# Section 1

PCL Background

PAGE CHARACTERISTICS

This section describes the system and page characteristics. The IntelliBar defines a label (or page) by using the HP PCL coordinate system.[*]

Addressable Area

The addressable area describes the area within which the active printing position (or cursor) can move to print. By using the cursor positioning commands (see Section 4), you can move the cursor to different locations within the addressable area. You cannot move the cursor outside the area.

PCL Coordinate System

The PCL coordinate system uses an x-y axis with its origin (point 0,0) on the left edge and at the top margin of the addressable area. Figure 1-1 shows the coordinate system. The position of the origin can change if the top margin position is changed through a printer command.
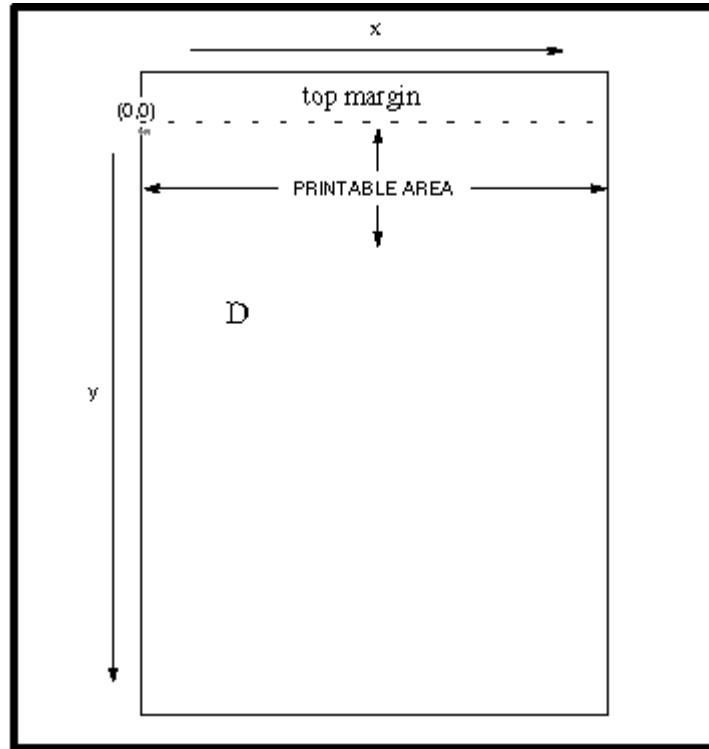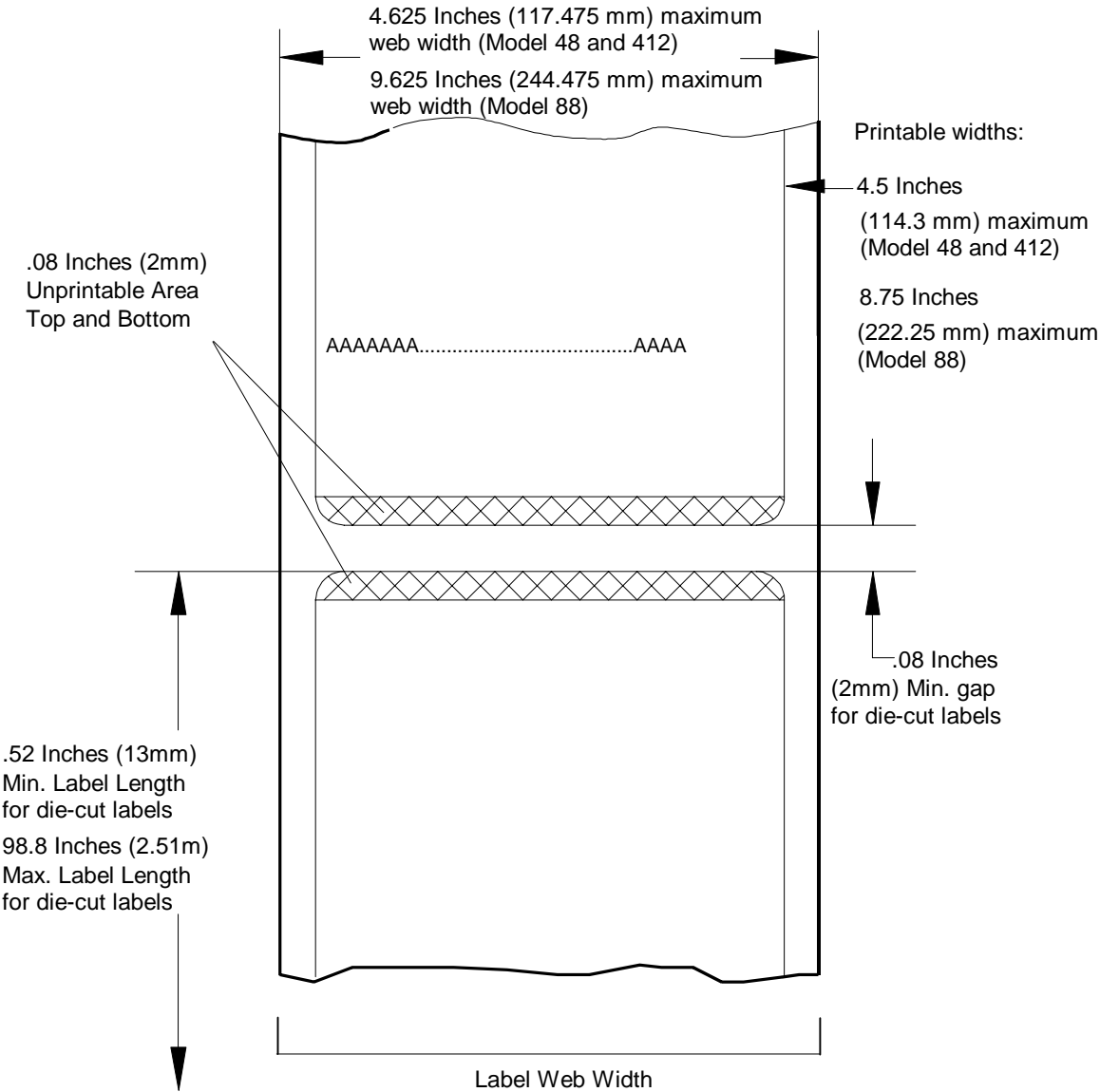
Figure 1-1   PCL Coordinate System

Points within the PCL coordinate system can be expressed in dots, decipoints, columns (for the x-axis) and rows (for the y-axis).

The dot represents the smallest printable point with a size equal to 1/300 inch. Printer resolution refers to the number of dots per inch.

PRINTABLE AREA

The printable area refers to that part of the label where printing is possible. Within the area, the printer can position at least one dot. Figure 1-2 shows the printable area.

4.625 Inches (117.475 mm) maximum
web width (Model 48 and 412)

9.625 Inches (244.475 mm) maximum
web width (Model 88)

Printable widths:

4.5 Inches
(114.3 mm) maximum
(Model 48 and 412)

8.75 Inches
(222.25 mm) maximum
(Model 88)

.08 Inches (2mm)
Unprintable Area
Top and Bottom

AAAAAAA......................................AAAA

.08 Inches
(2mm) Min. gap
for die-cut labels

.52 Inches (13mm)
Min. Label Length
for die-cut labels

98.8 Inches (2.51m)
Max. Label Length
for die-cut labels

Label Web Width

Figure 1-2   Printable Area

Orientation

The printable area defined in PCL can have either of two standard orientations: portrait or landscape. The relationship between the printable area and the two orientations is shown in following figures. Portrait orientation can be used for most printing applications. Landscape orientation is useful for printing larger labels.

Range

The IntelliBar can print in four different different orientation ranges:

- portrait (0 degrees rotation)

- landscape (90 degrees rotation)

- reverse portrait (180 degrees rotation)

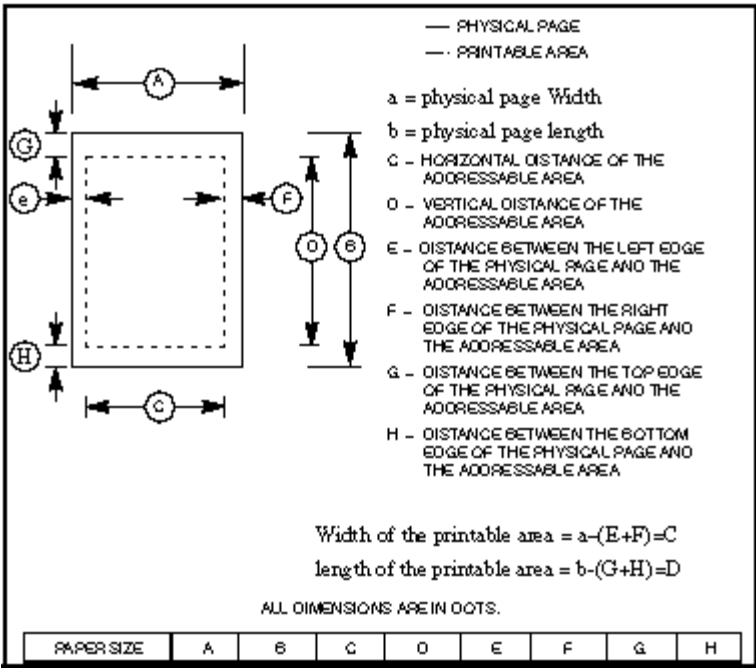- reverse landscape (270 degrees rotation).

This range of orientations provides tremendous versatility for printing complex label designs. Figure 1-3 provides an example of each orientation.
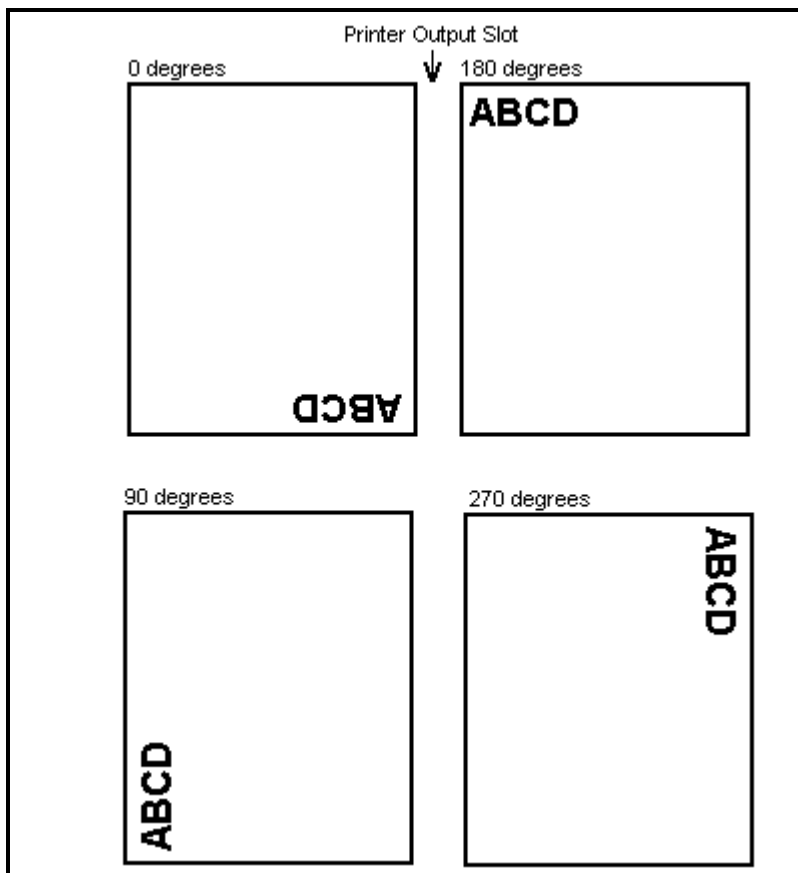
Figure 1-3   Orientation Examples
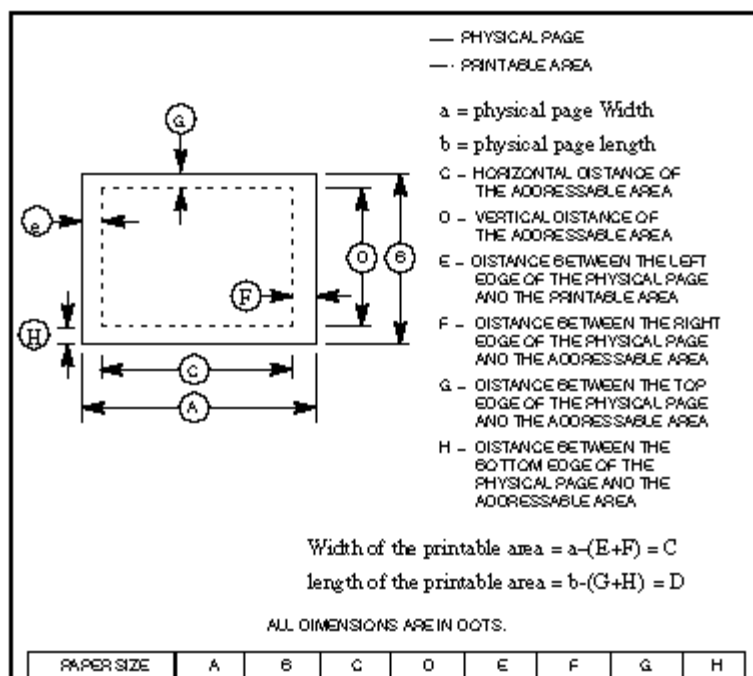
PCL Portrait Orientation Print Area

Figure 1-4 shows the PCL portrait orientation print area.

Figure 1-4   PCL Portrait Orientation Print Area
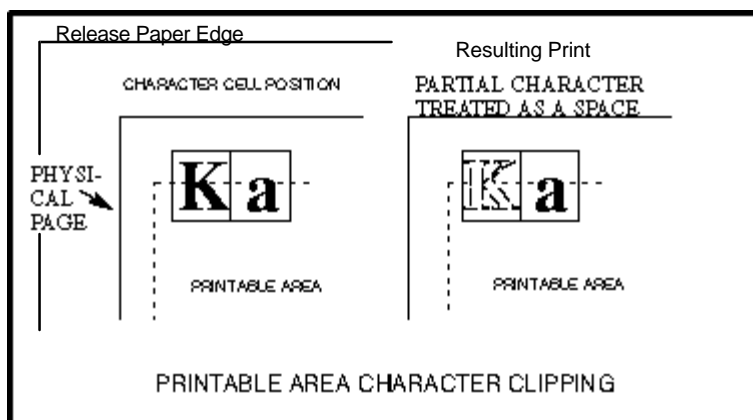
Landscape Orientation Print Area

Figure 1-5 shows the landscape orientation print area.

*Figure 1-5   Landscape Orientation Print Area*

Character Clipping

The printable area has tightly defined boundaries. If any part of a character falls outside of the printable area, it will not print. The printer will treat the character as a space (see Figure 1-6).

Figure 1-6   Character Clipping

Raster Graphic Clipping

If raster graphics or rules are being printed and the cursor is initially positioned within the printable area, only that portion of the image that is outside the printable area will be clipped (see Figure 1-7).
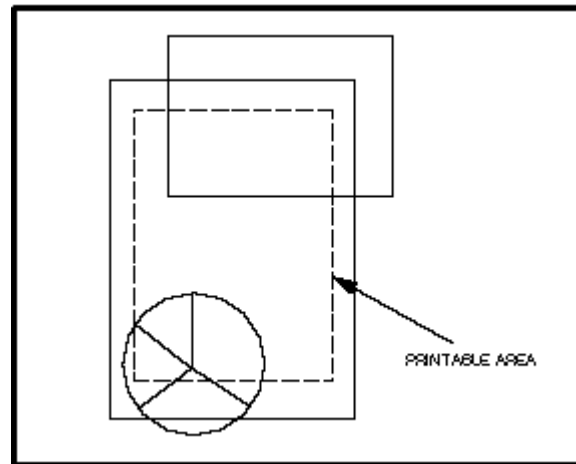
Figure 1-7   Raster Graphic Clipping