AmigaFax

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PRODUCTION NOTE

This document was written in TEXInfo format, and converted to printed form using AmigaTEX , Tomas Rokicki's implementation of Donald Knuth's TEX typesetting system, running entirely on Commodore Amiga computers.

The `AmigaGuide` online document was produced by running the TEXInfo source through the `MakeInfo` program with the '`--amiga`' switch.

About...

All the software described herein was developed in Australia by C-Born Software Systems, on Commodore Amiga computers.

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1 Introduction

This manual describes the AmigaFax software package for the Amiga family of computers. AmigaFax was originally written both to solve a personal need for shared facsimile and data on a single telephone line, and to become a commercial software product. When changing company circumstances dictated that bringing the product to commercial release level in a reasonable time frame would not be possible, it was decided to release the package in 'Shareware' form, rather than deprive the Amiga community of the work that had already gone into it. While total returns from the registration fee charged have not even covered code maintenance and distribution costs, we still feel it has been a worthwhile project, especially due to the many contacts it has allowed us to form with the worldwide Amiga community.

1.1 What is AmigaFax?

AmigaFax is a software package that, in combination with a FaxModem, allows you to send and receive facsimile information from your Amiga computer. Received faxes can be viewed, printed, forwarded to other fax machines, and saved as ILBM files which can then be accessed using many standard Amiga programs. You can transmit text, ILBM graphics, and combinations of these as faxes. Using the AmigaFax command language you can add text from any Amiga font, along with logos and ILBM graphics, to create high quality multi-page fax documents.

AmigaFax can be set up to automatically send documents to multiple recipients, to send faxes at or after set times, to answer incoming fax calls automatically, and even to forward received faxes (useful as a vacation mechanism).

Faxes can be printed on plain paper, using your normal Amiga printer.

AmigaFax is highly configurable, allowing you to set up a custom environment that best suits your hardware and way of working.

1.2 Summary of Features

Automatic Reception
AmigaFax may be configured to receive faxes in the background, or to answer an already ringing line in Fax mode. Autoanswer may also be integrated with a UUCP or BBS environment, where

incoming calls may be Fax or data, by using a specially modified version of the getty program that recognises Fax calls.

Automatic Transmission

Faxes may be queued for transmission after a particular time, to take advantage of lower off-peak telecom rates, for example. You may specify the number of times to try before giving up on transmission, and the period at which retry attempts should be made. All call progress is logged, and progress may be monitored from the main program. Call logging displays when attempts were made, the success or failure of the call, and the Called Number ID of the remote Fax machine reached.

Multiple Recipients

Fax numbers may be entered either directly, or using defineable aliases. Therefore instead of sending to '99123456', you could send it to 'Fred'. In the same way, an alias can refer to a list of other aliases, or numbers, so that one fax could be sent to 'Customers', representing a list of customers.

Flexible Fax Viewer

The Fax viewer allows you to view a fax document at scales of from 1:1 to 1:8. A 1:3 scale igenerally gives a quite readable image while still fitting the entire Fax width across a standard Amiga screen. You can easily zoom in on areas of particular interest if required. The viewer may be configured to take advantage of new display modes (eg Productivity) and add-in high resolution display cards (eg Retina).

Powerful Document Builder

This allows you to mix any Amiga font or ILBM graphic on a page, to include text, ILBM, Fax, or AmigaFax command files anywhere on a page or in a document, perform alignment at character or pixel level, justify text regardless of font size, automatically add standard information such as address, signature, logo, and current time/date. Text conversion includes selectable fonts size and styles, including underline, bold and italic.

TEX to fax conversion

The `dvifax` program (registered version only) allows TEX `dvi` files to be converted directly to fax files.

Fax Printer-Driver

The fax printer driver allows the output of wordprocessing, DTP, painting and drawing programs to be converted directly to fax files.

Highly User Configurable

The configuration file allows you to set the system up to suit your requirements. You can define your prefered editor for text and for graphics, set a standard file to use as a template when creating new Fax documents, customize your dial type (pulse/tone, special prefix to get outside line, etc), set the Caller ID string to identify yourself to remote Fax machines, define the modem type you are using, and set many system default values.

Multiple Serial Port Support

Using the A2232 multi-serial port card, AmigaFax can support multiple FaxModems simultaneously, each modem being able to transmit and receive facsimiles and data.

Uses Preferences Printer

Because the Amiga Preferences printer is used to print out the documents, you can tradeoff speed for resolution as you require.

Workbench or CLI interface

AmigaFax can be run either from the workbench, or from a shell or CLI interface. In either case, an easy to use graphical presentation makes operation straightforward.

1.3 System Requirements

AmigaFax requires AmigaDOS version 1.3 or greater. It operates with AmigaDOS 2.0, and will run on Amigas from the original A1000 through to the A3000. It is possible to run on an unexpanded A1000 with 512K RAM and 1 disk drive, but in this case memory and disk restraints will limit the number and size of faxes that may be generated or received. In general the more memory and disk available the better. For unattended Auto-receive operation a hard disk system is highly desirable.

Certain features, such as font scaling, ASL file requester, and demand-loading of the printer symbiont rely on AmigaDOS 2.0 features, and will not operate under 1.3

As of AmigaFax version 1.40, support for AmigaDOS 1.3 will not be guaranteed, however we will endeavour to maintain basic operation as long as possible, and will listen to any user feedback in this area.

AmigaFax was designed to work with the Class-2 fax interface standard, it will **not** work with Class-1 FaxModems. Versions 1.42 and above of AmigaFax can also be configured to operate with the Class-2.0 FaxModem standard.

2 Installation

Warning: Be sure to back up your original disks, and use working copies of the disks for normal operation.

2.1 Installing the Software

Information on installing the AmigaFax software on your system is given in the ReadMe file on the distribution disk. Insert the distribution disk, and from the WorkBench double-click on the ReadMe icon for instructions.

The installation script should automatically handle most installations. To use it, from the WorkBench double-click the Install_Now icon, or from a Shell window type amigafax:install . The script will prompt you for information required to complete the installation.

If you are updating to a later revision, the installation procedure will not overwrite your configuration or alias files, so you will not lose information. However in this case you may want to examine the files in the directories `lib.user` and `s.user` on the distribution disk for examples of more recent configuration options.

The AmigaFaX software requires certain logical assignments to be made. The installation procedure will create a file 'afax:s/User-Startup'. You must edit your 'S:User-Startup' (2.0) or 'S:Startup-Sequence' (1.3) to include the contents of that file, which will be typically something like:

```
assign afax: Work:AmigaFax
mount null:
run >nil: <nil: l:fifo-handler
if exists afax:s/AFAX-Startup
        execute afax:s/AFAX-Startup
endif
```

If your 'devs:MountList' doesn't contain an entry for the NULL: device, append the 'MountList' file from the 'devs' directory on the AmigaFax to it.

2.2 Basic Configuration

There are many possible ways to operate the AmigaFax software. You may wish to operate it as the only software using your FaxModem, or have it share the modem with other software such as AmigaUUCP. The AmigaFax spooler may be started when you boot up your computer, or only when you want to send a fax. Fax Auto-Answer may be left on all the time, started only when you are expecting a fax, or not used at all.

If you want the fax-spooler to start when you boot up your system, you must add the line

```
run >nil: <nil: AFAX:C/afaxspl
```

to your startup sequence. This can be done in the 'AFAX:s/AFaxAssign' file, for example. Normally this would only be necessary if you send a lot of faxes with delayed spooling, and your computer may be rebooted often, as the spooler is automatically started when sending a fax.

If you want auto-answer with Fax detection running constantly in background, you may either use the modified Getty command, or use faa directly, by adding the line

```
run >nil: <nil: faa
```

somewhere in your startup sequence.

Note that the modified getty will allow you to receive data and fax calls effectively, and is the recommended approach. However if you only wish to receive faxes, faa is effective and may be started by double-clicking on the *FaxAutoAnswer* icon.

2.3 Hardware

The cable between your Amiga and Modem MUST connect CTS,RTS,DTR, DCD, TXD, RXD and GND conductors. CTS and RTS are used for flow control handshaking. DTR is used to keep the modem on line - hangup occurs if it is dropped. DCD is used for carrier detection.

```
    TXD    2  Transmit Data
    RXD    3  Receive Data
    RTS    4  Request to Send
    CTS    5  Clear to Send
    GND    7  Signal Ground
    DCD    8  Data Carrier Detect
    DTR   20  Data Terminal Ready
```

2.4 ARP

If you have the ARP library installed (`Libs:arp.library`) the system will make use of it for file requesters.

Support for the ASL library under AmigaDOS2.0 has now been added to AmigaFax. It is used in preference to ARP.

2.5 Extra FONTS

Some extra fonts have been included in the FaxFonts directory. You may let the installation script copy them into your 'FONTS:' directory, or under AmigaDOS2.0 you may copy them into another directory, and modify your startup to extend the 'FONT:' assign to that directory. The extra fonts are from the *Computer Modern* series, as used with TeX.
These fonts will normally **not** be required under AmigaDOS2.0. You are much better off using the built-in font scaling where it is available.

2.6 Printer Setup

AmigaFax currently uses the standard printer driver, as configured in `Preferences`. Using a dot-matrix printer, Halftone Dithering, Integer Scaling, Black and White, Density 7 appears to work reasonably well.

2.7 Configuring for Hardware and User Preferences

You will need to modify the file 'FAXLIB:Config' to suit your specific hardware and preferences. See Chapter 3 [Configuring the System], page 9, for details on how to do this.

3 Configuring the System

The file 'FAXLIB:Config' is used to configure the basic operation of AmigaFax to suit your particular hardware and preferences. You must edit this file carefully, using a text editor. You should always keep a backup copy of this file. The configuration options are continually being added to as AmigaFax grows, so if you are upgrading you should look at the latest copy. This will **NOT** overwrite your existing configuration as part of the installation process.

From version 1.30, AmigaFax configuration can be done using local or global environmental variables. This will override the values read in from the 'FAXLIB:Config' file. For example typing from the CLI/Shell

```
SetEnv LocalID +61-52-786355
```

will override the LocalID string with the new number. Parameters set by command-line switches will override both environmental and config-file values.

3.1 General Configuration

Debug
Debug level, 0-9. Takes one numeric argument. Useful for fault-finding, observing handshake between the Amiga and your FaxModem.

For version 1.42 I've made some changes, including level-3 debug now printing configuration information, so you can now see whether you are in XonXoff, SyncEOL, etc. modes. To make sure you see all the config. information, you should use the -d3 command line switch, which will be checked early in startup (before config-file read in).

LogFile
Specifies the file for logging debug and error information. If not given, information will not be logged.

LocalID
The rest of the line is used as the local identifier string, which is passed to the remote fax machine. This is usually your fax number, and is limited to 20 characters. Some faxmodems (eg Supra) require the ID string to be enclosed in double-quotes, others do not allow this. **Important:** This seems to be the setting which gives new users the most problems when trying to get AmigaFax working. If you have difficulties please try setting your 'LocalID' both with and without the enclosing double-quotes.

```
LocalID "123-4567"
LocalID  123-4567
```

Device

The device to use for connecting to the modem, usually serial.device (default). This should only be changed if using a different serial device, as with a third-party serial hardware.

Unit

Takes one numeric parameter as the unit number to use on the given device. Default is 0. For example when using the first port on the A2232 multi-serial, set this to 2.

FCLASS

Currently must be set to 2.0 for Class-2.0 FaxModems, otherwise will use Class-2 interface standard.

3.2 AmigaFax User Interface

These items are used by the `afax` program.

Editor

The name of the your prefered text editor, for example `TxEd, ced, memacs, dme, mg`, or `Ed` (default). I use `mg` (MicroGnuEmacs).

ILBMEditor

The editor you prefer for editing IFF ILBM graphics, for example `dpaint`.

Template

The name of a file to use as a template for building fax documents, If given, the editor will be given a copy of this file to work on when you ask for a new fax file. This may include references to your address, your signature, etc.

3.3 Fax Page Layout Options

These items are used by the `mkafax` program.

DefaultFont

This is the default font, used for normal text unless otherwise specified. It takes two parameters, the font name, and size. The TEXfont `cmtt10 41` looks quite good for standard text, as does the Amiga font `courier 32`.

HeaderFont

This is the font used for page headers. My current setting is `courier 16`.

PHeader

If given, a header will be printed on each fax page, and the rest of the line used as the main text, along with the date, local ID string, and page number. If not given, no header will be printed.

LeftIndent

The left indentation (border) to be used, in pixels. Many fax machines will not print to the full fax width, and typically an indentation of at least 50 pixels (approx 1/4 inch) on each size is required to avoid losing characters.

RightIndent

The right indentation (border) to be used, in pixels.

SyncEOL

When set, `mkafax` will create faxes with EOL (End-Of-Line) markers byte-aligned. While this should not be necessary, and results in larger files, some fax modems to not correctly identify EOL sequences which are not byte aligned, and this can cause problems. ZyXEL modems with ROM versions before 6.00 had this problem, and certain rare fax files could cause the modem to lock up completely.

3.4 Fax Viewer Configuration

These items are used by the `viewafax` program.

ViewScale

Takes one numeric argument, 1-8. This is the default scale used by the fax viewer when it starts up. A value of three allows a standard fax to fit across the screen. A scale of 1 shows maximum detail.

CustomScreen

Under AmigaDOS2.0 only, the value of this parameter is passed to the OpenScreen() call in the ti_Data field of the SA_DisplayID tag item. This allows users to define what type of screen the viewer will appear on. The default values passed are PAL_MONITOR_ID and HIRESLACE_KEY. The value should be entered as a hex number, without the leading 0x, eg

CustomScreen 00031000

Some possible values are:

```
DEFAULT_MONITOR_ID        0x00000000
NTSC_MONITOR_ID           0x00011000
PAL_MONITOR_ID            0x00021000
VGA_MONITOR_ID            0x00031000

    or'ed with
```

```
LORES_KEY                        0x00000000
HIRES_KEY                        0x00008000
SUPER_KEY                        0x00008020
HAM_KEY                          0x00000800
LORESLACE_KEY                    0x00000004
HIRESLACE_KEY                    0x00008004
SUPERLACE_KEY                    0x00008024
HAMLACE_KEY                      0x00000804
LORESDPF_KEY                     0x00000400
HIRESDPF_KEY                     0x00008400
SUPERDPF_KEY                     0x00008420
LORESLACEDPF_KEY                 0x00000404
HIRESLACEDPF_KEY                 0x00008404
SUPERLACEDPF_KEY                 0x00008424
LORESDPF2_KEY                    0x00000440
HIRESDPF2_KEY                    0x00008440
SUPERDPF2_KEY                    0x00008460
LORESLACEDPF2_KEY                0x00000444
HIRESLACEDPF2_KEY                0x00008444
SUPERLACEDPF2_KEY                0x00008464
EXTRAHALFBRITE_KEY               0x00000080
EXTRAHALFBRITELACE_KEY           0x00000084
VGAEXTRALORES_KEY                0x00031004
VGALORES_KEY                     0x00039004
VGAPRODUCT_KEY                   0x00039024
VGAHAM_KEY                       0x00031804
VGAEXTRALORESLACE_KEY            0x00031005
VGALORESLACE_KEY                 0x00039005
VGAPRODUCTLACE_KEY               0x00039025
VGAHAMLACE_KEY                   0x00031805
VGAEXTRALORESDPF_KEY             0x00031404
VGALORESDPF_KEY                  0x00039404
VGAPRODUCTDPF_KEY                0x00039424
VGAEXTRALORESLACEDPF_KEY         0x00031405
VGALORESLACEDPF_KEY              0x00039405
VGAPRODUCTLACEDPF_KEY            0x00039425
VGAEXTRALORESDPF2_KEY            0x00031444
VGALORESDPF2_KEY                 0x00039444
VGAPRODUCTDPF2_KEY               0x00039464
VGAEXTRALORESLACEDPF2_KEY        0x00031445
VGALORESLACEDPF2_KEY             0x00039445
VGAPRODUCTLACEDPF2_KEY           0x00039465
VGAEXTRAHALFBRITE_KEY            0x00031084
VGAEXTRAHALFBRITELACE_KEY        0x00031085
```

3.5 Fax Printer Configuration

These items are used by the `afaxprt` program.

MinLines

`MinLines` is used to scale a fax page to fit on a printer page. If the fax page is longer then the printer page by less than MinLines, it will be scaled to fit. A value of around 500 works for most faxes.

`MinLines` had a different meaning in versions of AmigaFax prior to 1.32, as follows:

Takes one numeric argument. This is the minimum number of lines that must be on a fax page before we print it. The default value is 0 (zero), meaning print all pages. This is for cut-sheet feeders (Laser Printers), where the fax may be just a little longer than one page. Use a value of around 100 here to stop getting 'blank pages' printed out.

3.6 Fax Spooler Configuration

These items are used by the `afaxspl` program.

SpoolInterval

This is the time interval, in minutes, at which the outbound fax queue is scanned for untransmitted files.

3.7 Fax Receiver Configuration

These items are used by the `faa` program.

RSetup

The receive setup string. This optional string is sent to the modem. Unlike versions before 1.23, the string is *not* preceded by AT . Instead, the line is sent as it appears. This allows multiple commands to be sent when initializing the modem. This allows you to add commands to set such things as speaker use and volume.

RStatus

Receive Status. If present, a status window will pop up when a fax is being received, showing various details such as name, connect speed, transmitter ID, amount of data received. It takes two optional numeric parameters, which are used for the top and left edge pixel positions to place the window.

DLEmode

There are many incompatible modems and modem ROM revisions about. This allows you

to specify certain things about how your FaxModem sends your data. It currently takes one numeric argument, (0, 1 or 3).

0 (default) treat DLE in received data as escape (Maestro 3.1, ZyXEL 3.99+)

1 Received DLE is g3 data (ZyXEL Vn3.90, Supra?)

3 RAW input mode. Data is saved raw. For debug only.

RRate

Sets the initial baud rate ('`Receive Rate`') for modem communications. This defaults to 2400, for simple faxmodems that normally communicate at 2400, but switch to 19200 for actual fax data. More advanced modems, such as the ZyXEL, will communicate at 19200 baud or greater, at a locked DCE-DTE rate, as per the FaxModem specification. I have this set to 19200, which is the highest speed common to my FaxModem and the AS2232 multiport serial card.

When receipt handshaking is via the `getty` program, '`RRate`' is not used.

3.8 Fax Transmitter Configuration

These items are used by the `afaxsend` program.

WSetup

The transmit setup string. This optional string is sent to the modem. As in the `RSetup` line, the line is sent to the modem as it appears (since 1.23). This allows you to add commands to set such things as speaker use and volume.

DialType

Takes the parameters `Pulse` (default) or `Tone`.

DialPrefix

Prefix to add before number when dialling. I use it to get an outside line (dials 0 first), by setting it to `ATDP0,DT,` which will pulse-dial 0, then tone-dial the rest of the number.

DoPadding

This should not be necessary. However, some FaxModems to not observe the minimum scan-time restrictions set by the standard. When connecting to slower fax machines, this may result in missed scan-lines. Note that if you set this parameter, it will usually result in fax transmissions taking longer, as worst-case padding must be added.

WStatus

Write Status. If present, a status window will pop up when a fax is being transmitted, showing various details such as name, connect speed, receiver ID, percent of file sent. It takes two optional numeric parameters, which are used for the top and left edge pixel positions to place the window.

ScriptBeforeSending

This may contain the name of a CLI command script to be executed before a fax is sent. The script is executed synchronously before the serial device is locked or opened.

ScriptAfterSending

This may contain the name of a CLI command script to be executed after a fax has been sent. The script is executed synchronously just before `afaxsend` terminates.

XonXoff

If set, causes `afaxsend` to use XON/XOFF handshaking with the faxmodem while transmitting fax data. This is not normally necessary, as the modems should implement CTS/RTS hardware handshaking, but some modems, such as the NetComm M7F, have a hardware bug that prevents the hardware handshake working. Symptoms are buffer overrun, and loss of fax data.

For version 1.42 and above, use of the XonXoff config variable has been changed as follows:

```
XonOff 0  - disabled
       1  - Use maximum buffer (1000 bytes)
       nnn - Use nnn size line buffer
```

This allows you to set the size of the line AmigaFax uses for asynchronous writes, which controls the granularity of XONXOFF checking.

For testing, I'd start off with something like

```
XonOff 10
```

which means that AmigaFax will check for XOFF every 10 characters sent. As the value is increased, overall throughput should increase, until the point where the modem buffer overflows with a single line.

If that doesn't help, perhaps the USR hasn't used the default XonXoff control like it should. You can force this by putting an AT+FLO=1 in your setting string. Alternatively, AT+FLO=2 will force hardware handshake, if the modem supports it.

3.9 PrintSymb Configuration

These items are used by the `PrintSymb` program.

FAXFILE

This contains the name of the file to write fax-data from the printer-driver to. If not defined, data will be written to the file 'FAXSPOOL:P_xxxx.AFX', where 'xxxx' is used to create a new sequential name, or if that cannot be done it will be written to 'Ram:fax.prt'.

When you do not with the fax file to be retained, you may direct is to a temporary file, eg 'SetEnv FAXFILE t:fx'. The variable will be read in again every time file is created, so you may change it dynamically.

ClipPage

This is used to clip whitespace from the top and bottom of a page sent to the fax printer
driver. At present only bottom-clipping is implemented, but for future compatability use the
following values:

```
ClipPage 1 # Remove whitespace at bottom of page
ClipPage 2 # Remove whitespace at top of page
ClipPage 3 # Remove whitespace at top and bottom of page
```

FaxPrintNotify

This may be optionally used to specify another command to run when the afax printer-driver
has captured a fax-file, rather than the standard 'afax:c/afax'. It may be a standard com-
mand, or a shell-script. The command will be run with one parameter, the name of the
Fax-File. For example:

```
FaxPrintNotify AFAX:S/afax.scp
```

The shell script AFAX:S/afax.scp will be run, with the name of the fax-file as its only param-
eter.

3.10 Class-2.0 Operation

The protocol used by AmigaFax for communication between the Amiga and the FaxModem is
known as `Class-2`. This standard has been around in draft form for several years, and the majority
of FaxModems on the market use a version of it. However the standard went through many draft
revisions without passing industry ballot and being approved, and modem manufacturers came up
with different interpretations of the draft versions. When the standard was finally approved in April
1993, it was known as Class-2.0 to differentiate it from the many Class-2 implementations. The re-
leased standard is `ANSI/TIA/EIA-592-1993`, or `Asynchronous Facsimile DCE Control Standard`
`- Service Class II`.

Versions 1.42 and above of AmigaFax can be configured to use the approved standard interface.
We have tested the software satisfactorily with some manufacturers implementations of the stan-
dard, we have found other implementations of Class-2.0 that do not fully comply. There are some
sample configuration files included with the distribution that have been provided by AmigaFax
testers, which have been found to work with specific FaxModems. Users are encouraged to submit
configurations they find to work with other hardware.

To determine whether your modem uses Class-2 or Class-2.0 interface standards, use a terminal
emulator program to connect to the FaxModem, and enter the command:

```
AT+FCLASS=?
```

The modem should respond with a string containing a 2, a 2.0, or possibly both. The ZyXEL U-1496 responds with both as it can be configured to use either standard. If your modem does not respond with a 2 or 2.0, it will NOT with with AmigaFax.

To configure `faa` and `afaxsend` to operate in Class-2.0 mode, you must have the line:

```
FCLASS 2.0
```

in your FAXLIB:Config file, or set it in your global or local environment:

```
SetEnv FCLASS 2.0
```

The new getty uses bit 3 of the -F flags to indicate Class-2.0 operation, so you must add 8 to these flags on getty startup.

```
getty -Mh -B19200 -x9 -F6 AT&C1&D3+FCC=1,5,0,2

 becomes

getty -Mh -B19200 -x9 -F14 AT&C1&D3+FCC=1,5,0,2
```

If you are upgrading from a previous version of AmigaFax to version 1.42 and you have any configuration values setup in config file or environment for WSetup, RSetup, XONXOFF, or various modem command overrides, you should remove them, or modify them according to specifications below.

AFaxSend
For Class-2.0 the default WSetup string is:
```
AT&C1&D3S7=255+FCLASS=2.0+FNR=1,1,1,0+FCC=1,5,0,2
```
Faa
For Class-2.0 the default RSetup string is:
```
AT&C1&D3S7=255+FCLASS=2.0+FNR=1,1,1,0+FCR=1+FAA=1+FCC=1,5,0,2 ATS0=2
```
With the change to 2.0, the Phase-C bit order on receive appears to have been reversed. I am not sure if this is universal, or a fault with the ZyXEL 6.13 ROMs, as the ZyXEL currently disregards the +FBO bit-order control. I am currently reversing when in 2.0, UNLESS the config variable "OldBitOrder" is defined. If you receive faxes that appear unreadable in Class-2.0 mode, try a

```
    SetEnv OldBitOrder 1
```

and see if that helps. If so, PLEASE let me know as soon as possible.

Modem Commands

The inbuilt modem commands are shown below. You should not need to override these, as 2.0 is now an approved standard. Some of these (eg +FPTS) are not used by AmigaFax.

```
    +FCO +FCI +FTI +FCS +FIS +FKS +FPTS +FET +FHS
    +FDT +FDR +FLI +FIS
```

Note that some of the Class-2 inbuilts have been modified also. The current Class-2 commands are:

```
    +FCON +FCSI +FTSI +FDCS +FDIS +FK +FPTS +FET +FHNG
    +FDT  +FDR  +FLID +FDIS
```

Flow Control

Class-2.0 defaults to Xon/Xoff flow control, which I am not too fond of. This will be set automatically (afaxsend only) when in 2.0 mode. However you can override this with the XONXOFF config variable.

```
    SetEnv XonXoff 1
```

will force Xon/Xoff flow control to be used,

```
    SetEnv XonXoff 0
```

will disable it, regardless of the FCLASS setting.

However if you have hardware handshaking, and want your modem to use it, you should add

```
    AT+FLO=2
```

to your RSetup and WSetup strings, as well as to your getty startup initialization array. This may become the default later. Comments ?

getty

Under the original Class-2 specification, it was possible to leave the modem in FCLASS=0 (data) mode, with FAA=1, and to automatically receive a fax, along with data on connect speed and remote ID.

With the ZyXEL U-1946, supporting Class-2 and Class-2.0, in data mode the modem reports fax connection parameters in Class-2 format only. With other Class-2.0 modems, it may not do so at all. Instead the standard allows for a modem in FCLASS=2.0 with FAA=1 to automatically detect a data call, and to connect in data mode. The parameter +FNR=1,1,1,0 must be set in order to get connection data, and to negotiate transfer rates greater than 2400 baud!

To cope with this, the getty -F flag has been extended so that bit 3 set (=8) means connect as FCLASS=2.0. The modem will be set to FCLASS=2.0, FAA=1, FNR=1,1,1,0. Whenever another program requests use of the serial port from getty, getty will set the modem back to FCLASS=0, or data mode. This is also done when getty exits.

While adding this code, I also traced and fixed a (long-standing ?) bug in getty, which was causing my machine to crash when getty shut down. It was caused by the order of closing in the myexit() function. This effects other versions of getty, including the one distributed with AmigaUUCP 1.17beta.

Other Changes for 1.42

I've made some changes, including level-3 debug now printing configuration information, so you can now see whether you are in XonXoff, SyncEOL, etc. modes. To make sure you see all the config. information, you should use the -d3 command line switch, which will be checked early in startup (before config-file read in).

I've also changed the use of the XonXoff config variable, as follows:

```
XonOff 0  - disabled
       1  - Use maximum buffer (1000 bytes)
     nnn - Use nnn size line buffer
```

This allows you to set the size of the line AmigaFax uses for asynchronous writes, which controls the granularity of XONXOFF checking.

For testing, I'd start off with something like

```
XonOff 10
```

which means that AmigaFax will check for XOFF every 10 characters sent. As the value is increased, overall throughput should increase, until the point where the modem buffer overflows with a single line.

If that doesn't help, perhaps the USR hasn't used the default XonXoff control like it should. You can force this by putting an AT+FLO=1 in your setting string. Alternatively, AT+FLO=2 will force hardware handshake, if the modem supports it.

3.11 Modem Command and Status Strings

Certain modem commands and status codes have now been made variable. The variables default to their own value, and may be set in the Config file, or as environment variables.

```
eg setenv +FLID +FLI
```

will result in the string +FLI rather than +FLID being used for setting the local ID code.

Variables are:

Status
    +FCON Fax connect established

+FCSI Called station identifier follows

+FTSI Transmitting station identifier follows

+FDCS Current session parameters follow

+FK

+FPTS

+FHNG Fax hangup (terminal)

Command

+FDT Fax Data Transmit (I am about to transmit)

+FDR Fax Data Receive

+FLID Local ID string follows

Dual Use

+FET Fax End of Transmission (Followed by status code)

+FDIS Constrain session parameters

4 The Workbench Interface

Once configured, AmigaFax may be operated either from a Shell or CLI (Command Line Interface), or from the Workbench. If you choose to operate from the Workbench, you will find three main icons, `AmigaFax`, `FaxAutoAnswer` and `FaxSpool`.

4.1 AmigaFax

When you double-click on the `AmigaFax` icon, the main AmigaFax control window will open. This allows you to edit, compile and view faxes, queue them for transmission, review previously queued transmissions, and so forth. There are currently six string gadgets, six pushbutton gadgets, and one toggle gadget on the control window.

The gadget functions are:

FINE/STD

This toggle gadget allows the user to toggle between `Fine` (200 DPI) and `Standard` (100 DPI) vertical resolution, when creating AFax files. Standard resolution takes half the space, and half the time to transmit, of `Fine` mode, but `Fine` looks *much* nicer !!

To:

This is the intended recipient of the Fax. It may be just a phone number, or it may be an alias. When you enter a string and press return, if the first character is a digit it will be treated as a number, otherwise it will be checked for aliases. If no aliases are found, the string is removed, otherwise the number of aliases found is shown. See Section 6.1 [Aliases], page 35, for more information on aliases.

From:

This is picked up from the `LocalID` field in your Config file, if present. You may override this value. It is a 20 character string sent to the remote Fax to identify you as the sender, usually your phone number for return faxes.

Source:

This is the name of the fax source document, usually an AmigaFax command (`.FCOM`) file, although plain text or ILBM files may also be used. If you press return with an empty string, and ARP is installed, a requester will prompt you for a filename.

AFAX:

This is the name for the actual fax file. The system will usually pick a name for you, but you may wish to override it. Note that the AFAX file name will be reserved, but not actually

created, until time to send the Fax. You may force creation with the "Make" gadget if you wish to test that it is created correctly. If a document is to be faxed to multiple recipients, only one copy of the AFAX file will be made. It is automatically deleted when all recipients have been reached.

Tries:

The maximum number of times to try to get a fax through to a specific recipient if problems are encountered, such as remote phone being engaged. Defaults to three.

Time:

The Fax will not be sent until after this time. An empty field means send at any time. Fill in as hh:mm, (24 hour format) then press return. The system will interpret the time, and display the result. Time can only be in the future, past time is rounded up by a day.

New

Create a new Fax document, and edit it using your configuration editor. The file pointed to by the configuration entry 'Template' will be used as a fax pro-forma. The system will pick a default document name for you, which you may keep or override.

Edit

Edit a Fax document, using your configuration editor. Note that you may set both a text and a graphic editor in your 'config' file.

Make

The system will attempt to build an AFAX file from your source document. This is not necessary when sending faxes, but does allow you to check whether the document will appear as you wish.

Preview

Invokes the AFAX viewer program, so you can preview the completed document.

Send

Your facsimile document will be queued for sending to the appropriate recipients. If the fax-spooler is not running, you will be asked if you wish to start it.

QCheck

This gadget will bring up the queue check window, to monitor the progress of outgoing Faxes. From here it is possible to requeue Faxes that have exceeded their error allowance, and to remove the spool files for faxes that have been successfully sent, or that are still queued for transmission.

4.2 FaxAutoAnswer

This icon will activate the background automatic-answer facility. If it is already operating, you will get the choice of removing the existing application (stopping it), or replacing it with the new version. You may wish to replace it if you have modified the configuration file settings.

Note that you should only activate the auto-answer system in this fashion if you are not using the GETTY mode of operation, and only want to receive facimile transmissions, not data.

4.3 FaxSpool

This icon will activate the background fax-spooler program. If it is already operating, you will get the choice of removing the existing application (stopping it), or replacing it with the new version. Note that in normal operation the main AmigaFax program will start the spooler for you when you queue a fax for transmission, or you will run it up automatically in your startup sequence. You may wish to replace it if you have modified the configuration file settings.

5 Operating from the Shell

The main executable modules included in the release are:

`afax` Intuitionized interface for AFAX create/edit/send etc

`newfax`
Notifies new fax received, allows print/view/delete, etc
[Intuitionized interface]

`afaxspl`
Fax spooler daemon, many options/features

`mkafax`
Convert documents to AmigaFax AFAX IFF file format

`afaxprt`
Print and AmigaFax AFAX IFF file using preferences printer

`afaxsend`
Send an AmigaFax AFAX IFF file to a remote Fax machine

`faa`
Receive Fax documents in auto-answer mode

`afaxilbm`
Convert pages from an AmigaFax AFAX IFF file to ILBM format

`viewafax`
AmigaFax document viewer

`fxfx`
Manipulates fax files

`dvifax`
Converts TeX .dvi file to fax format (Registered version only)

`showlib`
Display licence status

`printsymb`
AmigaFax printer-driver print symbiont (assists afax.driver)

`FPrint`
Redirect printer output to afax.driver

`FaxInfo`
Print information about fax file

5.1 AFAX

'`AFAX:c/afax`'
`Afax` takes only one command line option at present:

```
afax [-f faxfile]
```

If the '`faxfile`' option is given, `Afax` will come up with the given file name set as both its source and FAX file. This is used when `Afax` is started from the fax printer-driver. A common source and fax file is treated as a special case by the spooler, which will not delete the fax file when transmission is complete.

This brings up a window which you can use to create new Fax documents, edit the documents, create the actual AFAX files, and send your faxes. It also allows you to monitor the status of faxes queued for transmission and maintain the queues, and to re-queue faxes that have exceeded teir allowed retry count.

5.2 NEWFAX

'`AFAX:C/newfax faxname`'
This program is automatically invoked by faa when a fax is received. It puts up a window informing you of the Fax, with details about it (name, sender ID, number of pages), and allows you to view, print or delete the document.

5.3 AFAXSPL

```
[run >nil: <nil:] afax:c/afaxspl  [-s] [-i n] [-d num]
```

With the '`-s`' option, the spooler will run once only, checking for any faxes waiting to be spooled out. In this mode, it could be launched using cron/dcron/amicron at whatever times you wish to send faxes.

Otherwise it will run in background and check for faxes to spool at intervals of every '`n`' minutes, where '`n`' is the interval in minutes from the configuration file default, optionally overridden by the '`-i`' command-line switch. You could do this perhaps every 1/2 hour, (n = 30), or even at 1 minute intervals while testing.

The spooler checks for files of the form 'FAXSPOOL:*.SPL'. These are human-readable. As calls progress, results are added to the end of the file. If successfully sent, the file is renamed 'FAXSPOOL:*.OK'. If unsuccessful for more than the specified number of tries, it is renamed 'FAXSPOOL:*.ERR'.

See Section 9.1 [Spool-File Format], page 43, for specifics on spool-file contents.

The queues are maintained from the QCheck module of the afax command. See Section 5.1 [AFAX], page 21.

'-d' is used to specify the debug level (0-9).

5.4 MKAFAX

```
mkafax [-s][-f][-dn][-Rresfile] <docfilename> <AFAX_filename>
```

mkafax currently recognizes the IFF file types AFAX and ILBM, plain text files, and AFAX command text files, as input.

A plain text file will be converted to an AFAX file using default settings.

An IFF ILBM will be converted to a single-page FAX document. Only the first plane is converted, to convert multi-plane (eg DigiView Pics) use another tool, such as PfiltView (AmigaTEX).

See Section 5.15 [AmigaFax Command File Format], page 30, for a full description of the command-file formatting instructions.

The switches '-s' and '-f' are used to force Standard and Fine resolution repectively.

'-d0' to '-d9' sets the debug level.

The '-R' option specifies the name of the file to pass operational results in. This is meant for internal use only, and is not a feature guaranteed to be maintained. However some users have found it useful in their environment, if you need to know the file format please ask me for it.

5.5 AFAXSEND

```
afaxsend [-options]  <dialstring | alias> <AFAX_filename>
```

The present options are:

```
-t         Tone Dial (default is Pulse)
-P         DoPadding on  (Uppercase P)
-p         DoPadding off (Lowercase p)
-d n       Set debug level, 0-9
-D device  Use named device   (default serial.device)
-U unit    Use specified unit  (default 0)
-Rfile     Write result in file
```

Command line options are normally not used, and settings are taken from environment values of 'Faxlib:config'. If given, the command line switches take precedence.

The '-R' option specifies the name of the file to pass operational results in. This is meant for internal use only, and is not a feature guaranteed to be maintained. However some users have found it useful in their environment, if you need to know the file format please ask me for it.

afaxsend attempts to dial out, connect to the remote fax machine, and tranfer the specified document.

'afaxsend Jeff MyFaxFile'

If the first character of dialstring is not a digit, and not a name alias, the whole string will we be sent to the modem non-prefixed as a dial string. If an alias is used, it may be a group alias, resulting in the fax being sent to everyone in that group.

5.6 AFAXPRT

```
afaxprt [-pnum] [-n] [-dn]<AFAX_filename>
```

eg afaxprt -p2 MyFaxFile

If the -p option is not used, all pages are printed.

Using the -n option causes afaxprt not to send the data to the printer. Useful with the debug option -d.

afaxprt sends the AmigaFax document to the preferences printer. It is a good idea to set your printer for high density. Using a dot-matrix, Halftone Dithering, Integer Scaling, Black and White, Density 7 appears to work ok.

5.7 FAA

```
faa [BaseName]
```

Fax auto-answer. Sets up the FaxModem to auto-answer and recognise Fax or data tranmissions. Incoming Faxes will be saved in AFAX format. the default BaseName is 'FAXREC:FAX', so that incoming faxes will be named

```
FAXREC:FAX0000
FAXREC:FAX0001
FAXREC:FAX0002
```

etc.

Note also that although faa recognises the difference between Fax and Data, it currently does nothing special with data. This may be integrated with the UUCP system in the future, along with *VoiceMail* capability.

To terminate the faa program, send it a CTL_C break. If you ran it directly from your shell, just type control-C and wait. If you used RUN or RUNBACK, send a break to its process number. (eg break 7 all)

Command Line switches are:

```
-a - Immediate Answer
-dn - Set debug on, level n  (default 1)
-D name - Use name for the device  (default serial.device)
-U num - Use device unit num  (default 0)
-G - Run from a Getty
-z - Diagnostic, do not detach, so debug messages can be read
-p - Bump task priority by 1
-Q - Qtest mode
```

The Immediate Answer switch assumes phone is ringing, configures the modem & answers immediately. It probably makes sense to attach this to an alias if you use it this way. eg. 'alias

```
fa "faa -a"'
```

The Getty option specifies that faa was run from a Getty. It will not modify the serial port parameters. It assumes that the Getty has answered the phone, detected a Fax call, and set up the line accordingly. Faa will connect, collect a Fax document, and return control to the Getty.

If the 'Qtest' option is specified, however, the baud rate will be set to 'RRate' even if 'Getty' mode is specified. This was added for compatability testing with TrapDoor, a Getty-type front-end program.

As faa will normally detach, and so debug diagnostics are not visible, the '-z' option was added to keep its STDIO attached to the launching console.

5.8 AFAXILBM

```
afaxilbm [-pnum] <AFAX_filename> <ILBM_filename>

eg

afaxilbm -p2 RAM:AFAXR001 FX.ILBM
```

This will extract the specified page from the AFAX file to the named ILBM file. It may then be viewed using standard ILBM viewing programs, such as LoadImage from Fish disks 281 and 355, of programs like DeluxePaint.

If no page number is given, all pages will be extracted to separate files, and given names of the format base.1 base.2, etc

The default ILBM file base name is afax_ilbm

5.9 VIEWAFAX

```
viewafax [opts] <FaxFile>
```

The fax viewer is normally started automatically by from the NewFax window. When invoked from the CLI, it takes the options:

```
-d debug_level
-p Page_Number
-s Scale
```

The current version of the viewer keeps one entire fax page in memory. If the page will not fit in the requested scale, it tries to reduce the resolution until it finds one that will fit. Once a page is displayed, you can move about the page using the arrow keys. There is a scale gadget at the top left of the window, in the form of 1:n, where n is the current scale (say 3). You can click on the gadget, delete the current scale, and enter your own, in the range 1 to 8, where 1 is 1:1 (full size), 2 is 1:2 (half size) etc. To the right of that gadget is another of the form Page: n where n is the current page displayed. Again you may enter the required page number in this gadget.

To the top right of the window is a group of gadgets of the form '|<<-->>|'. These are actually four gadgets, which allow moving through the pages of the fax. From left to right they are First Page, Previous Page, Next Page, and Last Page.

You may use the windows sizing gadget to resize the window. However with the current viewer, sizing the window larger than the fax page will result in the window shrinking to the page size at the next movement.

Several keys are active in the viewer window.

Down Arrow (Cursor Key or Numeric Pad) Move window down fax page.

Up Arrow (Cursor Key or Numeric Pad) Move window up fax page.

Right Arrow (Cursor Key or Numeric Pad) Move window right on fax page.

Left Arrow (Cursor Key or Numeric Pad) Move window left on fax page.

Numeric pad keys 1,3,7,9 Diagonal window movement

i Flip fax page vertically. Useful when faxes are sent upside-down.

q Quit from viewer

b Move back on page in fax file

n Move to next page in fax file

f Move to first page in fax file

e Move to end page in fax file

s Make fax smaller - reduce scale one step

l Make fax larger - increase scale one step

5.10 FXFX

This utility allows you to split and merge AFAX format fax files. A typical use is where you have a complete fax document, perhaps generated by TeX->dvifax, or received as an AFAX fax-file and you want to sent it with an attached cover page, or you want to extract one or more pages from the document.

```
The command-line format is:

fxfx [-f][-s] infile [-range] [infile[-range]] [...] outfile

Some examples:

fxfx file1 file2

 copies fax files file1 to file2

fxfx file1 file2 file3 file4

 merges all pages from file1-3 to create file4

fxfx file1 file2 -1,3,5-7,9- file3 -4 file4

 merges all pages from file1, pages 1,3,5-7 and 9 on from file2, and
 page 4 from file3, to create file4


The range is currently sorted, so to reverse page order is currently
not simple, eg

fxfx file1 -3 file1 -2 file1 -1 file2

  to create file2 from pages 1-3 of file1 in reverse order.
```

The flags '-s' and '-f' are used to override the resolution flags when translating. This may be useful when a fax machine has sent you a fax with the incorrect resolution flags, as a fax machine in Brazil does to me. It sends in Standard, but sets the Fine flag. I can correct this with

`fxfx -s faxfile newfaxfile`

5.11 DVIFAX

This module works with the AmigaTeX package from Radical Eye Software, to enable you to convert a TeX '.dvi' file into an AmigaFax fax file.

The command line syntax is

```
dvifax file.dvi -o file.afx
```

You will be prompted for various size and scaling numbers. You are probably best to accept the default values (hit return) unless you have a very good idea what you are doing.

The Squeeze Fax option will remove all white-space from the top and bottom of each page. This can result in significant savings in transmission time, and in fax paper at the other end.

When creating faxes with dvifax, you may want to add a cover page. This can be done easily with the fxfx utility.

5.12 SHOWLIB

This programs attempts to open the 'afax.library' and display its contents. You can use this to confirm that a valid license library is available, check for user name, expiry date, etc. Output is of the form:

```
Current AmigaFax Library:

Version = 1
Type    = 1
Serial  = 0
No Expiry
Level   = 10
User    = David Varley
```

For registered users the fields 'Serial' and 'User' should display your registration serial number and your name. The 'Version' field is an internal library revision, the 'Type' field is reserved and may be later used to distinguish between reviewer, distributor, user, etc. The 'Level' is presently unused, but could be used for a service level, and there may also be an licence expiry date shown. At present all registered user licences should show 'No Expiry'.

5.13 PRINTSYMB

The `printsymb` module is used to translate data from the `afax.driver` printer driver into fax format, and save as a file. Under AmigaDOS2.0 it will be run automatically by the driver, but under AmigaDOS1.3 it must be run up manually. It may be run in background, using a command such as `RunBack`, from somewhere in your startup sequence.

You can also run it manually from a CLI for diagnostic purposes. When run manually it takes the command line arguments

```
-h   Hang Around. Do not terminate when afax.driver is expunged
-r   Replace.     Replace a currently running printsymb
-q   Quit.        Kill any currently running printsymb and terminate
```

If you run `printsymb` from a normal shell window, and print using the `afax.driver.debug` version of the driver, you will get lot of diagnostic information about how your application program is accessing the printer device. This can be useful for me in getting the driver to work with as many applications as possible.

5.14 FPRINT

`FPrint` is a small program that changes the in-memory system `Preferences` to use the 'afax.driver', puts up a requester informing you that print has been redirected, and waits for you to signal it to cease redirection. This can be useful for quickly redirecting output to a fax without changing your main preferences settings, especially if you tie `FPrint` to a 'HotKey' using a program such as `FKeys`.

`FPrint` may not always work as expected, however, as some applications will adjust the printer from saved settings. For these you will have to use the normal `Printer` command to set your default printer to 'afax.driver'.

5.15 FAXINFO

`FaxInfo` is a small utility that displays the header information from a fax file, including the sender ID, date and number of pages. It is passed a list of fax file names on the command line. If given the `-n` command line option, the information is also attached to the file's FileNote area. This

utility can be useful for scanning a directory of received files, to determine ones from a particular number or area code, for example.

5.16 AmigaFax Command File Format

An AFAX command file uses lines starting with a dot (.) as special commands, similar to TROFF style text processors. The file MUST start with .FCOM on the first line.

```
 .FCOM
on the first line to be recognised as a command file.
.FCOM may optionally be followed by a dialstring or target alias.
(Currently unused, future compatability)

Other commands currently supported are :

 .PG Clear out the old page and start a new one
 .LM n Set the left margin to n characters, in the current font
 .LI n Set the left  indentation to n pixels (default 50)
 .RI n Set the right indentation to n pixels (default 50)
 .LJ Left-justify text and Graphics from now on
 .RJ Right Justify text and Graphics
 .CT Center Text and Graphics
 .TS n Set Tabs every n characters (default 8)
 .PL n Set page length to n (pixel) rows (default 2292 == A4)
 .FILL Turn on fill mode
 .NOFILL Turn off fill mode

 .VERBATIM
All text read in will be printed verbatim, until .ENDVERB

 .VERBINC filename
Include a file in verbatim mode. Still requires a .ENDVERB

 .ENDVERB
End verbatim mode

 .FONT name size [styles]
Set the font as specified. Typical use might be
.FONT topaz 11
.FONT diamond 20
.FONT cmr10 30
and so on. See the .STYLE command for style options.

 .ENDF pop the current font/style, and return to the previous one.

 .STYLE styles
```

```
    Set the style according to the style string,
    N - Normal
    B - Bold
    U - Underlined
    I - Italics
    E - Extended
    eg .STYLE BU (set to bold, underlined)

      .   (dot followed by white-space) Rest of line is a comment

     .INC file
    Include the named file. File may be text, ILBM, or another command
    file. Type is auto-recognised. If a full path is not given to the
    include file, the current directory will be searched, then the
    FAXLIB: directory. Thus addresses, signatures, etc may be kept
    in FAXLIB:

    From version 1.34, you may also .INC an AFAX format file. At
    present only one page is included, by default the first page.
    Page number can be specified by an optional parameter, eg
    .INC FAXREC:Fax0001 2
    At present only 1 page from an AFAX file can be included for each .INC
    command, and no data after that page will appear on the page it is
    included on. Text/graphics can be included before the included fax
    page, so you could use this, for example, to automatically add some
    header text to a received fax before relaying it on.
    Note that at present, normal page-length checking is NOT done while
    processing the included fax page, so you may get a longer than
    expected page.

      .DATE Insert a line with the current date and time, using current font
    and line settings.
```

Any line not beginning with a . will be processed as normal text, according to the current settings.

5.16.1 Fill Mode

In this mode, lines will be filled from input to full width (inside LR indent) in the current font. Line filling terminates on a dot command, blank line, or end of page. Left Margin is disabled while filling.

See the included 'test.com' file for examples of useage.

5.16.2 Stackable fonts and Style support

Version 1.34 and later of `mkafax` support stackable fonts, and the use of styles, such as **Bold** , *Italic* and '`Underline`'.

Useage of the command '`.FONT`' has been extended, and the commands '`.STYLE`' and '`.ENDF`' have been added.

The font system has been modified so that fonts are now nestable. This means you can set a font/style, and then return to the original font/style, without needing to know what that was. This can be very useful for include files, which can return to the original font before they exit, for example.

The '`.FONT`' command now takes an optional third parameter, which defines the requested style to use. This takes the form of a string, consisting of the letters `N, B, U, I` and `E` in any order, upper or lower case.

```
N - Normal
B - Bold
U - Underlined
I - Italics
E - Extended
```

Note that the letters are parsed in order, and that `N` will clear the other flags and set the font back to normal. For example,

```
.FONT topaz 30 BU
```

will set the font to topaz 30, Bold and Underlined.

```
.FONT CGTimes 50 I
```

set CGTimes at 50-point, Italic.

You can retain the existing font, but change its style, by using the new .STYLE command.

```
.STYLE U
```

```
This is Underlined.
```

```
.STYLE IU
```

```
This is Underlined and Italic.
```

All '`.FONT`' and '`.STYLE`' commands can now be nested. This means that the font/style you set will remain in effect until the new command '`.ENDF`' is encountered. After this the previous font/style set will be in force. The Default font, which can be set from your '`FAXLIB:Config`' file or by environmental variable, is always the underlying font. No matter how many '`.ENDF`' commands you enter, this will not be popped from the font stack.

Note that if you have defined a '`Header`' font, this will be automatically pushed for headers, and popped afterwards.

```
Example .FCOM file:

.FCOM
This is in default font
.FONT CGTimes 30 U
This is in Underlined 30 point CGTimes
.FONT topaz 20 B
This is in Bold 20 point topaz
.STYLE NIU
And this is Italic Underlined 20 point topaz
.ENDF
Bold 20 point topaz
.ENDF
Underlined 30 point CGTimes
.ENDF
Default font
.ENDF
Default font
```

6 Other Files

6.1 FAXLIB:Aliases

This file allows you to alias numbers to names, create fax mailing groups, etc. Aliases may be defined in terms of other aliases.

For example we could have:

```
joe: 1234596

fred: 9876123

bill: 0981234

andy: "0,123-4567,,,"

customers: joe, fred, bill
```

Lines beginning with # are treated as comments, a comma means the alias list continues.

If you want to include spaces or commas in an alias (commas are a way of inserting delays into a dial-string), you should surround the aliased number with double quotes. Adding coma-delays at the end of a dial string can be useful when dialing numbers that take a long time to respond, avoiding possible timeouts.

The alias system is modelled closely on the one used in Matt Dillon's UUCP package. See UUCP documentation for more details. Thanks, Matt.

6.2 FONTS

AmigaFax can use all the standard Amiga fonts. Under AmigaDOS2.0 the ability to perform font-scaling means that you can generate quite impressive documents very easily.

The AmigaFax distribution also includes a selection of larger sized fonts from the Computer Modern series, which again allows very high quality faxes to be produced. These were generated

from standard TEX fonts using the TEXF program. Note that these fonts do not contain the umlaut characters commonly used in Europe.

These include the fonts cmr10, cmbx10, cmssbx10 and cmtt10 in sizes from 29 to 103.

I would suggest that anyone using AmigaDOS 2.0 use the standard Amiga fonts. Even Topaz scaled to 30 point size or greater comes out quite effectively. Play around until you find a setup you like.

7 Integration with other software

7.1 UUCP

AmigaFax was designed from the beginning to integrate with UUCP, in particular with Matt Dillon's AmigaUUCP1.15D. Using the modified Getty program provided, a Fax call will be recognised, and the Fax auto-answer program will be called to handle it. Normal logins and UUCP connections should function as usual.

Other facilities, such as network fax-server capability, can be provided to enhance the basic AmigaFax system.

7.2 TeX

We have written a `dvifax` program, which will take a standard TeX '`.dvi`' file, and transform it to an AmigaFax file, with superb quality output. This is now provided with the distribution.

Martin Steppler and Martin Horneffer have donated a set of PasTeX compatability programs, to enable AmigaFax to run with the PasTeX freely distributable TeX package. This package is included in the distribution. *We have not tested these programs here.*

7.3 PostScript

PostScript support is not yet in place, but it is on the list. Priority given depends on demand.

7.4 Printer Driver

The AmigaFax printer driver '`afax.driver`' allows any program that sends its output via the standard Amiga printer-driver is able to create fax files. This includes many desktop publishing packages, word-processors, drawing and paint programs, etc.

Be aware: that the present version of the afax.driver, as released with AmigaFax version 1.40, only converts *print graphics dumps* to fax files. Normal text sent to the printer is ignored. This may change for future releases.

7.5 BBS Systems

The FifoBBS BBS system for VLT is no longer distributed with AmigaFax. There several BBS systems that should work well alongside AmigaFax, the one we are currently using at C-Born is **TransAmiga**. This is a freely distributable shareware package which also supports FidoNet. It is available from several sources, including Amiga ftp sites. See the file BBSREADME in the distribution disk BBS directory for more details.

8 Registration and Maintenance

AmigaFax has always been distributed in two versions. The demonstration version was freely distributable, but had certain limitations, in particular the ability to transmit and receive only single-page faxes. The registered version was sent out directly to registered users, and was made available in restricted access areas of the BBS, UUFS fileserver and BMS. The majority of the package was the same for both versions.

With the increasing ease of access to networked file storeage systems, such as AmiNet, the ability of users to collect the latest registered version of the software over a network would greatly ease the distribution bottleneck. Registered software could also be distributed by means such as the Fish CD-ROMs.

In order to implement this, AmigaFax Version 1.40 and later incorporate a licence management facility, implemented as a loadable library, `afax.library`. This means that on registration only a small library file needs to be sent to a user with the AmigaFax package, and registered users can always load and use all the features of the latest distribution when it appears on the networks, BBS, CD-ROM, etc.

The licence library has facilities for various levels of access, and for limited-time licences, so that users may try with all features enabled for a limited period. If the licence library is not found, the package will still operate fully in demonstration mode, which for many casual users will meet all their requirements.

8.1 Getting Updates

The latest version of AmigaFax is available from our BBS system, as well as via e-mail, using either the UUFS fileserver or Matt Dillon's BMS (Batch Mail System) for AmigaUUCP. We can also send it out on disk by mail if necessary. We now have a a direct Internet connection, however access make be limited due to external corporate firewall policies. and AmigaFax may be available for direct `ftp` access then. Try '`ftp.cborn.pth.alcoa.com`' to see if this is available to you.

Our BBS system is *TransAmiga*, and it currently runs on the same line as our AmigaFax, '`+61-52-786355`'. This number is likely to change some time in 1995.

```
Our mailing address is:

C-Born Software System
59 West Fyans St.
Geelong, 3220
Victoria, AUSTRALIA.

Phone +61-52-290144
Fax   +61-52 290248
```

At present, the BMS server site is

'cborn.pth.alcoa.com'

and the UUFS fileserver can be reached as

```
fs@cborn.pth.alcoa.com
```

You can reach me by email as

```
dave@cborn.pth.alcoa.com
```

You can request help on useage of the UUFS fileserver by sending it email containing the following body text:

```
REPLYTO <Your email address>
INFO
?
HELP
ASCII
GET BMS:Pub/Files
QUIT
```

The REPLYTO field is only necessary if your return address is not easily resolveable, for example if your mail is forwarded via a machine that mangles your path. '<Your email address>' is a working address from 'drum3' to you, the '<>' are not included. 'BMS:Pub/Files' lists all the accessible files. Generally requesting 'BBS:File/AfaxDemo/AmigaFax.lha' should get you the latest version.

8.2 Registration

The registration fee has been held at $A65, or $US50, for several years now. (The original offer

was valid until 6 April 1992, but we never got around to changing it) We accept MasterCard, VISA and BankCard in Australian dollars. EuroCheques are not accepted (we've tried, the local banks won't accept them!).

Here is an example registration form:

```
     o /
------X------cut here-------------------------------------------------

                    AMIGAFAX REGISTRATION

To:
    C-Born Software Systems
    59 West Fyans St.
    Geelong, 3220
    Victoria, AUSTRALIA


Name:                              Phone:
     ------------------------          ------------------------


Address:
     --------------------------------------


     --------------------------------------
Country:                           Postal Code:
     ------------------------             ----------------


Email:
     ------------------------


Payment Method:


 MasterCard  ( )     Visa  ( )      BankCard  ( )      Bank Cheque  ( )


Card No.                                     Exp:
     --------------------------------------     ----------


CardHolder Name:                             Amount:  $65.00 Australian
          ----------------------------


     o /
------X------cut here-------------------------------------------------
```

9 Technical Details and File Formats

9.1 Spool-File Format

The format of the spool-file used to control timed transmission of faxes should be regarded as for internal use, and subject to change. We this proviso, we are making the format available as we have had several requests from users who would like to write enhanced spooling code. At present there are no plans to alter the syntax of the current entries, however others may be added, and those writing software should allow for this.

```
The Spool File may contain the following KeyWords:

Required
--------
To:      Destination
Source:  Source file - could be text, iff-ilbm, command text, afax
Fax:     Afax format file. If <8 bytes, will be created from source

Optional
--------
Sendat:  Don't send until after this time
From:    Sender of Fax
Retries: Allowed number of failed tries before move to error queue
Dispose: If set, then Source may be deleted once sent OK
Result:  Result code for transmit
Fine:    If present, build in FINE mode, else STANDARD
Device:  Transmit fax on this device
Unit:    Transmit fax on this unit
SendOK:  Valid transmit time string (as in L.sys)

Other key-words may be present, but will be ignored.

The Sendat: time format is currently an Amiga longword time value, in
ASCII and prefixed with the letter "L".
The present code will take anything without leading L as time 0, so
send any time.
Other formats may be supported later, including ranged times.

12AUG94 - Ranged time support (SendOK:) per L.sys:
The valid time range may have no spaces, line format is:

    Any          the system can be called at any time

    Never        the system can never be called
```

```
        hh:mm-hh:mm  any day in the hour range indicated (24hr time)

        MoTuWeThFrSaSuhh:mm-hh:mm
                    On the days indicated in the hour range indicated.

        <timespec>,<timespec>
        MoTuWeThFr02:00-03:00,SaSu00:00-23:59
                On the days indicated in the hour range indicated,
                time specs separated by commas.
```

See Section 5.3 [AFAXSPL], page 22.

9.2 AFAX IFF File Format

Note that the afax file format may be changed at some later date to a general standard cross-platform fax-file format. Also individual header items may change, but changes are likely to me minor additions, so as to avoid breaking existing code.

This is not a formal description, but should be sufficient for those wishing to read or write compatible files.

```
    general IFF form is:

     * AFAX - Amiga Fax FORM
     *   FXHD - Document header
     *   FXPG  - One fax page
     *     FPHD - Page header
     *     FX1D - Page Data



    FXHD Overall Fax document header
    ====
    UWORD w; /* Width in pixels (Max for doc) */
    UWORD h; /* Height in lines (Max for doc) */

    UBYTE vr; /* Per T30 */
    UBYTE wd;
    UBYTE ln;
    UBYTE df;
```

```
char lid[20]; /* Local and Remote ID strings */
char rid[20];

LONG Stime; /* Send and receive times */
LONG Rtime;

UBYTE Flags; /* b0 set for RAW data */
UBYTE pages; /* Number of pages */

UWORD Pad[3]; /* Probably forgot something... */



FPHD Fax Page Header
====

UWORD w; /* Width in pixels */
UWORD h; /* Height in lines */

UBYTE vr; /* Per T30 */
UBYTE df;

UBYTE Type; /*  = 0 for 1-d coded data */
UBYTE Flags; /*  status, 0=ok,1=failed,2=timed out reading */
```

10 FaxModem Specifics

10.1 ZyXEL U-1496

The ZyXEL U-1496 provides data rates to v32bis and higher, with v42bis error correction and compression. It is capable of facsimile data rates greater than 9600bps, currently up to 14400bps. ZeroOne makes ROM upgrades available through their BBS, with frequent upgrades. They are very helpful and responsive to customer requests.

The latest ROM version we have used is V6.13 .

With this ROM, it is possible to lock the DCE/DTE data rate for fax with the sequence 'ATS38=8S18=n' , where n is the DTE speed as per the S20 register list, eg 2 for 38.4Kbps, 3 for 19.2Kbps.

There is a Voice-mode ROM for the ZyXEL currently in Beta-test. When this is released, we will try to integrate it with AmigaFax. this will allow you to send and receive voice messages, as well as fax and data calls, all from your Amiga.

A few more tips on configuration, with getty. In my standard startup line I have been setting the page-length to A4, as my printer is A4, which is the standard here. However, it appears that my fax (and most others) when appending their header/footer lines, force the page past A4. This has not been a problem in the past, but now the U1496 must be obeying the page-length setting, and forces out an extra very short page for each A4 page. This causes handshake problems, etc.

So for now, the best solution seems to be setting up for unlimited page-length. The AmigaFax software has no problem with this, but your printer may, if single-sheet type.

Another option allows fax data-rates greater than 9600. Not many fax machines support this yet, but we may as well use it, just in case.

The latest versions of this modem support Class-2.0 operation as well as Class-2, and AmigaFax appears to work correctly in either mode.

```
The +FDCC options are as follows:

+FDCC=1,5,0,2
         ^ ^ ^ ^
         | | | +- Page Length: 0=A4(297mm) 1=B4(364mm) 2=unlimited
         | | +--- Page Width : 0=1728 Pixels in 215mm
         | +----- Bit Rate   : 0=2400 1=4800 2=7200 3=9600 4=12000 5=14400
         +--------Vert. Res. : 0=Normal(98 lpi) 1=Fine(196 lpi)
```

Other options cover compression format, error correction mode, binary file transfer, and scan time. These are not yet supported, probably not until the standards are finalized.

The line I use to start up `Getty` is:

```
RunBack Getty -Mh -B19200 -x8 -F6 AT&C1&D3+FDCC=1,5,0,2
```

As I have the FaxModem running from a AS2232 multiport serial card, with a maximum baud rate of 19200, I must limit the DCE/DTE rate to that.

When running with ROM version 6.13 and AmigaFax in Class-2.0 mode, I run `Getty` up with the command line

```
RunBack getty -Mh -B19200 -x9 -F14 AT&C1&D3+FCC=1,5,0,2
```

10.2 Maestro 9600XR

This is a low-cost Australian made 2400bps data, 9600bps send/receive fax modem, based on the Exar chipset. It does not allow DCE/DTE rate locking, and as of the latest version ROMs we have, still has occasional problems in correctly synchronising to incoming fax data, resulting in 'garbage data' faxes, and missing lines from the top of pages. These problems may have been fixed in later ROM versions, but we have not been notified of any upgrades. The modem software does not appear to observe specified line-scan delays, which may result in missing lines when transmitting to older/slower fax machines.

A typical Getty startup-line for this modem is:

```
run >nil: <nil: Getty -Mh -B2400 -F AT&C1&D2+FDCC=1,3
```

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