

# Appendix A: Unimplemented Commands

The following proposals have been approved but are not yet implemented in an introduced product. They will be included in the main body of the next version of the Implementor's Guide

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# Alphanumeric IDs

Alphanumeric IDs allow selection by filename of PCL objects (fonts, macros, palettes, symbol sets) on a mass-storage device. Alphanumeric IDs reduce the chance of multiple users selecting the same numeric ID (collision) and consequently deleting another user's object from memory. Applications should have the same object-selection process for either RAM or mass storage so they can use an object without knowing whether the object is on RAM or mass storage. The Alphanumeric ID command (*Esc*&#W) can specify a string name as the object ID. It can also associate the current ID, whether numeric or alphanumeric with a string name so the object can be selected without regard to its location.

## Alphanumeric ID *Esc* & # W [operation][string]

Specifies an alphanumeric string name and the operation to be performed on that name.

Value(#) = Bytes of data after W (length of the string name plus 1)

Default = NA

Range = 2 to 2<sup>16</sup>

The first byte of binary data specifies the type of operation to be performed with the string name. The second byte is the start of the string name. The string name length is the specified value (#) minus 1.

Operation	Description
0	Designate the supplied string name as the current font ID. This is analogous to designating a numeric value for the font ID ( <i>Esc</i> *c#D). The last-sent ID, whether numeric or alphanumeric, becomes the current ID. A subsequently downloaded font is given the current ID.
1	Make the current font ID an <i>associate</i> ID of the specified font. The font now has two IDs. The original name is used for font management commands on the font, and the new associated name is used when selecting the font for usage.
2	Designate as primary the font having the specified associate ID.
3	Designate as secondary the font having the specified associate ID.
4	Designate the supplied string name as the current macro ID.
5	Associate the current macro ID with the specified macro. The original macro name is used for macro management, and the new associated name is used when executing, calling, or overlaying.
100	Select the media type by alphanumeric name (see the next section)

The following operations are not yet supported in any product.

6	Designate the supplied string name as the current pattern ID.
7	Associate the current pattern ID with the specified pattern.
8	Designate the supplied string name as the current palette ID
9	Associate the current palette ID with the specified pattern.
10	Designate the supplied string name as the current symbol set ID
11	Associate the current symbol set ID with the specified symbol set.

The following rules apply to objects with alphanumeric IDs:

- An object located on mass storage devices may have only an alphanumeric ID; but a downloaded RAM object, such a font, may have either an alphanumeric or numeric ID.
- Disk fonts and downloaded RAM fonts with alphanumeric IDs may not be selected by attributes.
- The associate of an object is considered to be temporary. Therefore any font management commands that affect temporary objects has the same effect on the association of an object.
- PCL objects downloaded to RAM and given an alphanumeric ID can be either temporary or permanent, just as for fonts with numeric IDs. The font management commands work the same on downloaded alphanumeric objects as numeric objects.
- Objects located in mass storage cannot be modified, deleted, or set temporary or permanent through the PCL language, which does not allow disk management.

### Example: Downloading a Font to a String Name

Downloading a font to a string name is the same as downloading a font to a numeric ID.

<i>Esc&amp;n8W&lt;00h&gt;TTFont1</i>	Set alphanumeric font ID to “TTFont1”
<i>Esc)s#W[data]</i>	Download the font. It is assigned the ID “TTFont1”

### Example: Associating the Current Font ID to a Font with a String Name

A font with a string name must first be associated with new ID. This association is required so mass storage and RAM operations will be the same.

<i>Esc&amp;n16W&lt;00h&gt;AssociateFontID</i>	Set the current font ID to “AssociateFontID”
<i>Esc&amp;n12W1UnivRomanID</i>	Associate the current font ID with a disk or RAM font having the ID “UnivRomanID”. This gives the font named “UnivRomanID” as second name, the current font ID.
<i>Esc&amp;n16W2AssociateFontID</i>	Designate as primary the font with an associate name of “AssociateFontID”. This makes the font originally named “UnivRomanID” primary.

### Example

A font with string name may be associated to any font ID, whether numeric or alphanumeric.

<i>Esc*c10D</i>	Set the current font ID to 10.
<i>Esc&amp;n1&lt;00h&gt;W1TimesRmID</i>	Find the font with the ID of “TimesRmID” on disk or in RAM and give it the associate ID of 10.
<i>Esc)10X</i>	Designate as secondary the font with an associate ID of 10.

## Alphanumeric IDs for Media Types

Selecting a paper tray by media type eliminates the need for “locking” or explicitly selecting a particular tray. The user need not know which tray contains the correct media type. Alphanumeric IDs also allow the selection of user-definable media types (e.g., psychedelic bond paper) in a network environment. Of course, this concept applies only to a device's auto-selectable input trays (see Media Source: *Esc&l#H*); input trays that must be explicitly selected (e.g., a manual feed tray) still need a specific request for that tray.

The advent of media type selection in connection with paper size selection should eliminate the need for paper source selection in many cases. However, there may be some instances in which the paper source is still specified (e.g., requesting an implicit-selectable tray such as the Manual feed tray) or when the media type and/or paper size is not specified (e.g., when using older host drivers). The following table illustrates which media type and paper size will be used in these different situations:

Media Type	Paper Size	Paper Source	Size/Type Used
Not Specified	Not Specified	Not Specified	Default Size Default Type
Not Specified	Not Specified	Specified (Not Manual Feed)	Default Size Type configured in specified tray
Not Specified	Not Specified	Specified (Manual Feed)	Manual Feed Request Default Size
Not Specified	Specified	Not Specified	Specified Size Default Type
Not Specified	Specified	Specified (Not Manual Feed)	Specified Size Type configured in specified tray
Not Specified	Specified	Specified (Manual Feed)	Manual Feed Request Specified Size
Specified	Not Specified	Not Specified	Default Size Specified Type
Specified	Not Specified	Specified (Not Manual Feed)	Default Size Specified Type
Specified	Not Specified	Specified (Manual Feed)	Manual Feed Request Default Size Specified Type
Specified	Specified	Not Specified	Specified Size Specified Type
Specified	Specified	Specified (Not Manual Feed)	Specified Size Specified Type
Specified	Specified	Specified (Manual Feed)	Manual Feed Request Specified Size Specified Type

A media source is considered "Not Specified" if a Media Source command has not been received or if Media Source is Autoselect (7). A media type is considered "Not Specified" if an Alphanumeric ID command for media type (value 100) has not been received.

The default media type may be redefined via PML.

To use media type alphanumeric IDs effectively, a device must be capable of being queried via PML about which alphanumeric IDs the device has available (although the printer may support many types, the ones available to the user may be limited as set via PML). This is important because new IDs may have been defined, or pre-defined IDs may have been redefined.

Each device may support a set of pre-defined alphanumeric ID's for media types. The string comparison is independent of the symbol set.

DEVICE NOTE: The following are the proposed pre-defined alphanumeric ID's for Eclipse:

- Plain (factory default type)
- Letterhead
- Preprinted
- Labels
- Transparency
- Prepunched
- Bond
- Recycled
- Color
- Cardstock

Additionally, the following five defined IDs may be changed via PML commands:

User Type 1, User Type 2, User Type 3, User Type 4, and User Type 5.

Selecting the type "Default" causes the printer to consider the media type to be "Not Specified". Selecting an undefined or unavailable ID causes Eclipse to generate a Manual Feed request.

# Cluster Printing

In vertical printing (*Esc&c#T*), a cluster consists of two or more characters printed side-by-side. A pair of such characters is generally at half width and occupies the space of a full-width character. Pair clusters are mostly numerals, used for dates or values.

## Cluster Printing *Esc & c # W [data]*

Value(#) = Number of bytes in the data field  
 Default = NA  
 Range =  $\geq 1$

The first byte in the data field specifies the number of characters to be clustered; the remaining bytes are the character codes. Since the number of bytes used for each character depends on the text parsing method (*Esc&t#P*) — one-byte or two-byte — the number of bytes may be different than the number of characters.

Excess bytes or incomplete character codes are ignored. If no character parsing is possible, nothing is printed and CAP is advanced to the next position. Characters outside the logical page are discarded.

The cluster is centered on the vertical baseline. Characters within the cluster are positioned horizontally according to the normal horizontal spacing. The CMI default depends on the font: whether fixed, dual fixed, or proportional.

**NOTE:** This command is ignored and the data discarded if Text Path Direction (*Esc&c#T*) is not in vertical mode.

# Media Source for Multi-Tray Input Devices

The Eclipse printer will have three input trays, one more than the LaserJet 4Si. The additional tray resembles LaserJet 4's MP tray, but is being referred to as Tray 1. The value 8 is being added to the Media Source command to select the third tray.

For high-capacity input (HCI) devices with multiple trays, the values 20-39 have been set aside. The value 5 is still used to select the first tray of a high-capacity input device to retain backwards compatibility.

## Media Source *Esc & l # h/H*

Selects the media source.

Value(#)	=	-1	Tractor feed
	=	-2	Preload (a sheet is loaded prior to printable data)
	=	0	Print current page (source is unchanged)
	=	1	Tray 1 (usually the upper tray in a 2-tray system)
	=	2	Manual feed
	=	3	Manual envelope feed
	=	4	Tray 2 (usually the lower tray in a 2-tray system)
	=	5	Optional media source
	=	6	Optional envelope feeder *
	=	7	Autoselect
	=	8	Tray 3
	=	20-39	Reserved
Default	=		Device dependent
Range	=		-2 to 30 (non-existent selections cause a default)

\* Must be used in conjunction with an envelope selection using the *Page Size* command,.

This command prints the current page and moves CAP to top of form at the left margin on the next physical page. The command remains effective until another tray is selected.

A value of 7 (autoselect) selects the current printer default source. The user, through the application, may select a particular tray for the first page or pages (e.g., a fancy cover page), then choose autoselect to pull paper from a default tray (e.g., containing standard paper). This is different than option 0, which continues printing from the currently selected source. The "default" source may be user-selected, or based upon the printer's own algorithm.

DEVICE NOTE: In a multibin LaserJet, *Page Size* has priority over *Media Source*: if paper is requested from a location containing an incorrect paper size, the printer selects the paper location with the currently selected size if one is available. The default paper source is determined by the default page size.

DEVICE NOTE: When compared to LJ4Si, Eclipse has an additional input tray that resembles LJ4's MP tray. The value 8 is added to the command for the additional tray. Thus, Eclipse has three input trays. For high capacity input (HCI) devices with multiple trays, the values 20-39 have been set aside. The value 5 is still used to select the first tray of a high capacity input device to retain backwards compatibility.

DEVICE NOTE: The mappings for selected LaserJet printers are:

Value (#)	LJ4, 4+, 4V	LJ4Si	Eclipse
1	PC tray	Upper cassette	Upper drawer
2,3 (manual feed)	MP tray	Manual feed slot	Side tray, manual feed
4	MP as cassette	Lower cassette	Lower drawer
5	LC tray		First tray of HCI
8			Side tray
20-39			Trays 2-21 of HCI

DEVICE NOTE: On the Color LaserJet, the mappings are:

- 1 = Feed from main front cassette (Tray 1)
- 2 = Feed from manual top rear input (Tray 2)
- 4 = Feed from optional cassette or alternate feed unit casset at the top rear
- 5 = Feed from large media source (replaceable main cassette)

DEVICE NOTE: For HP5000 cutsheet printers, tray 1 is the tray with the largest paper capacity; and tray 2 is the tray with the second largest paper capacity.

# Media Destination

When the HCO is added to Eclipse, there are more output bins available than for previous printers. While Eclipse allows selection of Media Destination within the PCL language, this is not the recommended method of selecting the destination. It is strongly recommended that PJI commands be used to select the destination for a print job and it should be done on a job-by-job basis. These extensions were added for the sake of completeness.

## Media Destination *Esc & l # g/G*

Selects the destination bin to which the print job is delivered.

Value(#)	=	0	Automatic selection
	=	1	Selects destination bin #1 (Printer top/face-down bin)
	=	2	Selects destination bin #2 (Printer left/face-up bin; this bin is not available when the HCO is attached)
	=	3	Selects destination bin #3 (HCO face up bin)
	=	4	Selects destination bin #4 (HCO #1 face down bin)
	=	5	Selects destination bin #5 (HCO #2 face down bin)
	=	6	Selects destination bin #6 (HCO #3 face down bin)
	=	7	Selects destination bin #7 (HCO #4 face down bin)
	=	8	Selects destination bin #8 (HCO #5 face down bin)
	=	9	Selects destination bin #9 (HCO #6 face down bin)
	=	10	Selects destination bin #10 (HCO #7 face down bin)
	=	11	Selects destination bin #11 (HCO #8 face down bin)
Default	=	0	
Range	=	0-11	

DEVICE NOTE: LJIIISi and 4Si support values 1 and 2 only; tray #1 is the stacker unit on top of the printer and tray #2 is the face-up tray on the rear of the printer.

DEVICE NOTE: Color LJ supports 0, 1, and 2. Tray 1 is defined to be the correct-order, face-down stacker on top of the printer; tray 2 refers to the pull-out tray (which also serves as the lid to the main cassette) for reverse-order, face-up outputs.

