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Viewing This Document on a Terminal

This document includes overstrikes for printing on a printer. To
read this document on-line, extract the program NOVRSTRK from the
UUPC/extended optional programs archive, uupc11vd.zip, and issue
the following command:

        NOVRSTRK INSTALL.PRN INSTALL.TXT

You can then browse the terminal ready version of the document,
INSTALL.TXT.

Revision

This is the 60th revision of this document and applies to version
1.11v of UUPC/extended. This document was last updated on
September 4, 1992 by Katherine E. Williams. Portions of this
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copyright information for UUPC/extended appears in the file
README.DOC.

Overview

This document provides installation instructions for
UUPC/extended. Questions or suggestions on this document should
be directed to the UUPC/extended documentation group,
docs@kew.com.

Installing or Upgrading UUPC/extended

The following assumes that you have never installed UUPC/extended
before. If you are upgrading an existing UUPC/extended
installation, skip to "Upgrading an existing UUPC/extended
installation" beginning on page 17.

New UUPC/extended installations

Many thanks to Dave Watt for assistance with this section and for
providing the examples, and to Snuffles for reminding us to
change the system names to protect the guilty.

To start sending and receiving mail on your system you'll need
the following equipment and knowledge:

Equipment:

        * A computer running MS-DOS or OS/2. Under DOS, you will
          need at least 512 KB of RAM and 2 MB of hard disk space
          (for executables, configuration files, documentation, and

mail received). For OS/2 you need the minimum OS/2
system configuration plus 2 MB free hard disk space.

* A modem.

* The manual for the modem.

* A text editor. The MS-DOS editor, Windows Notepad, or
  OS/2 editor will work fine. However, we don't recommend
  attempting to configure a new UUPC/extended installation
  under Windows. Get it working under DOS or OS/2 first.

* A friend with a machine that does UUCP. This can be a
  UNIX system, another UUPC/extended or other UUCP clone
  running on a PC, or a VMS system running DECUS UUCP.

* A copy of PKUNZIP.EXE, version 1.1 or later. PKUNZIP is
  a shareware utility and can be found at almost all
  archive sites. Consult your local BBS, or get it from
  wuarchive.wustl.edu.

Knowledge:

* How to copy files using MS-DOS or OS/2.

* How to edit a text file.

Once you've got all of that, follow these steps to install and
configure the program. Each step is discussed in detail below.

1. Read these instructions.

2. Backup your system.

3. Name your system.

4. Find a UUCP neighbor.

5. Unzip the UUPC/extended files on your system.

6. Choose your user name.

7. Find your modem among the .MDM files.

8. Configure several files (the hard part):

      UUPC.RC   SYSTEMS PASSWD   PERMISSN

      HOSTPATH   [username].RC   [modem].MDM
          AUTOEXEC.BAT.

9. Generate the program's help files.

10. Write a signature file.

11.   Reboot your system.

12.   Check your configuration.

13.   Send mail to yourself.

14.   Check the PC <--> modem connection

15.   Check the PC <--> modem <--> modem <--> mail server
      connection

16.   Try sending remote UUCP mail.

Then, with a little debugging, you'll be up and running! Each of
the steps is discussed in more detail below.

   Preliminaries

1. Read everything before doing anything. Trust us, you'll be
   glad you did.

2. Backup your system. If you do not currently backup your
   system, this is an excellent time to start. Again, trust us.

3. Your machine needs a name. The name should be all lowercase,
   since many operating systems are not case-sensitive. If you
   plan to connect to the outside world, the first six characters
   of the name need to be unique over all of Usenet. This isn't
   precisely true, but it's close enough, and the truth is more
   complicated -- if you're interested in the details, buy a copy
   of Managing UUCP and Usenet, published by O'Reilly and
   Associates. Actually, go buy it anyway, and please read it
   before asking questions.

   Example: Dave chose the name "toscis" for his machine, in
                 honor of Snuffles' favorite ice cream.

4. Find a friend who has a machine which supports sending and
   receiving UUCP news and mail. Your friend must also be pals
   with the sys-op of the machine, or someone else who has the
   power to add accounts to the remote system. They will have to
   add an account for your system to acknowledge its existence
   and permit your system to log in and exchange mail.

   Example: Dave uses a feed from Kendra Electronic
                 Wonderworks, which is known in the UUCP world as
                 kewgate. We assigned toscis an account on the system
                 called "Utoscis". The name is conventional --
                 Ukewgate, Udigilab, and Uzzyzyx are several accounts on
                 Dave's machine, for some of his neighbors to log onto
                 his system.

5. Next, you have to install UUPC/extended on your system.
   UUPC/extended runs under both MS-DOS and OS/2, so be sure you

   have the files you need to install UUPC/extended on your
   target operating system. You may want to install the DOS
   files for the OS/2 DOS box, but this is optional.

UUPC/extended includes a total of 15 executable files for each
environment. It is suggested that these files be placed in their
own directory, and this directory then be added to your MS-DOS or
OS/2 PATH variable.

   Example: kewgate has both OS/2 and DOS versions of
            UUPC/extended installed. The DOS files are in
            C:\UUPC\BIN and the OS/2 files are in C:\UUPC\OS2BIN.

For MS-DOS, you should have the following files:

uupc11vr.zip   uupc11vo.zip   uupc11vn.zip   uupc11vd.zip

For OS/2, you should get these files:

uupc11v2.zip   uupc11v3.zip   uupc11v4.zip   uupc11vd.zip

Make directories for UUPC/extended, copy the zip files, and unzip
them. (Type "pkunzip" at the DOS prompt for instructions on how
to unzip files.) Then add your UUPC/extended directory to the
default path. When you're done, you should have the following
files in your UUPC/extended directory:

     MAIL.EXE, UUCICO.EXE, UUXQT.EXE and RMAIL.COM are required.

     SU.BAT, UUIO.BAT, WAITING.BAT, FMT.COM, GENSIG.COM,
     NOVRSTRK.COM, UUPOLL.COM, UUSUB.COM, UUSTAT.COM, UUX.COM,
     and UUCP.COM are optional but recommended.

   Note: Under OS/2, the SU, UUIO, and WAITING files have .CMD
         extensions. Also under OS/2, there are no .COM files;
         all modules have an extension of ".EXE".

   Example: Toscis runs the MS-DOS operating system. Dave put
            the UUPC/extended executables in C:\UUPC\BIN and the
            documentation in C:\UUPC. To uncompress them, here's
            what he did:

      C:\> mkdir uupc
      C:\> pkunzip uupc11vd.zip \uupc*.*
      C:\> mkdir \uupc\bin
      C:\> pkunzip uupc11vr.zip \uupc\bin*.*
      C:\> pkunzip uupc11vo.zip \uupc\bin*.*
      C:\> pkunzip uupc11vn.zip \uupc\bin*.*

   Note: We recommend that you put OS/2 files in a directory
         called \uupc\os2bin to avoid confusion between DOS and
         OS/2 files. Especially if, as we do, you tend to run
         both operating systems on your machine.

6. Now you need to choose a user name for yourself. This name
   doesn't have to be unique or anything, but you'll need it for
   some of the configuration of UUPC/extended yet to come. It
   should be composed only of valid DOS characters and should
   have eight characters or less.

   Example: Dave's user name on toscis is dmwatt. Our
            resident Plush Programming Polar Bear's user name on
            kewgate is snuffles.

   Configuration

7. Next you need to decide which modem configuration file (.MDM
   file) best describes your modem. Some of the .MDM files
   available are:

        HAYES12.MDM   Generic Hayes-
                                        compatible 1200 baud

        HAYES24.MDM   Generic Hayes-
                                        compatible 2400 baud

        TB1000.MDM   Telebit T1000

        TB2500.MDM   Telebit T2500

        V42BIS.MDM   Zoom 2400 with V.42bis

        ZOOM2400.MDM   Zoom 2400 with V.42bis
                                                disabled

        ZOOMTV32.MDM   Zoom 9600 with V.42bis

        INSATFAX.MDM   Intel SatisFAXtion board
                                             (2400/MNP5)

        DIR.MDM   Direct serial line

   If none of these is appropriate, then you will have to start with
   one of them, or with the sample modem configuration file
   (SAMPLE.MDM), and customize it for your modem. We explain how to
   customize modem files in "The Fine Art of Chat Scripts" and
   "Modem Files", below.

8. Once you've chosen a user name, you need to edit several
   configuration files, and set some environment variables in
   your autoexec.bat file. Most of the sample configuration
   files have documentation in the files themselves. Also, the
   format of the SYSTEMS, and PERMISSN files are discussed in
   Managing UUCP and Usenet.

   a) UUPC.RC -- UUPC/extended system configuration file

This file tells UUPC/extended about your modem and system
configuration. Put it in the same directory as your UUPC
executable files. You will have to fill in about a dozen of the
fields in this file in order for UUPC/extended to work properly.
The fields you must edit are listed below. The directory (Dir)
fields won't normally need to be edited (except for a drive
letter), but you should check them anyway.

         NodeName=   ConfDir=

         Domain=   MailDir=

         Postmaster=   NewsDir=

         MailServ=   SpoolDir=

         InModem=   PubDir=

         Path=   TempDir=

         ArchiveDir=

The interpretations of these fields are described in the UUPC.RC
file itself. Their uses are summarized below, along with the
settings for toscis.

         NodeName: The name you chose for your machine. Dave's
         machine's name is toscis.

         Domain: The fully qualified domain name for your machine.
         If you are just starting out, this will be your machine
         name, with the suffix ".UUCP". Later, you can register with
         other domains if you are interested -- see the file
         UUNETDOM.INF, which is compressed in uupc11vd.zip, for more
         information about this.

         Dave's machine's Domain is toscis.cambridge.ma.us. It is
         registered with the .US domain mapping project, which is
         also discussed in UUNETDOM.INF.

         Postmaster: The user name of the person to whom mail gets
         sent if any problems occur. Put your user name here for a
         single user machine. Otherwise, use "postmast". On toscis,
         the postmaster is dmwatt.

         MailServ: This is the name of the machine to which your
         outbound mail gets sent. This will be the name of the
         machine belonging to the friend you found up in step 2. The
         mail server for toscis is kewgate.

         InModem: This is the name of the .MDM file your machine
         will use when it is waiting for incoming phone calls. Use
         the name of one of the default .MDM files in step 5, or
         invent a name for the .MDM file you're going to customize

further down. On toscis, InModem is set to TB2500, since
Dave uses a Telebit T2500.

Path: If specified, this overrides the DOS or OS/2 PATH
variable for the lists of directories searched by UUXQT for
RNEWS, RMAIL, and other external commands you allow remote
systems to execute on your system. If specified, this
variable should include the path you copied the
UUPC/extended executable files into in step 3.   On toscis,
Path=c:/uupc/bin.

Note: The PATH variable is for security purposes, not for
      convenience, and is **only** used by UUXQT. You must still
      add the directory with your UUPC/extended executable
      files to your path variable in your AUTOEXEC.BAT or
      CONFIG.SYS.

**ConfDir, MailDir, NewsDir, SpoolDir, PubDir, TempDir, and
ArchiveDir:** ConfDir is the directory in which your
UUPC/extended configuration files are located. As you may
have guessed, the other directories refer to the directories
to which mail and news get delivered (MailDir and NewsDir),
the public directory (PubDir) from which any machine with
standard permissions (as defined in your PERMISSN file,
below) can read or write, a temporary directory on a disk
for writing temporary files (TempDir), and a directory for
storing archived news (ArchiveDir). TempDir can be on a RAM
drive, but the others cannot. If TempDir is not specified,
UUPC/extended uses the DOS environment variables TEMP or
TMP, in that order.

Here is toscis's completed UUPC.RC file, provided as an example.

```
NodeName=toscis
Domain=toscis.cambridge.ma.us
postmaster=dmwatt
MailServ=kewgate
ConfDir=c:/uupc
MailDir=c:/uupc/mail
NewsDir=c:/uupc/news
SpoolDir=c:/uupc/spool
PubDir=c:/uupc/public
TempDir=c:/tmp
ArchiveDir=c:/uupc/archive
InModem=TB2500
Path=c:/uupc
options=nobang nodirectory multiqueue dot
```

  b) [username].RC

The [username].RC files are used to configure UUPC/extended for
individual users. To configure your own [username].RC file, do
the following:

(1)   Extract the file PERSONAL.RC out of uupc11sd.zip using
       PKUNZIP. Put the file in the directory called ConfDir in
       your UUPC.RC file.

(2)   Copy the file PERSONAL.RC to [username].RC, where
       [username] is your user name.

Example: Dave's personal configuration file is called
       DMWATT.RC, and is located in C:/UUPC on toscis.

(3)   Edit the following fields in the [username].RC file:

   Mailbox=

   Name=

   Home=

   FileSent=

   Signature=

   Editor=

   Aliases=

The descriptions in the sample PERSONAL.RC file explain these
fields. If you include a Signature (highly recommended) and an
Alias file, you will need to create these files as well. See
step 10 for information on creating a signature file.

If multiple users are to share the same system, create multiple
customized copies of the PERSONAL.RC in the 'ConfDir' directory
defined in UUPC.RC, each with a unique name such as "TOM.RC",
"DICK.RC" or "HARRY.RC".

If you are just starting out, you don't need to bother with an
alias file just yet. When you're ready (usually when you start
sending multiple pieces of mail to the same person), customize
the ALIASES.TXT file and copy it to the directory defined in the
PERSONAL.RC file as your Home directory. This file defines short
nicknames for longer e-mail addresses and lists of addresses. If
this file is not installed, then the line in the PERSONAL.RC file
describing it must be commented out with a pound sign (#) in
column 1.

   Note: The addresses supplied in the ALIASES.TXT file, are
         valid addresses; they are provided as examples and to
         assist you in getting more information about
         UUPC/extended, communications software in general,
         USENET, and the Internet. However, they are not for
         random testing; abuses such as a recent user who sent
         mail to all the addresses in the file as a "hello

        world" test will force discarding of the live
        information in the file for future releases.

   Example: Dave's completed DMWATT.RC file looks like this:

        editor=emacs %s
        filesent=outgoing
        Home=c:/dmwatt
        Mailbox=dmwatt
        name=David M. Watt
        options=autoedit
        signature=dmwatt.sig

   c) SYSTEMS

The SYSTEMS file has a standard format, explained in Managing
UUCP and Usenet. It must be located in the directory called
ConfDir in your UUPC.RC file. A typical entry in toscis's
SYSTEMS file looks like this:

kewgate Any TB2500 19200 1-617-641-4817 Gg gin:--gin: Utoscis
ssword:--ssword AppleJuice

Copy this line into your SYSTEMS file, and do the following:

   (1)   Replace "kewgate" with the name of your mail server.

   (2)   Replace "TB2500" with the name of the modem
      configuration file (.MDM file) you plan to use.

   (3)   Replace "1-617-641-4817" with the phone number of your
      mail server.

   (4)   Replace "Gg" with the letter(s) of the UUCP protocols
      your mail server supports. If you don't know what these
      are, then replace "Gg" with "g" if your mail server does not
      run UUPC/extended, or "G" if it does. The "g" protocol is
      widely supported.

   (5)   Replace "Utoscis" with the name your friend in step 2
      gave you for use on their system. Replace "AppleJuice" with
      whatever password your friend gave you.

For simple connections, these should be all of the changes you
need to make to this file. For more complex connections, refer
to "The Fine Art of Chat Scripts", below.

   d) PASSWD

The PASSWD file is nearly identical in format to the /etc/passwd
file used on UNIX systems. It must be located in the directory
called ConfDir in your UUPC.RC file.

The PASSWD file serves two purposes. If you have several people
reading mail on your system, it is used to assign them default
directories and mail files. Entries in the PASSWD file also
control whether remote machines can log in to your system to send
and receive mail themselves.

> **Note:** The default directories in the PASSWD file must match
> the Home= entries in the [username].RC files.

Customize the PASSWD file, copy it to the 'ConfDir' directory
defined in UUPC.RC, and add each user to the PASSWD file. This
file defines the name and home directory of each local user, and
the user id and password for remote users (systems) logging in
using the following format:

    userid:password:special:group:name:directory:shell

More specifically:

  (1)   userid--from 1 to 8 valid DOS characters. This should
     be the same as the name of the [user].RC file.

  (2)   password--Self explanatory. A * in this field means
     that no logins are allowed for that user. For instance, a
     local user does not need to be able to login via phone
     lines. A blank means that no password is needed, as in the
     case of anonymous logins.

  (3)   special--This field contains the user id number on UNIX
     systems. UUPC/extended uses it to play music or otherwise
     make noise to announce incoming mail, if desired (very
     useful on multitasking systems). The format of the field is
     tone1, length1, tone2, length2, and so on, where "tone" is
     the frequency in hertz and "length" is the time the tone is
     to sound in milliseconds. If the final length is omitted,
     the final tone will sound for 500 milliseconds. A special
     tone is 0, for silence. See the sample PASSWD file for an
     example.

  (4)   group--This field contains the group id number on UNIX
     systems. UUPC/extended does not use it.

  (5)   name--The real (human) name of the user.

  (6)   directory--Directories accessible to this user.
     Defaults to the public directory set by the PubDir variable.

  (7)   shell--UUCICO is the default.

At first, you should need only two lines in your PASSWD file.
The following can serve as models.

    dmwatt:*:::David Watt:c:/dmwatt

        postmast:*:::Postmaster:

Replace dmwatt with your user name, and "David Watt" with your
name. Replace "c:/dmwatt" with the Home directory given in your
[username].RC file.

  e) PERMISSN

The PERMISSN file is identical in format to a file called
Permissions available on some UNIX UUCP systems. The file format
is explained in detail in Managing UUCP and Usenet. The PERMISSN
file should be located in the directory called ConfDir in the
UUPC.RC file.

The PERMISSN file is used to control where remote systems are
permitted to read and write files on your system. For a simple
configuration where you call a mailserver and no machines call
your system, your PERMISSN file should look like this:

    MACHINE=kewgate SENDFILES=yes REQUEST=yes

Replace "kewgate" with the name of your mail server, managed by
your friend in step 2.

For more complex configurations, especially those where another
system needs to be able to call you, refer to the section
"Permissions (PERMISSN) Files", below.

  f) HOSTPATH

The HOSTPATH file is used to provide aliases for your machine and
your neighbors, and to explicitly route mail from your machine to
them without going through your mail server. On a machine with
just a mail server, the HOSTPATH file should be empty or omitted
entirely:

    # Nothing here!

If special routing is required for hosts, customize the HOSTPATH
file, and copy it to the 'ConfDir' directory defined in UUPC.RC.
This file is not usually needed, but can used to:

    Gateway mail from UUPC/extended to another mail program
    Alias the local host to another name
    Alias a remote host to another name
    Prevent improperly addressed mail from leaving the local
    domain
    Route mail via a non-default path

Consult the sample HOSTPATH file for more details on HOSTPATH
settings.

  g) [modem].MDM

   The [modem].MDM files are used to describe your modem to
UUPC/extended. They should be located in the directory called
ConfDir in your UUPC.RC file.   If your modem is identical to one
of those included in the list in section (5) above, you're in
luck -- the configuration of this modem file will be
comparatively simple. If your modem is one of the brands listed
in section (5), then do the following:

        (1)   Replace the port listed on the "Device=" with the
        communications port to which you connected your modem.

        (2)   Double check that the entry in your SYSTEMS file
        specifies this modem configuration file, and that the
        "InModem=" line in your UUPC.RC file also specifies this
        file.

If your modem is not among those supplied in the samples, then
you will have to write a .MDM file describing your modem. The
easiest way to do this is by copying one of the other .MDM files,
and making the necessary changes. Usually one of the .MDM files
will describe a modem similar to your own -- see below ("Modem
Files") for more suggestions.

   h) AUTOEXEC.BAT/CONFIG.SYS

AUTOEXEC.BAT is executed by MS-DOS whenever you reboot your
system. UUPC/extended needs three environment variables set,
which is best done by adding some commands to your AUTOEXEC.BAT
file. At the bottom of your AUTOEXEC.BAT file, add the following
lines. If you are running OS/2, add the same lines to your
CONFIG.SYS file.

     set UUPCSYSRC=c:\uupc\uupc.rc

     set UUPCUSRRC=c:\uupc\[username].rc

But instead of writing [username] on the second line, use your
user name, the same as in the [username].RC file you wrote in
part f). You'll also need to set TZ, your local time zone.
Sample TZ variable SET commands are as follows:

        SET TZ=EST5EDT   (Eastern US Time, 5 hours
        behind GMT)
        SET TZ=EST5   (Eastern US Time, but no
        daylight savings change)
        SET TZ=CST6CDT
        SET TZ=MST7MDT   (Mountain Standard Time (US),
        with daylight savings)
        SET TZ=PST8PDT   (Pacific Time, 8 hours behind
        GMT)
        SET TZ=GMT0   (GMT, no offset, no daylight
        savings)
        SET TZ=MST-3   (Moscow Standard Time, no
        daylight savings)

Your mileage and time zone may vary. Note that time zones ahead
of GMT use a minus sign in front of the hours offset.

You'll also need to edit your path variable. Dave, who put his
UUPC/extended files in C:\UUPC\BIN, added the line

     PATH=%path%;C:\UUPC\BIN

at the bottom of the file. In DOS, you must make sure the path
does not exceed 128 characters. Under OS/2, the file you need to
edit is CONFIG.SYS and there is no path size limit, but the path
must be on one line and cannot use variables. Under OS/2, Dave
would simply append ";C:\UUPC\OS2BIN" to his existing path.

     Note: Several of the programs, including UUCICO and
            UUXQT, change directories as required to search for
            spool files. Because of this, programs such as RMAIL
            and (if used) RNEWS must be in your path. Having them
            in the current directory is not sufficient.

Under MS-DOS, add the following line to your CONFIG.SYS, or
create a CONFIG.SYS in the root directory of your boot disk or
diskette if you currently do not have one:

     FILES=20

     Note: If you already have a FILES= line in your
            CONFIG.SYS, it should read at least 10 and should be
            raised to 20. If the number is greater than 20, then
            do not lower it.

9.Generate the UUPC/extended online help files. Generate
MAIL.HLP and TILDE.HLP in the 'ConfDir' directory defined in
UUPC.RC via the NOVRSTRK program as follows:

          NOVRSTRK MAIL.PRN C:\UUPC\MAIL.HLP
          NOVRSTRK TILDE.PRN C:\UUPC\TILDE.HLP

Where 'C:\UUPC' is replaced by the actual configuration directory
name. These files provide on-line help to the MAIL command.

10. Write a signature file.

For each user, customize the PERSONAL.SIG file, and copy it to
the 'Home' directory defined in [username].RC for that user.
This file is appended to all outgoing mail for the user to
provide a boiler-plate signature with the user's reply address.
If this file is not installed, then the line in the [username].RC
file describing it must be commented out with a pound sign (#) in
column 1.

     Note: Especially for users of new systems, it is
            strongly advised that you do create a signature file
            and include in it your name, electronic mail address,

snail mail address, and telephone number.   This extra
information is needed for a person to contact you if
your electronic mail address cannot be replied to.1

   Example: Here's a typical (boring) signature:

    Dave Watt -- N1HMB   Home: 617-
    555-9956
    dmwatt@toscis.cambridge.ma.us   Work: 617-555-
    4330 x159

11. Reboot your system to allow your changes to your
AUTOEXEC.BAT/CONFIG.SYS to take effect.

Congratulations! If you've done all of these things, you're
ready to start testing your UUPC/extended configuration.

12. Run UUNAME (just type uuname at a DOS prompt) to prove your
configuration is valid. This will a) die gloriously or b)
display a list of known systems. If it dies, the error message
you get should provide some clues. Check the necessary
configuration files and try again.

  Testing

13. Send mail to yourself. Perform this test to convince
yourself that UUPC/extended can send mail. At the MS-DOS prompt,
type:

    C:\> mail -s "Test message" postmaster

    ? Test

    ? .

    Abort, Continue, Edit, List, or Send? Send

The "." only works as a message terminator if the "dot" option is
set in your UUPC.RC file. Otherwise, use Ctrl-Z.

You should then receive the message:

        Delivering mail from [username] to postmaster

1Recently, help@kew.com was sent the same query multiple times by
a user with an invalid return address. He failed to include his
telephone number or other address in his note. Thus, both his
original query and the follow-up letters asking why the original
query was not answered could not be replied to.

If you don't, the error messages should provide some clues as to why UUPC/extended was unable to deliver the message. Correct the necessary configuration files and try again.

14. Test the PC <-> modem connection. Perform this test to convince yourself that your modem responds to commands. Using a telecommunications program such as kermit, send some commands to the modem. Just sending AT (attention) to the modem, and getting "OK" back, is good enough.

15. Test the PC <-> modem <-> modem <-> mail server connection. Perform this test to convince yourself that your computer can talk to your mail server, and that you can log in to the mail server using the user name and password your friend back in step (2) gave you. Using a telecommunications program like Kermit, dial up the remote system and try to log in. The remote system should give you a message like "Shere=username". If you succeed, hang up and go on to the final step. If the remote system does not recognize your account for some reason, talk to the friend who gave you the account and find out why.

16.   Try sending remote UUCP mail. If you succeed at this, your system is able to properly receive and send electronic mail. At the MS-DOS prompt, type the following:

        C:\> mail -s "Test message" postmaster@[mailserv]

        ? This is my first message. When you receive it, please reply.

        ? .

        Abort, Continue, Edit, List, or Send? Send

        Delivering mail from [username] to postmaster via [mailserv]

but instead of typing "[mailserv]," on the first line, substitute the name of your mail server, exactly as you entered it on the "MailServ=" line in your UUPC.RC file.

If all goes well, you should be able to enter a message and send it off, with the UUPC/extended mail program giving you messages like those above.

Then, dial out to the remote system:

        C:\> uuio -s all

And watch the connection. With luck, you will have just sent your first UUCP mail message. Welcome!

    Note: For full instructions on using the mail reader, see the
          file MAIL.PRN.

Upgrading an existing UUPC/extended installation

First, uncompress the new executables and documents. Be careful
not to overwrite your customized configuration and batch files
with the supplied sample files.

Second, read the CHANGES.PRN file for changes related to the
newest release. In many cases, CHANGES.PRN includes
documentation of new options and configuration file variables
before any other documents.

Earlier versions of UUPC/extended have different user-
customizable variables. Type "uuname -x 2" to see a list of
missing or obsolete variables in your configuration files.
Update as needed. Look at CHANGES.PRN to see what the new
variables do.

If you are upgrading from a release of UUPC/extended previous to
1.11s, delete the old version of UUPOLL, UUPOLL.COM. This has
been replaced by UUPOLL.EXE.

If you are upgrading from a release of UUPC/extended previous to
1.11p, delete the old version of UUXQT, UUXQT.COM. This has
been replaced by UUXQT.EXE.

If upgrading from a release of UUPC/extended prior to 1.11a, you
must clear your spool directories of files before installing the
new release.   In general, this is done by invoking UUIO for the
previous release to deliver any queued files to other sites.

If you are upgrading from a release of UUPC/extended previous to
1.10a, delete the old communications module, UUIO.EXE; this has
been replaced by UUIO.BAT, UUCICO.EXE and UUXQT.EXE.

>   Note: If you are converting from a release previous to
>   1.10a, you must update the SYSTEMS file to the newer
>   format. See the sample SYSTEMS file for details.

The Fine Art of Chat Scripts

Setting up the chat scripts used in the SYSTEMS and modem [*.MDM]
files is the hardest part of setting up UUPC/extended. The
easiest way to think of chat scripts is as a dialogue between the
local system running UUPC/extended and a modem or remote system.
The script consists of a series of strings sent to the
modem/remote system alternating with the expected response to
those strings.

For example, a modem file needs to contain an initialization
sequence, which will look something like this:

```
    "" "" "" ATZ OK \dATX4&D2 OK
```

Since that line looks awfully intimidating at first, we'll break
it down into its component parts.

> "" An empty string. The first one is a flag marking the
>   start of the script and showing that nothing is
>   expected from the modem.
>
> "" The second empty string sends nothing followed by an
>   automatically appended carriage return so that the
>   following statements will start on a new line.
>
> "" The third empty string indicates that no response to
>   the second one is expected.
>
> ATZ This command resets a Hayes-compatible modem to its
>   stored profile. Again the carriage return is appended.
>
> OK The response from the modem showing that it has been
>   reset.
>
> \d An escape sequence which produces a two second delay to
>   give the modem time to recover from the previous input.
>
> ATX4&D2 A modem initialization string. Contents of this string
>   depend on your modem and desired options. As always, a
>   carriage return is appended.
>
> OK The modem responds that it has been initialized and is
>   ready to dial.

The complete list of escape sequences supported by UUPC/extended
follows.   The empty string ("") is used on input. All other
strings are recognized on output only. Quotation marks may used
on input or output to enclose a string which includes whitespace.
The list includes:

> ""   Expect a NULL string. May also enclose a string
>   which includes whitespace.
>
> BREAK   Send BREAK
>
> \b   Insert Backspace
> \B
>
> \d   Delay two seconds.
> \D
>
> \c   Omit carriage return at end of string
> \C

\m	Insert carriage return
\M	
\r	
\R	
\n	Insert newline
\p	Delay four tenths of a second
\P	
\t	Insert tab character
\T	
\s	Insert space character
\S	
\Znnnn	Set serial port speed to nnnn in the range 300 to 19200
\nnn	Convert the numeric octal string nnn to a single character and transmit it
\\	Insert a backslash (\)

One other special syntax exists. To allow for alternate output
when an expected string is not received, hyphens in an expect
string delimit alternate output to be sent, such as:

  "" "" ogin:--ogin:--ogin:

If a login prompt (ogin:) is not received by the standard timeout
period (generally, 30 seconds, but configurable in the modem
file), the string between the hyphens (nothing, followed by the
appended carriage return) is sent; if no response is received,
the sequence is repeated one more time.

If your chat script doesn't work, check and make sure that you
have allowed delays between transmissions to allow the modem to
recover. Failure to include needed delays can cause dropped
characters and is one of the most common mistakes made by new
chat script writers.

Modem Files

Modem files (.MDM) are configuration files which define the
strings used to command a modem for dialing out; this allows
commands always used with a particular modem to be written once
rather being placed everywhere they are used, and also allows
different modems to be used with the system by only changing the
modem file (or changing the reference to the modem file in the
SYSTEMS or UUPC.RC files).

All strings defined in a modem file are standard scripts as
described above with the exception of the dial prefix and dial
suffix strings. These are combined with the phone number listed
in the SYSTEMS file for a host and sent as one string to the
modem when dialing out. Sample files are included for several
common modems. Check to see if the current UUPC/extended
distribution includes a file for your modem. Most modems have
behavior similar to one of the sample modems, so minor changes to
one of these files should get you up and running.

> **Note:**   If you make changes to a modem file, copy it to a
>   new name to avoid confusion with the distributed
>   version.

By the way, once you've done a configuration file for your modem,
please mail a copy of the file to docs@kew.com. The more modems
we have configuration files for, the easier this setup procedure
will become for other new users.

Permissions (PERMISSN) Files

Each system you contact must be defined in a PERMISSN file
located in the UUPC/extended configuration directory.   In the
permissions file, systems can be classified by whether they are
called out to, dial in to the local system, or both. Permissions
files are discussed in more detail in Managing UUCP and USENET.
Briefly, they define which directories and commands are
accessible to the remote system.

For your own protection, think carefully before giving a remote
system read or write access outside of the default (\uupc\public,
\uupc\spool) directories. Think very carefully before giving
write access to anonymous logins.

Systems you call out to must have a MACHINE entry, such as

      MACHINE=system

This defines the existence of the machine "system", and default
permissions are granted to the system. These permissions include
the ability to execute RMAIL and RNEWS, and the ability to send
files to the spool directory. If the additional keyword
REQUEST=YES is added to the MACHINE statement, then the remote
system may also read and write files in your public directory,
which is the directory defined by the variable PubDir in the
UUPC.RC file.

Systems which dial into you must have a LOGNAME entry, such as:

      LOGNAME=userid VALIDATE=system SENDFILES=YES

> Note: If you allow anonymous logins, an entry should also be
>   placed in the PERMISSN file for the system
>   "*anonymous".

This allows host "system" to login as user id "userid" with the
same default permissions as described above. It further allows
your system to transmit files to the other system even though it
called you (SENDFILES=YES)2. However, to run UUXQT they must
also have a MACHINE entry, because UUXQT does not look at LOGIN
entries.3 Thus, to handle the general case, both of the above
entries must exist in the permissions file, but they can be
combined:

      LOGNAME=userid VALIDATE=system MACHINE=system SENDFILES=YES

The remote system can be granted access to additional directories
and programs through the use of additional parameters on the
LOGNAME and MACHINE statements; these are documented in Managing
UUCP and Usenet.

> Note: One difference between the PERMISSIONS file as defined
>   in the Nutshell Handbooks and as implemented in
>   UUPC/extended is that only one user id may be specified
>   per LOGNAME entry in UUPC/extended. This restriction
>   is a security "feature"; it prevents one system from
>   logging in as another.

Forward Files

UUPC/extended has the ability to forward mail destined for a
single user or entire system or domain. Routing mail for an
entire system or domain is performed via an entry in the HOSTPATH
file, which is documented in the supplied sample HOSTPATH file.
Forwarding mail for a single user is performed by placing a file
named FORWARD in the user's home directory as defined in the
PASSWD file, and contains one or more destinations, one per line
as follows:

  address Simple address, subject to normal forwarding rules on
          the local system

2The default, carried over from UNIX, is that files are only
transmitted when you are the calling system. This means that
SENDFILES=YES is not needed on a MACHINE statement.

3This is because UUXQT runs and processes eXecute files after
UUCICO has terminated. As UUCICO has terminated, there is no way
to tell if the file were delivered by an outbound or inbound
telephone call, so UUXQT treats the file as if it were from an
outbound call.

\address   An address prefixed by a backslash; remote
              addresses are delivered normally, but if a local
              address it will be delivered without being subject to
              user id verification or forwarding.

|command   An MS-DOS command prefixed by an or bar (|). The
              mail is piped into the specified command.

pathname   The absolute path name of a file. To be
              recognized as a file, the file must begin with a slash
              (/), a tilde (˜), or a driver letter/colon sequence
              (x:). The mail is appended at the end of the specified
              file normally, with a line of binary ones separating
              mail items just as if it were a mailbox. For file
              names beginning with tilde (˜), the file name is
              expanded as described in MAIL.HLP.

As an example, the following file, if saved in the user's home
directory under the name FORWARD, would cause the mail to be
formatted to the console via the UUPC/extended FMT program, to be
forwarded to the postmaster normally, to be saved in the mailbox
for user BOGUS without checking if such a user exists or has
forwarding enabled, and finally to be saved in the user's home
directory in the file BKUPMAIL.TXT:

        |FMT
        postmaster
        \bogus
        ˜/BKUPMAIL.TXT

When Things Go Wrong

If you have difficulty getting a connection to your mail feed
working the first time, don't worry. Almost everyone has to
spend a bit of time ironing out the crinkles in a new connection.
You may wind up spending time on the phone with your mail server
system operator trying to get things to work. Don't worry. UUCP
is just like that sometimes. There are several places in
UUPC/extended where problems can crop up.

Here is a general list of the symptoms you might see, and where
to look for solutions:

            Problem   Solution

When you start a UUPC/extended application, it displays a message like "environment variable UUPCSYSRC must be specified," or "User configuration parameter "mailbox" must be set,"then exits.	You need to set the UUPCSYSRC and UUPCUSRRC environment variables. See part 8H in the installation section, above.
When you start up UUCICO, it displays a message like: "Invalid host id in c:/uupc/permi ssn, MACHINE=[name]; Unable to initialize security," then exits.	The PERMISSN file and your SYSTEMS file are inconsistent. There is an entry in your PERMISSN file which does not match a corresponding system in the SYSTEMS file, a userid which does not appear in PASSWD, or a directory does not exist. See parts 8C, 8D, and 8E.
When you start up UUCICO, it displays a message like: wanted "OK" got ??? "ERROR????" then exits.	You have a problem with your .MDM file. Check your UUPC.RC file to make sure you're using the .MDM file you think you are, then check the lines in the file to find the one that gives your modem problems. Try "uucico -x 4" to see more information as uucico processes the script.
When you try to connect to the remote machine, it refuses the connection, even though you were able to dial in with another telecommunications program.	This could be one of several things, most of which could be due to errors in the entry in your SYSTEMS file for your mail server. See part 8C. Or, you could have given your system a different name in your UUPC.RC file than the mail server expected. See part 8A.

UUPC/extended will connect but will not exchange data with another system; what's wrong?

Any number of things, which is why you should seek additional information from either a UNIX guru or the Nutshell Handbooks. However, one hint is that any programs communicating via the UUCP "g" protocol must have a clean eight bit connection; a seven bit even parity connection or connection with flow control will ruin your whole day. If you can login as a normal user to the remote system, you can use the STTY command to determine the parity and flow control settings.

After UUPC/extended picks up my mail, UUXQT tries to deliver it and fails with a message "PERMISSION DENIED". What's wrong?

A good chance is that UUXQT cannot find RMAIL. Any program invoked by UUXQT must be a .COM or .EXE file and must be in the path. Placing a command in the directory UUXQT is invoked from is not enough, because UUXQT changes directories as it runs.

When UUPC/extended logins the remote system, the remote delivers **Shere** as the first message and then **RLOGIN** as the second message. Why doesn't UUPC/extended like this second message?

The full answer (or at least the full list of the possible error responses to the second message sent to the remote host) is listed in Managing UUCP and USENET. Suffice to say here the **RLOGIN** means that the remote system does not know your system; this is caused by your system missing from the remote's **USERFILE**, **L.sys**, **Systems**, or **Permissions**4 files.

4A single system will not have all these files. For example, a UUPC/extended system or a system running the BNU version of UUCP will have **Permissions** and **Systems**.