

Overview

The Codonics NP-1660 Direct Thermal and Dye Sublimation Printer allows users to print on both classic Dye Diffusion paper and ribbon, and new DirectVista™ Film and Paper. This breakthrough technology necessitated creating a media handling scheme in order to give users greater control over image processing. Users can customize settings for each of the four media types, and may instruct the printer to pre-serve jobs until the proper media is loaded.

By configuring logical device extensions, individuals control onto which media type and size their jobs will print. These extensions, or “job preferences,” or “job settings” provide the best control over printing, superseding user preferences, media preferences, and the front panel defaults.

The most useful benefit of job settings is that they allow users to queue jobs at the printer to be printed on media *other than that which is currently loaded*. When the correct media is then installed, the printer will automatically print the queued jobs.

See “Technical Brief, Advanced Queuing” for more information.

The mechanism for defining job settings is similar to the mechanism for installing user settings on the NP-1600: a text file containing the job settings is sent to the printer’s Settings Device. Unlike user settings, job settings for the 1660 require a user-defined device extension. To utilize the extended device, the user logs into the printer using the password of the Logical Device plus extension. See “Sending an Image to an Extended Device” in this document.

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An alternative to job-based preferences, “Media-Based User Preferences” allows the user to control settings by media type (see “Media-Based User Preferences”) rather than by individual job. The printer applies the Media-Based settings to any print job of the correct type: DV paper, DV film, CV paper or CV film. Default media-based settings are entered at the front panel, or user settings can be established using logical device 0. Unlike job settings, media-based preferences are based solely on the currently loaded media.

Specifying a Job Settings Device

As described in the “Submitting a Job Settings File” section, job settings are specified with a dot (.) extension to the Logical Device. For FTP, the **.xxxx** is added to the password when logging onto the printer. Typically, UNIX LPR requires adding a printcap or equivalent entry to the host system, which is best handled by a system administrator. Some LPR programs permit specification of the remote device directly. For Windows or Mac LPR, it will be necessary to create a new printer in Printer Wizard or the Desktop Admin Tool. The new entry will have the logical device **1.xxx** where xxx is the logical device extension.

To create an extended device on the printer, a user sends a settings file (see section “Job Settings File Format”) to the printer’s logical device **0.xxx** where xxx is the name of the extension. (See section “Submitting a Job Settings File”). The printer will save the settings *only* for the username under which the file was sent.

To create default settings that will be available to all users, log in as **root**. As a convenience, several **root** job settings have been preconfigured on the printer which are accessible by all users. The following section describes these device extensions.

Preconfigured Job Settings

The printer comes preconfigured with a collection of job settings for each of the valid media size and type combinations. These settings dictate *only* media size and type, not image correction; those settings will be picked up from the media-based preferences. The collection is named using a scheme based on the media type and/or size. Here is the complete list (note that all characters are lower-case):

Media Type	Device Extension
CV Paper	a-cvp, a4-cvp, la-cvp, la4-cvp, xla-cvp, xla4-cvp, xlw-cvp
CV Transparency	a-cvt, a4-cvt, la-cvt, la4-cvt, xla-cvt, xla4-cvt
DV Paper	a-dvp, a4-dvp, la-dvp, la4-dvp, xla-dvp, xla4-dvp, xlw-dvp
DV Film	8x10-dvf

Job Settings File Format

A job settings file is an ASCII text file containing parameter names and values. The general form of the file is as follows:

```
{param_name} {param_value}
...
{param_name} {param_value}
```

See the following table for parameter name and value combinations.

Parameter Name	Parameter Values
MEDIASIZE	A, A4, LONGA, LONGA4, XLONGA, XLONGA4, XLONGWIDE, 8X10
MEDIATYPE	CVPAPER, CVTRANS, DVFILM, DVPAPER
GAMMA	0.1 - 10.0
CONTRAST	-100 TO +100
MCM	0 TO 17 or OEM-ASSIGNED
TCR	0 TO 100
ROTATE	NEVER, ALWAYS, AUTO
SCALE	BOX, BILINEAR, BICUBIC, MITCHELL, LANCZOS
ANTIALIAS	NONE, BETTER, BEST

All values are case-insensitive (e.g. SCALE is equivalent to scale).

An example job settings file might contain the following:

```
MEDIASIZE 8x10
MEDIATYPE DVF
SCALE LANCZ
```

Prints sent to this extended device should print on 8x10 DirectVista™ Film, and should be scaled using the Lanczos algorithm. All other image processing parameters will be picked up from the media type settings.

As with all settings files sent to an NP Series printer, job settings must be plain ASCII text files. Word processors often embed control characters and other non-ASCII bytes in the files, and these extra characters make the file unreadable to the printer. The **vi** command on UNIX systems, **edit** on MS-DOS and Windows systems, or WordPad (and save as text) for Windows 95 and NT 4.0 systems will work nicely. For Macintosh systems, use the text editor provided on the Apple Laserwriter 8.1.1 Driver and NP-1660 PPD File diskette, or download a text editor from ftp.codonics.com/pub/mac.

Submitting a Job Settings File

Either FTP or LPR can be used to send a settings file to logical device 0. For LPR, the printer picks up the username from the host system, and for FTP it uses the username specified during FTP login. The username is important; job settings will be saved for this username only.

Unlike user settings files for the NP-1600, the job settings must be given a name, which becomes the logical device extension. So the password or queue name becomes **0.xxx**, where xxx is the new job settings extension.

A job settings name must be between 1 and 32 characters in length, and can contain any of the following characters:

```
'a' to 'z'
'A' to 'Z'
'0' to '9'
'_', '-', '.'
```

but not periods or spaces. Names are case sensitive.

An example: User jsmith has created a job settings file, named myjobset.txt. He gives these job settings the name joes-jobset and submits them using FTP, as follows:

ftp myprinter

```
Connected to myprinter.
220 np1660 FTP server ready.
Name (myprinter:username): jsmith
331 Use printer # [0-2, 8, 9, 10, 11-99, 100-104, 135, 300] for password.
Password: 0.joes-jobset Note: Password will not display
230 User jsmith logged in on System device.
ftp> bin
200 Type set to I.
ftp> put myjobset.txt
200 PORT command successful.
150 Opening BINARY mode data connection for myjobset.txt.
226 Transfer complete.
local: myjobset.txt remote: myjobset.txt
19 bytes sent in 0.00049 seconds (3.9e+02 Kbytes/s)
ftp>bye
221 Goodbye.
```

Note: The file *must* be transferred in binary mode when using FTP.

Rules for Processing Job Settings Files

Certain rules for processing the settings file are applied:

1. All invalid lines are ignored.
2. If an invalid combination of media type and media size is indicated, the job settings file is not processed. The table below indicates the valid combinations. Not all of these media may be currently available.

Media Size	Media Type
A	CVP, CVT,DVP
A4	CVP, CVT,DVP
LONGA	CVP, CVT,DVP
LONGA4	CVP, CVT,DVP
XLONGA	CVP, CVT,DVP
XLONGA4	CVP, CVT,DVP
XLONGWIDE	CVP, DVP
8X10	DVF

CVP = ChromaVista™ Paper

CVT = ChromaVista™ Transparency

DVP = DirectVista™ Paper (media not currently available)

DVF = DirectVista™ Film

3. If a job preference set for the specified user and name already exists, it is *completely* replaced by the new set. When editing existing settings, send a file containing all settings, new or not.

Sending an Image to an Extended Device

It is necessary to log in with the same username used to create the device. Default device extensions are the one exception; they are valid for all usernames. Images must then be sent to the appropriate *logical device.extension*, i.e. *2.xxx* or *23.yyy* for the settings to take effect.

A sample FTP session for myimage.tif on A-size ChromaVista™ Paper using the Scaled device (Logical Device 2):

```
$ ftp myprinter
Connected to myprinter.
220 np1660 FTP server ready.
Name (myprinter:username): jsmith
331 Use printer # [0-2, 8, 9, 10, 11-99, 100-104, 135, 300]
for password.
Password: 2.a-cvp Note: Password will not display
230 User jsmith logged in on Scaled device.
ftp> bin
```

```
200 Type set to I.
ftp> put myimage.tif
200 PORT command successful.
150 Opening BINARY mode data connection for myim-
age.tif.
226 Transfer complete.
local: myimage.tif remote: myimage.tif
922094 bytes sent in 1.2 seconds (7.3e+02 Kbytes/s)
ftp> quit
221 Goodbye.
```

Determining the Media Type and Size

Information about a job's media size comes from one of two places:

1. The associated job settings.
2. The currently loaded media.

If the job settings do not indicate media size or type, then the printer assigns the missing value from the media loaded at the time the print is processed. The loaded media size must not change for jobs with unspecified sizes, i.e. do not send a print while A-sized paper is loaded, then change to 8x10 while the job is processing. If the media type changes, then the incorrect image processing parameters may be applied.

Once media type and size are determined they are permanently associated with the print job, and are queued and printed accordingly. See the "Advanced Queuing" technical brief for an in-depth discussion.

Determining Image Processing Parameters

Job settings are primarily used to specify the media size and/or type for a particular print job. Job settings can also override user settings on a print job if the job settings contain image processing parameters (e.g. Gamma, Contrast, MCM).

Querying Job Settings

Users familiar with Telnet can easily obtain a list of available job settings for a specific user and for the system defaults.

To determine available job settings, do the following:

1. Telnet to printer's *hostname* or *IP Address*.
2. Login as *root*
3. Go to the job settings directory for the desired user:
cd /data/tmp/system/username.d
4. List the files there using **ls**.
5. The files are plain-text. To read the contents of a given file, type **more [filename]**.

Each file in the directory represents the job settings of the same name. The system defaults have the username of *root*.

Get it all with just one call
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