

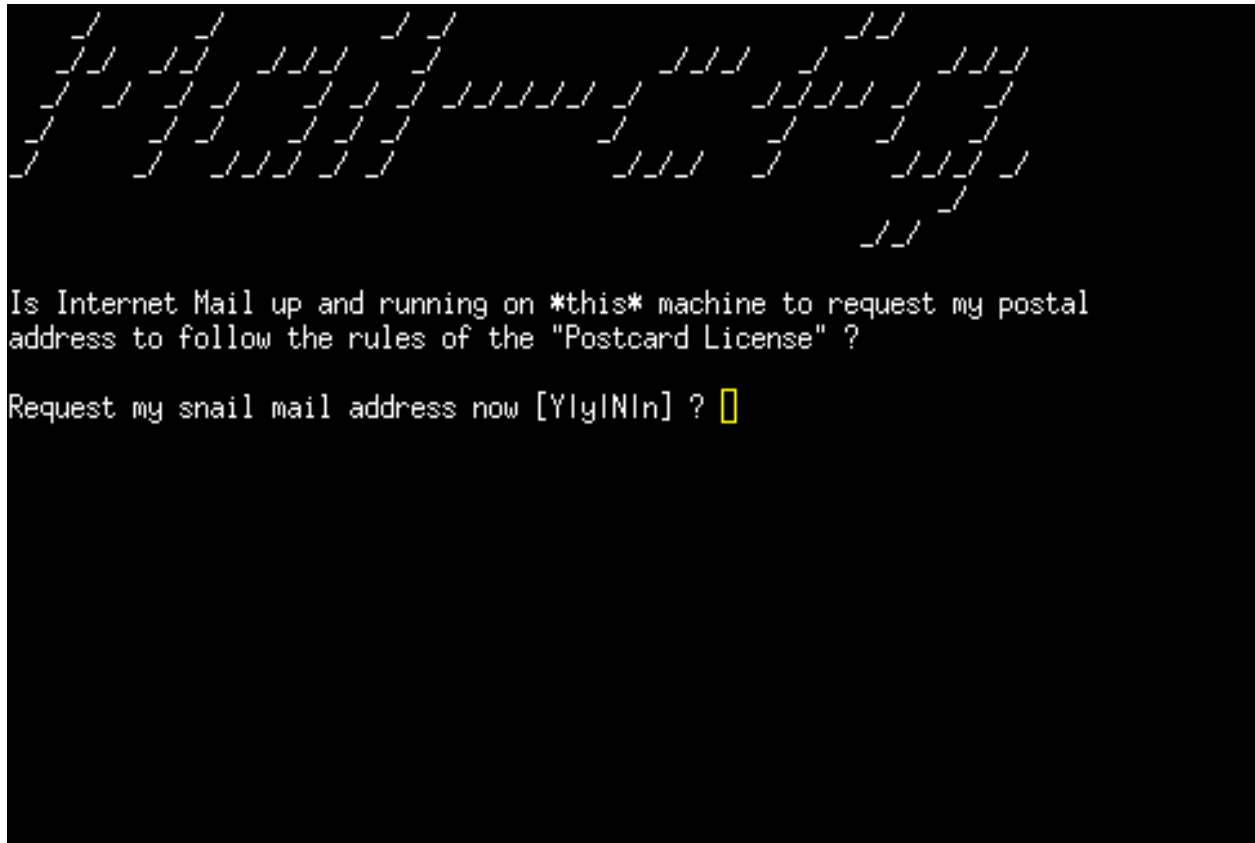
How to install a printer in DSL

Created by clivesay from the DSL Forums

This document will outline the basic steps to setup a printer in DSL. This is a step by step guide with screenshots.



Access Apsfilter by clicking on the "Printer Setup" button in the DSL Control Panel



In this screen the author asks if you would like to request his mailing address. You would normally enter "n" and press the <ENTER> key. You can enter "y" if you would like the authors address.

```
=====
A P S F I L T E R  V 7.2.5
*** The Unix Print Solution ***
=====
```

copyright Andreas Klemm, 1993-2002

andreas@apsfilter.org

<http://www.apsfilter.org/>

```
-----
for Unix systems with BSD compatible
line printer scheduler (lpd)
or with LPRng
FreeBSD / NetBSD / OpenBSD / BSDI
Linux and other flavours of Unix
-----
```

++++ INSTALLATION PROGRAM +++++

[press <RETURN> to continue]

Just press the <ENTER> key here to enter the Apsfilter setup.

```
=====
A P S F I L T E R   S E T U P                -- PROGRAM INFO --
=====
```

This SETUP script supports the user/administrator by

- configuring serial/parallel/remote printers
- creating printer spool directories as needed
- auto-creation of printcap config-file for apsfiler (add / overwrite printer)
- setting up apsfiler (which gs driver to use, paper size, print resolutions and color depth)
- printing a test page (settings may be modified until successfull ouput of a testpage)
- saves some SETUP settings in apsfiler.rc config file

it does not:

- complete printer management in printcap (delete/modify printer)

```
-----
[ press <RETURN> to continue ]
```

Press the <ENTER> key to continue

```
Checking permissions of /usr/share/apsfilter
found dir owner=root, ok!
found dir group=root, ok!

Now we are checking file permissions in spooldir

Your line printer scheduler's spooldir seems to be: /var/spool/lpd

drwxrwsr-x    2 lp      lp          40 Dec 31  2003 /var/spool/lpd

The Owner of your spooldir seems to be: lp
The Group of your spooldir seems to be: lp

Is this correct? [y/n] 
```

This screen shows the permissions for apsfiler. You should just have to enter "y" and press the <ENTER> key.

```
saving original printcap -> /etc/printcap.orig
creating a working copy of printcap -> /etc/printcap.old

It seems you have configured a printer with this script before.

Do you want to (a)dd another printer entry or
                to (o)verwrite the existing entries?
a/o? 
```

This screen allows you to setup a new printer or change an existing one. We want to add a new printer so enter an "a" and press the <ENTER> key.

```
=====
A P S F I L T E R   S E T U P                               -- MAIN MENU --
=====

(D)  Available Device Drivers in your gs binary
(R)  Read Ghostscript driver documentation      (devices.txt)

(1)  Printer Driver Selection                  []
(2)  Interface Setup                          []
(3)  Paper Format                              []
(4)  Printing Quality                         [medium]
(5)  Color Mode                               [full]
(6)  Print Resolution in "dots per inch"     [300x300]
(7)  Default Printing Method                 [auto]

(A)  Abort installation (don't do anything)
(Q)  ==> Finish installation

Your choice? █
```

Now we are ready to add our printer settings. For this example we are going to setup an Epson Stylus C62 printer that is connected via a USB port. For normal printing, you will only need to fill in values for sections 1, 2 and 3.

Type a "1" and press the <ENTER> key

PRINTER DRIVER SELECTION

Please select the type of printer you want to install:

- 1) PostScript printer (generic)
 - 2) PostScript printer (with ghostscript drivers)
 - 3) printer driver natively supported by ghostscript
 - 4) gimp-print (stp driver; version 4.2.x)
 - 5) gimp-print (ijs driver; version 4.2.1 and later)
 - 6) hpdj
 - 7) pcl3 (successor to hpdj)
 - 8) IBM Omni
 - 9) various HP Deskjet drivers
 - 10) PPA printer
 - 11) official HP DeskJet drivers (hpijs 0.97)
 - 12) official HP DeskJet drivers (hpijs 1.1 and later)
 - 13) Epson printer (official drivers)
 - 14) Lexmark inkjet printer
 - 15) miscellaneous other drivers
 - 16) non-printer devices (caution! -- read the handbook)
- 0) return to main menu

Your choice:

Here we will choose the appropriate print driver for our printer. I recommend starting with the drivers under the option 4 gimp print menu. The drivers in this menu seem to work well with most printers. If you cannot find a suitable driver, you can try drivers under the other menu options. Choose "4" and press the <ENTER> key.

Choose printer driver from the following list; remember the number.

Hint: Navigation in more:

- SPACE - page down
- b - backward one screen
- RETURN - line forward
- /pattern - search for pattern (i.e.: driver name)
- k - backward one line
- G - jump to end of file
- 1G - jump to beginning of file
- q - quit browsing file
- h - help

Press <RETURN> to continue

█

Here are our navigation options while searching for our driver. Press the <ENTER> key to continue.

```
1 - Canon BJC 30 [stp/bjc-30]
2 - Canon BJC 50 [stp/bjc-50]
3 - Canon BJC 55 [stp/bjc-55]
4 - Canon BJC 80 [stp/bjc-80]
5 - Canon BJC 85 [stp/bjc-85]
6 - Canon BJC 210 [stp/bjc-210]
7 - Canon BJC 240 [stp/bjc-240]
8 - Canon BJC 250 [stp/bjc-250]
9 - Canon BJC 1000 [stp/bjc-1000]
10 - Canon BJC 2000 [stp/bjc-2000]
11 - Canon BJC 3000 [stp/bjc-3000]
12 - Canon BJC 4300 [stp/bjc-4300]
13 - Canon BJC 4400 photo [stp/bjc-4400]
14 - Canon BJC 6000 [stp/bjc-6000]
15 - Canon BJC 6100 [stp/bjc-6100]
16 - Canon BJC 6200 [stp/bjc-6200]
17 - Canon BJC 6500 [stp/bjc-6500]
18 - Canon BJC 7000 [stp/bjc-7000]
19 - Canon BJC 7100 [stp/bjc-7100]
20 - Canon BJC 8200 [stp/bjc-8200]
21 - Canon S400 [stp/bjc-s400]
22 - Canon S450 [stp/bjc-s450]
--More-- █
```

Here is the first screen you will see. We will hit the enter key to scroll through the screen until we find a driver that references our Epson Stylus C62 printer.

```
25 - Epson Stylus C20SX [stp/escp2-c20sx]
26 - Epson Stylus C20UX [stp/escp2-c20ux]
27 - Epson Stylus C40SX [stp/escp2-c40sx]
28 - Epson Stylus C40UX [stp/escp2-c40ux]
29 - Epson Stylus C60 [stp/escp2-c60]
30 - Epson Stylus C70 [stp/escp2-c70]
31 - Epson Stylus C80 [stp/escp2-c80]
32 - Epson Stylus Color [stp/escp2]
33 - Epson Stylus Color Pro [stp/escp2-pro]
34 - Epson Stylus Color Pro XL [stp/escp2-pro-xl]
35 - Epson Stylus Color 83 [stp/escp2-83]
36 - Epson Stylus Color 400 [stp/escp2-400]
37 - Epson Stylus Color 440 [stp/escp2-440]
38 - Epson Stylus Color 460 [stp/escp2-460]
39 - Epson Stylus Color 480 [stp/escp2-480]
40 - Epson Stylus Color 500 [stp/escp2-500]
41 - Epson Stylus Color 580 [stp/escp2-580]
42 - Epson Stylus Color 600 [stp/escp2-600]
43 - Epson Stylus Color 640 [stp/escp2-640]
44 - Epson Stylus Color 660 [stp/escp2-660]
45 - Epson Stylus Color 670 [stp/escp2-670]
46 - Epson Stylus Color 680 [stp/escp2-680]
47 - Epson Stylus Color 740 [stp/escp2-740]
--More--
```

After scrolling down a short time we find "29 - Epson Stylus C60 [stp/escp2-c60]". We will want to remember the number "29". when we get to the end of the list. Press the <PAGE DOWN> key until we get to the bottom of the list.

```
112 - HP DeskJet 1120C [stp/pcl-1120]
113 - HP DeskJet 1200C [stp/pcl-1200]
114 - HP DeskJet 1220C [stp/pcl-1220]
115 - HP DeskJet 1600C [stp/pcl-1600]
116 - HP DeskJet 2000 series [stp/pcl-2000]
117 - HP DeskJet 2500 series [stp/pcl-2500]
118 - HP LaserJet II series [stp/pcl-2]
119 - HP LaserJet III series [stp/pcl-3]
120 - HP LaserJet 4 series [stp/pcl-4]
121 - HP LaserJet 4L series [stp/pcl-4l]
122 - HP LaserJet 4V, 4Si [stp/pcl-4v]
123 - HP LaserJet 5 series [stp/pcl-5]
124 - HP LaserJet 5Si [stp/pcl-5si]
125 - HP LaserJet 6 series [stp/pcl-6]
126 - HP PhotoSmart P1000 [stp/pcl-P1000]
127 - HP PhotoSmart P1100 [stp/pcl-P1100]
128 - Lexmark 4076 [stp/lexmark-4076]
129 - Lexmark Z42 [stp/lexmark-z42]
130 - Lexmark Z43 [stp/lexmark-z43]
131 - Lexmark Z52 [stp/lexmark-z52]
Which driver do you want to choose?
[Hit RETURN to see the list again, enter 0 to choose new type.]

Enter number: 29
```

Now enter the number "29" and press the <ENTER> key to choose the Epson C62 driver. You will be asked if you want to accept that driver. You want to answer "y" and press the <ENTER> key again.

```
=====
A P S F I L T E R   S E T U P                               -- MAIN MENU --
=====

(D)   Available Device Drivers in your gs binary
(R)   Read Ghostscript driver documentation      (devices.txt)

(1)   Printer Driver Selection                  [stp/escp2-c60]
(2)   Interface Setup                          []
(3)   Paper Format                             []
(4)   Printing Quality                        [medium]
(5)   Color Mode                              [full]
(6)   Print Resolution in "dots per inch"     [300x300]
(7)   Default Printing Method                 [auto]

(A)   Abort installation (don't do anything)
(Q)   ==> Finish installation

Your choice? █
```

We have selected the driver and now we want to tell Apsfilter how your printer is connected to your PC. Enter option "2" and press the <ENTER> key.

A P S F I L T E R S E T U P

-- Interface Setup --

The easiest way, to connect a printer to your computer is by using the parallel interface, because it's usually *faster*, more standardized and therefore much easier to configure.

When configuring a serial printer, the installation dialogue asks you many questions about how to configure the serial interface of your computer, so that it works well with your printers current settings.

When using the serial interface, then you have to choose special cables, depending on the communication protocol between computer and printer (hardware/software handshaking). Many pitfalls here !

currently selected: Interface: []
 Device: []

configure local / remote printer

- | | |
|-------------------------------|-------------------------|
| 1) local parallel/USB | 2) local serial |
| 3) Unix/network printer (lpd) | 4) Windows / NT (samba) |
| 5) AppleTalk | 6) Novell NetWare |

Your choice?

Our printer is connected to the PC via a USB cable so we will choose option "1". Choose option "1" and press the <ENTER> key.

```
-----  
A P S F I L T E R   Parallel Interface Settings   -- Device --  
-----
```

Depending on your flavour of Unix, you have to enter the *full path* to your parallel Interface. In case of trouble please contact your local system administrator or read your operating systems technical documentation, FreeBSD handbook or Linux HowTo. Some examples:

```
FreeBSD, NetBSD, OpenBSD:  LPT1: /dev/lpt0   LPT2: /dev/lpt1  
    USB under *BSD:       /dev/ulpt0     /dev/ulpt1  
    USB (no reset):      /dev/unlpt0    /dev/unlpt1  
Linux:                    LPT1: /dev/lp0     LPT2: /dev/lp1  
    with devfsd:         /dev/printers/0 /dev/printers/1  
    USB under Linux:     /dev/usb/lp0   /dev/usb/lp1  
SunOS4:                   /dev/bpp0      /dev/bpp1  
  
currently selected:      Interface: [parallel]  
                        Device:   []
```

```
Full path of parallel print device: []
```

We are working with a Linux OS and most likely your printer is on the port LPT1. Since we are connected with a USB cable we will want to use the option shown under the LPT1 option that says "USB under Linux". Under "Full path of the parallel print device:" we want to enter:

```
Full path of the parallel print device: /dev/usb/lp0   press the <ENTER>  
key
```

If we were using a parallel printer cable to connect to the PC we would have entered */dev/lp0*


```
=====
A P S F I L T E R   S E T U P                               -- MAIN MENU --
=====

(D)   Available Device Drivers in your gs binary
(R)   Read Ghostscript driver documentation      (devices.txt)

(1)   Printer Driver Selection                  [stp/escp2-c60]
(2)   Interface Setup                          [parallel]
(3)   Paper Format                             []
(4)   Printing Quality                        [medium]
(5)   Color Mode                              [full]
(6)   Print Resolution in "dots per inch"     [300x300]
(7)   Default Printing Method                 [auto]

(A)   Abort installation (don't do anything)
(Q)   ==> Finish installation

Your choice? █
```

Option 2 shows 'parallel' but that is OK. That value will show for parallel or usb port printers. We are now ready to define the paper format. Choose option "3" and press the <ENTER> key.

```
-----  
A P S F I L T E R   S E T U P  
-----
```

```
-- Paper Format --
```

```
What paper format do you want to use for printing?
```

- 1) DIN A4 (21,0cm x 29,7cm)
- 2) DIN A3 (29,7cm x 42,0cm)
- 3) US letter (8,5in x 11,0in)
- 4) US legal (8,5in x 14,0in)
- 5) US tabloid (11,0in x 17,0in)
- 6) US ledger (17,0in x 11,0in)

```
Your choice? █
```

We want to choose our paper format. I will choose "US Letter" for this example. Choose option "3" and press the <ENTER> key.

```
=====
A P S F I L T E R   S E T U P                               -- MAIN MENU --
=====

(D)   Available Device Drivers in your gs binary
(R)   Read Ghostscript driver documentation      (devices.txt)

(1)   Printer Driver Selection                  [stp/escp2-c60]
(2)   Interface Setup                          [parallel]
(3)   Paper Format                              [letter]
(4)   Printing Quality                         [medium]
(5)   Color Mode                               [full]
(6)   Print Resolution in "dots per inch"     [300x300]
(7)   Default Printing Method                 [auto]

(T)   Print Test Page
(V)   View performance log (times of print attempts)

(A)   Abort installation (don't do anything)
(I)   ==> Install printer with values shown above - repeat this
      step for installing multiple printers
(Q)   ==> Finish installation

Your choice? 
```

Now we are ready to test our printer by printing a test page. Choose "T" and press the <ENTER> key. You will be asked if you are sure you want to print a test. After a few seconds, a test page should start to print. If you do not get a test page, you may need to go back to option "1" to ensure you have chosen the correct driver for your printer. Another thing to check would be the device path in option "2" to make sure there isn't a typo in the path name.

```
T) Print a test page
*) Back to main menu

Your choice? t

Printing Test page using:
gs -q -dBATCH -dNOPAUSE -dPARAMIDSAFER -dSAFER -r360x360 -sDEVI
CE=stp -sPAPERSIZE=letter -sQuality=360sw -dImageType=1 -dColor=1
-sMediaType=Plain -sModel=escp2-c60 -sOutputFile='/tmp/apsfilter817/test_page.
aps' setup/test.ps

Ok to print testpage? [y/n] y

Creating test page...

real    0m10.798s
user    0m4.500s
sys     0m0.350s

Printing test page...
-rw-r--r--  1 root   root   1900139 Apr 15 19:05 /tmp/apsfilter817/test_p
age.aps
█
```

Here is a screenshot of the test page being sent to the printer. After the test page is successful, press the <ENTER> key to return to the main setup menu.

```
=====
A P S F I L T E R   S E T U P                               -- MAIN MENU --
=====

(D)   Available Device Drivers in your gs binary
(R)   Read Ghostscript driver documentation      (devices.txt)

(1)   Printer Driver Selection                  [stp/escp2-c60]
(2)   Interface Setup                          [parallel]
(3)   Paper Format                              [letter]
(4)   Printing Quality                         [medium]
(5)   Color Mode                               [full]
(6)   Print Resolution in "dots per inch"     [300x300]
(7)   Default Printing Method                 [auto]

(T)   Print Test Page
(V)   View performance log (times of print attempts)

(A)   Abort installation (don't do anything)
(I)   ==> Install printer with values shown above - repeat this
      step for installing multiple printers
(Q)   ==> Finish installation

Your choice? █
```

If your printer is setup properly, we are ready to finalize the installation. Choose the "I" option and press the <ENTER> key to give your printer a name.

```
Please enter a printer queue name for printer 'stp/escp2-c60'.  
The default name is 'lp'.
```

```
Your choice: 
```

Here we will enter the name of our printer. If you just press the <ENTER> key your printer will be given the name "lp". We will name our printer "EPSON_C62". Press the <ENTER> key to continue.

```
Please enter a printer queue name for printer 'stp/escp2-c60'.  
The default name is 'lp'.
```

```
Your choice: EPSON_C62
```

```
** creating printcap entry for printer EPSON_C62...  
   creating spooldir ...  
   remember SETUP settings in printers apsfilterrc file...  
** done.
```

```
[ press <RETURN> to continue ] █
```

Press the <ENTER> key to accept the printer name.

```
=====
A P S F I L T E R   S E T U P                               -- MAIN MENU --
=====

(D)   Available Device Drivers in your gs binary
(R)   Read Ghostscript driver documentation      (devices.txt)

(1)   Printer Driver Selection                    [stp/escp2-c60]
(2)   Interface Setup                            [parallel]
(3)   Paper Format                                [letter]
(4)   Printing Quality                           [medium]
(5)   Color Mode                                 [full]
(6)   Print Resolution in "dots per inch"       [300x300]
(7)   Default Printing Method                    [auto]

(T)   Print Test Page
(V)   View performance log (times of print attempts)

(A)   Abort installation (don't do anything)
(I)   ==> Install printer with values shown above - repeat this
      step for installing multiple printers
(Q)   ==> Finish installation

Your choice? 
```

Congratulations! You have setup your printer. You can setup more printers if you like. We will choose option "Q" to quit Apsfilter. You can hit the <ENTER> key repeatedly to exit Apsfilter and get back to the DSL Control Panel.


```
dsl@box:~$ export PRINTER=EPSON_C62
```

You are almost ready to print. Open a console window so that all applications will recognize your printer.

Type "export PRINTER=EPSON_C62" substituting the name of your printer for 'EPSON_C62'

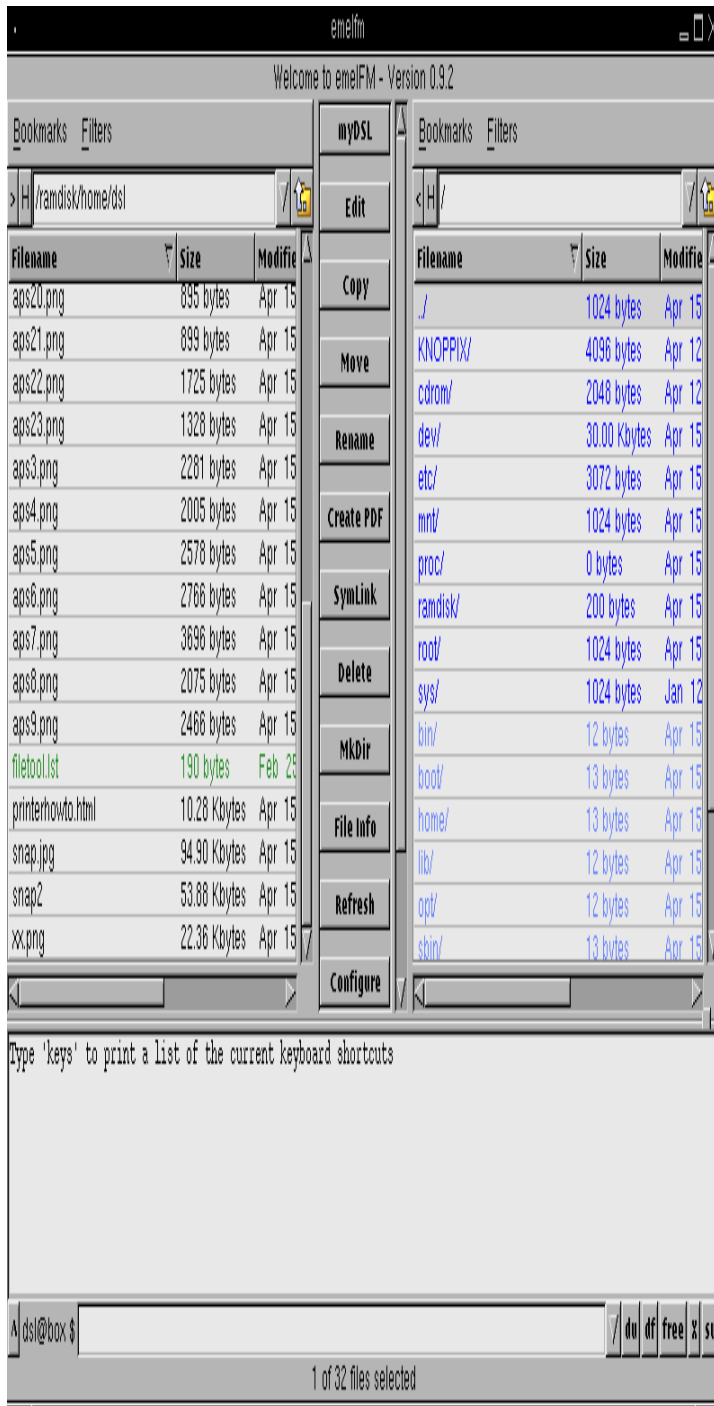
Now you should be able to use your printer in all applications. Congratulations on setting up your printer!!



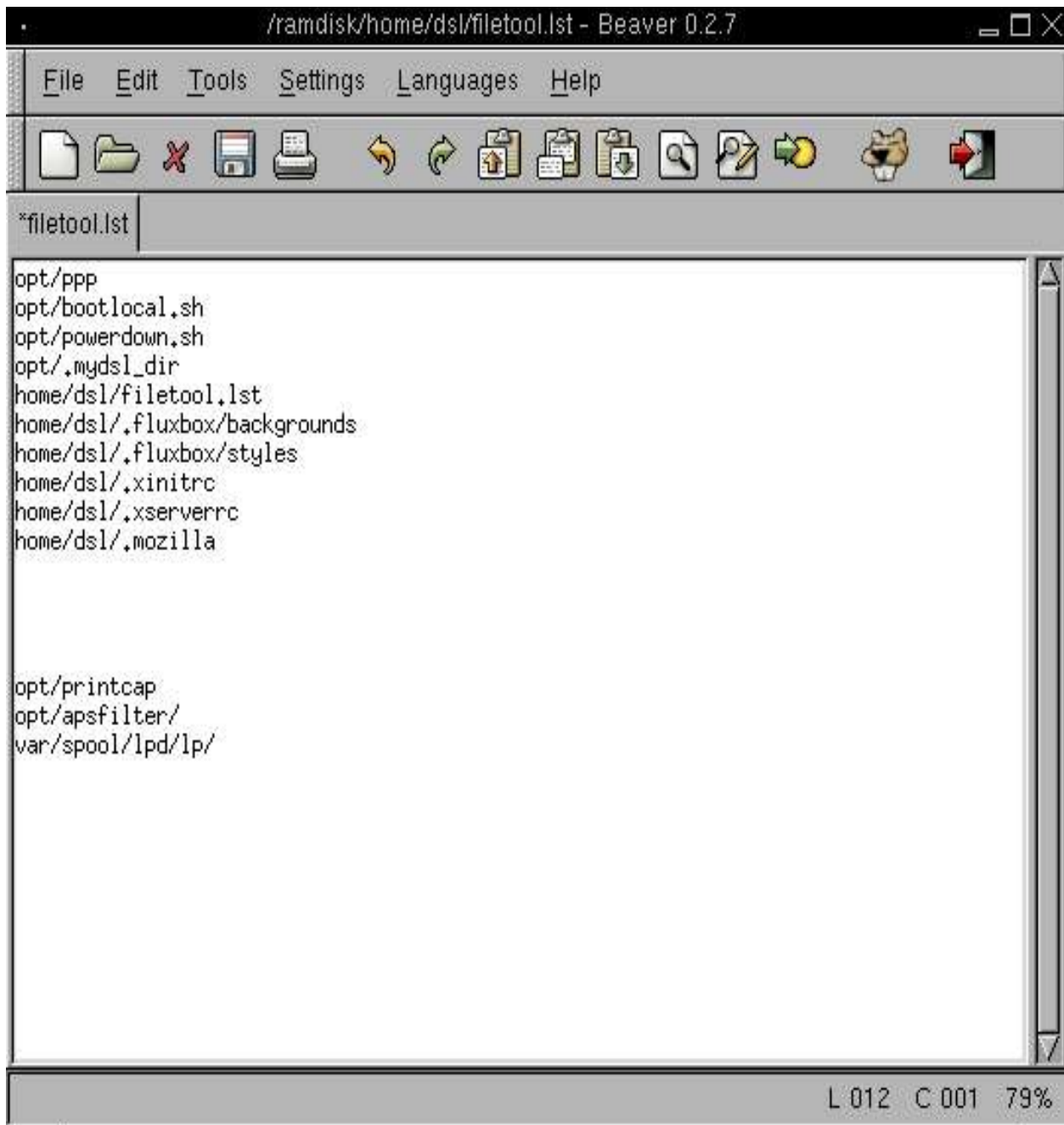
Now we need to start the printer daemon before we can print in applications. Click on the "Printing/lpd" button to turn on the print daemon.

If you are running a regular hard drive install, you are done. If you are running from USB, CD or frugal install with the backup/restore features, there are a few more steps to complete to save your printer settings.

THE FOLLOWING INSTRUCTIONS ARE FOR LIVE CD, USB and FRUGAL install options utilizing the backup/restore features.



Open the Emelfm file manager and choose the "filetool.lst" file in the /home/dsl directory. Choose the file and click the <EDIT> button.

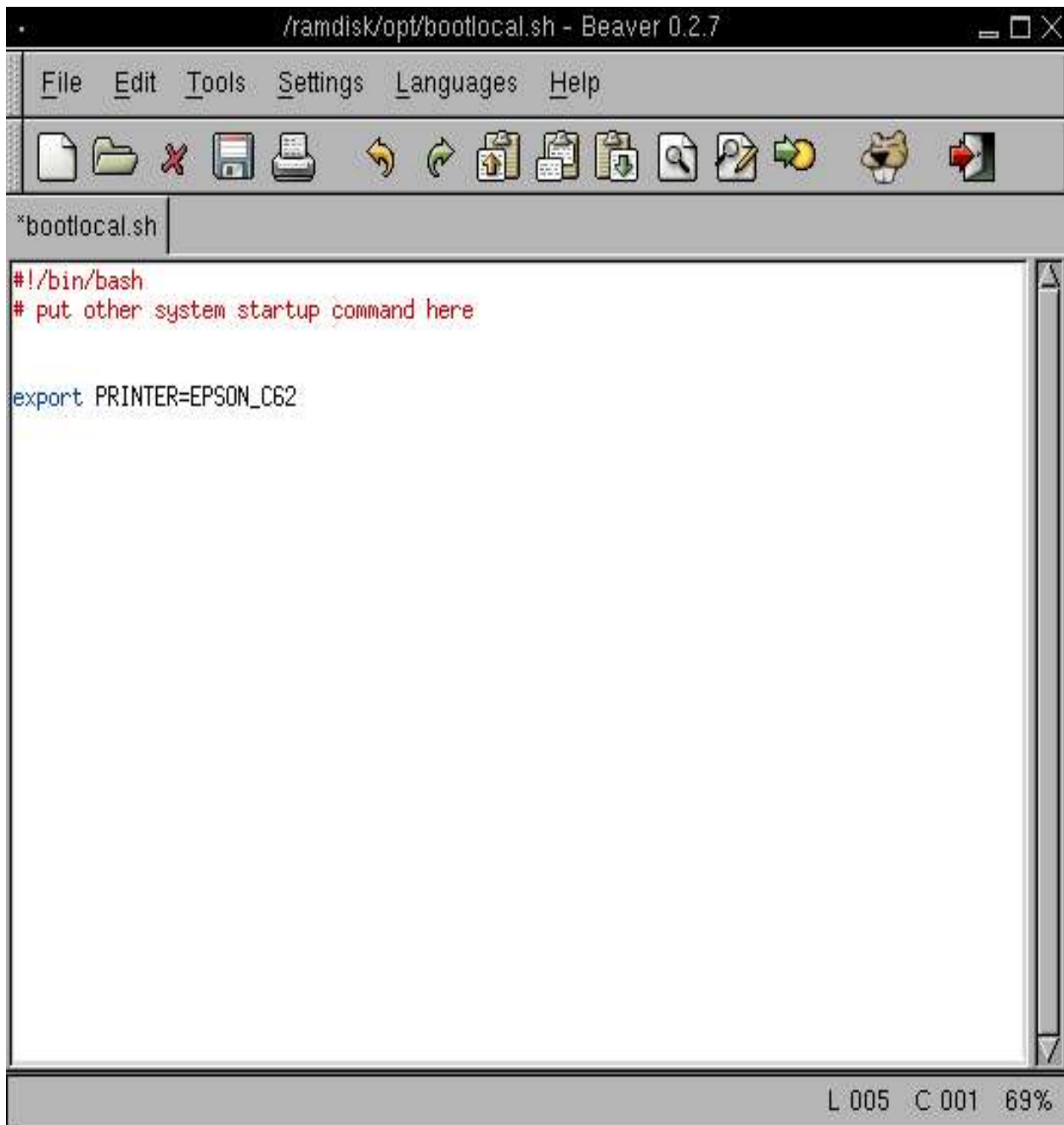


In your filetool.lst file you will want to add three entries. I have separated them from the others for illustration. The last entry must contain your printer name. For our example, the entries would be as follows:

```
opt/printcap
opt/apsfilter/
var/spool/lpd/EPSON_C62
```



Now we want to go to the /opt directory in Emelfm to add some commands to the bootlocal.sh file. This file contains scripts you would like to run when your PC boots up. Choose the bootlocal.sh file and press the <EDIT> button.



We need to enter the same comand in bootlocal.sh that we entered in the console earlier. This will allow all apps to use your printer without you having to enter your printer information.

```
#!/bin/bash
# put other system startup command here

export PRINTER=EPSON_C62

/usr/sbin/lpd
```

This is one more option you can add to `bootlocal.sh` if you would like the printer daemon to start automatically at boot. As shown above, add `/usr/sbin/lpd` and save.

That's it for this howto. Enjoy your printer!!