32. Processing outbound faxes.
The server is about to process any faxes that have a status of Ready to Dial, or Submitted.

33. Checking for outbound requests on the host.
The server is about to check for any outbound fax requests on the host.

34. Initialising the host for a download.
The server is about to check that the host session is available, so that outbound faxes can be downloaded.

35. Running FAXS on the host.
The server is about to execute the FAXS transaction on the host to process outbound requests.

36. Processing host requests.
The server is about to deal with host outbound requests.

37. Dealing with a STATUS request.
The server is about to process a STATUS request, by enquiring on the status of an active fax.

38. Dealing with an UPDATE request.
The server is about to process an UPDATE request, by sending the status of an updated fax to the host.

39. Dealing with a DIAL request.
The server is about to set the status of an active fax to Ready to Dial.

40. Dealing with a CANCEL request.
The server is about to delete the files and status file record of an active fax.

41. Dealing with a TRANSMIT request.
The server is about to download the profile and document of an outbound fax.

42. Adding an outbound request to the status file.
The server is about to add or update the details of an active fax on the status file.

43. Generating the fax code (AAAA).
The server is about to generate the unique File Reference Code for a new active fax.

44. Downloading a message.
The server is about to download the profile, containing a Personal Services message, from the host.

45. Downloading the document.
The server is about to download the actual fax document from the host.

46. Setting the status of the fax to downloaded.
The server is about to update the status of an active fax from Initial to Transmitted.

47. Searching for DIAL or SUBMITTED faxes.
The server is about to search through the active records on the status file for faxes with a status of Ready to Dial, or Submitted.

48. Getting the next record from the status file.
The server is getting the next record from the file with a status of Ready to Dial or Submitted.

49. Processing a fax with status Ready to Dial.
The server is about to process a fax with a Ready to Dial status.

50. Sending a SUBMIT request to the fax card.
The server is about to call the GammaLink software to send the fax, or place a send request on the queue.

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51. Sending an ENQUIRE request to the fax card.
The server is about to enquire on the transmission status of a Submitted fax.

52. Getting details of the enquiry.
The server is about to process the transmission status details.

53. Updating the status of the fax.
The server is about to update the status of the fax.

54. Updating the status of a fax to ERROR.
The server is about to update the status of a fax to Error, recording the error codes found.

55. Attempting to lower the Baud rate.
The server is about to lower the Baud rate of a fax whose last attempt at transmission failed with a line quality error.

56. Converting the phone number for the submission.
The server is about to process the fax number for STD, national and international dialling prefixes, adding or removing as necessary.

57. Updating the status of the fax to 'converted'.
The server is about to update the format of a fax from document to fax (TIF) format.

58. Converting from ASCII to TIF.
The server is about to generate the fax format files from the text file, using the FAXOUT.EXE program.

59. Converting an RFT document.
The server is about to process an RFT document to convert it into fax format.

60. Using FAXOTRFT to extract the text and images.
The server is about to run the OV/Fax program FAXOTRFT.EXE to separate the text and images within the document.

61. Using FAXOTIMG to convert individual images to raster format.
The server is about to run the OV/Fax program FAXOTIMG.EXE to convert a single image into raster format, as required by FAXOUT.

62. Cleaning up the conversion files.
The server is about to delete any intermediate conversion files.

63. Cleaning up details of outbound faxes from the GammaLink files.
The server is about to call the GammaLink software to clean down the send queues, which may contain details of cancelled faxes.

64. Creating the cover sheet text file.
The server is about to process the cover sheet format file to complete the variable fields.

65. Renumbering the pages in the outbound fax.
The server is about to renumber the pages in the fax to insert a cover sheet as the first page.

66. Converting the cover sheet to TIF.
The server is about to convert the cover sheet image and text into a fax format file, using the FAXOUT program.

67. Converting a PC file.
The server is about to process a PC file document to convert it into fax format.

68. Using KW to generate a postscript file.
The server is about to run the PostFAX program KW.EXE to convert the PC file document into a PostScript file.

69. Using GS386 to generate a TIF file.
The server is about to run the PostFAX program GS386.EXE to convert the PostScript file into a single fax file.

70. Using TIF2TIFS to generate multiple TIF pages.
The server is about to run the PostFAX program TIF2TIFS.EXE to convert the single fax file into individual fax pages.

71. Counting the number of pages in the outbound fax.
The server is about to count the number of pages in the fax generated by PostFAX.

72. Cleaning up the conversion files.
The server is about to delete any intermediate conversion files created by PostFAX.

Appendix D. Error Codes

D.1 Outbound Fax Error Codes

The following error codes are currently used for outbound faxes. They may be seen in the **Error Code** field of the Status File Maintenance Panel 1, as described in "Chapter 6. Server Administration".

Codes below 500 refer to conversion errors. These are usually obtained either from the server software itself, or from the conversion programs used by the server. Codes between 500 and 899 refer to transmission errors, and are an interpretation of the codes returned from the GammaLink software. Codes above 900 are used internally by the server and should not be seen or used.

000	Fax is still pending, or has completed successfully.
005	A conversion program could not be started.
010	A conversion program has detected an error while converting the fax.
015	Some of the files for the fax are missing.
020	An image to be imbedded in the fax does not exist on the server.
025	An RFT document contains too many images for the conversion to take place.
030	The server has detected a general conversion error, such as the inability to create converted files.
035	One of the two files used in the cover sheet is missing.
040	The server cannot run the GammaLink communications program.
045	A general failure has been detected while trying to submit a converted fax to the GammaLink software.
050	A general failure has been detected while trying to enquire on the status of a fax submitted to the GammaLink software.
055	Now unused
060	Now unused
499	General conversion failure, not catered for in the above codes.
500	An error has been found with the GammaLink software set-up.
505	An error has been found with the GammaLink hardware set-up.
510	The converted TIF file does not have the correct format.
515	The command file passed to GammaLink is invalid.
520	The fax number is engaged.
525	The fax number is not valid.
530	The telephone line is of a poor quality.
535	A temporary error has been detected with the telephone line.

540	A permanent error has been detected with the telephone line.
545	The transmission has timed out.
550	The call has been answered, but not by a fax machine.
555	A ringing tone has been obtained, but there is no answer.
560	An error has been detected with the remote fax machine.
565	The line has been disconnected during the transmission.
899	General transmission failure, not catered for in the above codes.

D.2 FAXOUT Error Codes

The following error codes may be returned from the OV/Fax conversion program
FAXOUT.EXE.

0	Successful return, with no errors encountered.
1	A mandatory command line parameter is missing.
2	An optional command line parameter is invalid.
3	The default font file is invalid.
4	The input text file is invalid.
5	Error creating a TIF file.
6	Unable to process an image request.
7	Unable to create the results file.
8	Unable to generate a landscape image.

D.3 FAXOTRFT Error Codes

The following error codes may be returned from the OV/Fax conversion program
FAXOTRFT.EXE.

0	Successful return, with no errors encountered.
1	A mandatory command line parameter is missing.
2	Unable to open the RFT document.
3	Unable to open the output text file.
4	Unexpected EOF in RFT document.
5	Out of disk space writing to text or image file.
6	Unexpected EOF in image.
7	Replacement image to copy from does not exist.

D.4 FAXOTIMG Error Codes

The following error codes may be returned from the OV/Fax conversion program
FAXOTIMG.EXE.

0   Successful return, with no errors encountered.

1   A mandatory command line parameter is missing.

2   An optional command line parameter is invalid

3   The image file does not have the correct format.

4   Unable to create the raster file.

5   The image does not begin with an EOL marker.

6   The first scan line of the image is not in 1D format.

7   The first scan line of the image does not end with a 2D EOL.

8   The 2D image data is corrupt.

D.5 FAXINRFT Error Codes

The following error codes may be returned from the OV/Fax conversion program
FAXINRFT.EXE.

0   Successful return, with no errors encountered.

1   A mandatory command line parameter is missing.

2   Unable to open the text file.

3   Unable to open the output RFT document.

4   Out of disk space writing to the RFT document.

5   Unable to open the image file.

D.6 FAXINIMG Error Codes

The following error codes may be returned from the OV/Fax conversion program
FAXINIMG.EXE.

0   Successful return, with no errors encountered.

1   A mandatory command line parameter is missing.

2   Unable to open the input TIF file.

3   The TIF file is not an acceptable Grp3 file.

4   Unable to create the output .IMG file.

5   Unable to write to the .IMG file.

Appendix E. Server Performance Guidelines

The performance and throughput of OV/Fax, and the servers in particular, can depend on the following factors:

- the polling times of OfficePath or RAPID, for accepting new faxes or sending replies back to the originator.

- configuration options, for example, whether the host journalling transaction runs immediately or on a timer.

- the time the server spends communicating with the host. Each fax document must be downloaded from the host and status information must be returned. Version 2.4.0 and later have an improved protocol to reduce the traffic between the server and host.

- the wait/rest time of the server, which determines how often new faxes are obtained from the host, and how often the GammaLink queues are checked.

- the number of faxes passed to the server each time. A smaller number would mean more frequent polling of the host.

- the type of documents being sent, for example, simple text or complex landscape overlays. Cover sheets may also need to be created.

- the time taken to convert the documents into faxes (see below).

- the time to transmit the fax, which depends on the capabilities of the GammaLink hardware / software, the quality of the telephone line and the resolution of the fax. It typically takes about one minute to transmit a single page of fax at 9600 baud (this is the CCITT fax group 3 performance requirement). GammaLink also has its own polling intervals which determine how soon GammaLink detects it has a fax to send.

- the number of telephone lines installed.

- the reschedule intervals for faxes that fail their transmission attempt.

In general, the transmission time is the most time consuming part of sending a fax. However, the GammaLink Queue Manager allows multiple telephone lines to be installed, and all may be able to transmit in parallel while the server continues its own processing. The server must therefore be able to convert faxes fast enough to keep all the lines busy during peak periods. The following table gives an indication of approximate conversion times (per page) on two configurations of server. These times cannot be guaranteed since they are very dependent on the type of faxes being sent and the performance of the PC itself.

The two configurations of server were:

- 16 MHz 486 (IBM PS/2 Model 70 with Cyrix Upgrade)

- 60 MHz Pentium (DELL Dimension)

Document	16 MHz 486	60 MHz Pentium

Simple text	6 seconds	1 second
Complex text (multiple formatting features)	27 seconds	3 seconds
Cover sheet (full page overlay)	20 seconds	3 seconds
Landscape text *	64 seconds	10 seconds
Landscape overlay *	72 seconds	11 seconds

* Landscape pages take significantly longer because they involve rotating a full page (½ Mb) image.

In practice, the 486 probably cannot efficiently use more than three lines, whereas the Pentium should be able to handle significantly more. One minute per page per line is a useful rule although this is likely to increase as more lines are added. If the required throughput suggests a server with many Fax boards, then the recommendation would be to use two or more servers, with a smaller number of boards in each.

The use of multiple servers allows greater flexibility in the siting of servers. If the faxes are of a particularly critical nature, then the use of multiple servers would also be recommended to ensure maximum availability of the system.

Appendix F. Fax Number User Exit

The server program may call an external program in order to perform additional processing of fax numbers, prior to sending a fax. This may be necessary if there are peculiarities in the local telephone system that the standard server is unable to cope with. For example, some local numbers may require the area code or a long distance code to be added.

The external program is specified in the 'Custom Dialling Module' field of the Dialling Codes Setup panel of the FAXADMIN program. The module must be an executable program, held in the main server directory (default `C:\OV-FAX`). The program will <u>not</u> be called for literal numbers.

Interface

The program will be called with the following parameter:

> **`"line\national\area\international\country\number"`**

where **line** is the Line Prefix; **national** is the National (Internal) Prefix; **area** is the Local Area Code; **international** is the International Prefix; **country** is the Country Code; and **number** is the fax number to be processed. The **line** and **national** values may each be empty; the separator '\' will still be present however.

The parameter begins and ends with double quote marks since the number may include spaces. However, special characters in the number such a the baud rate selector '**>n**' and standard resolution selector '**%**' will already have been removed. (These characters may be specified on the host when the fax number is entered. Please refer to the *OV/Fax User Guide* for more information on these features.) The server will also add the Line Type itself, prior to dialling.

If the program can successfully process the number, it should return a value of **0** with the new number in the file **FAXNUM.RES** in the main server directory. This file is deleted by the server before the program is called. If the program does not return 0, or the file does not exist, or is empty, then the standard number processing routines will be used instead. These may not necessarily generate the correct number.

Sample Program

A sample number processing exit program is supplied in the server's `SAMPLES` subdirectory. The directory includes a source C program called **FAXNUM.C**, an executable program **FAXNUM.EXE** generated using the Microsoft Visual C++ V1.0 compiler, and an example number mapping file **FAXNUM.MAP** used by the program. The sample program is written specifically for use in North America, with the mapping table including some area and exchange codes for the Toronto area.

Appendix G. Technical Support

The following tasks should be performed if operational problems are experienced with a server:

1. Refer to the error messages in "Appendix B. Server Operational Error Messages". These may identify the cause of the problem.

2. Check that there is sufficient free space on the disk for the server to operate. Each outbound fax requires the creation of a number of files, including one fax format file for each page of the document. Additionally, inbound faxes are stored on the disk until they are processed and transmitted to the host.

3. Check that the HLLAPI is installed, and that the host session is available.

4. Check that the GammaLink installation is correct, by sending a test fax. Refer to "Chapter 4. PC Configuration" and "Chapter 9. Diagnostic Facilities" for more details.

5. Check that the server is customised to suit the installation, i.e. that all the directories are correct, that the type of emulation program is correct, and that the type of GammaLink board is correct. Refer to "Chapter 5. Server Customisation" and the installation verification facilities in "Chapter 9. Diagnostic Facilities" for more details.

6. Use the diagnostic facilities of the server, in particular the STEP mode, to identify the point of failure.

Should it still be necessary to contact Technical Support, then the following information should be readily available:

1. The exact make and model of PC being used; its memory and disk size; and the amount of free space on the disk.

2. The version of Microsoft Windows NT.

3. The type of 3270 emulation board installed; and the type and version of the 3270 emulation software being used.

4. The type of GammaLink board installed, the version of GammaLink software being used, and the directory in which it is installed.

5. The type of scanner and / or printer attached to the server, if any.

6. The version of the server software being used, and the directory in which it is installed.

7. The telephone number of the line to which the server is attached, and whether this is a direct line or not.

8. An exact description of the problem, including the type of document being sent, how it is addressed, the point at which processing stops, any error messages displayed, the state of the host session etc.

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