What You Should Know Before Starting Work

DIGIWIEGH Label Editor is a program for designing and printing labels, developed to work with label printers DIGIWIEGH DW-PRT24T. It shows you onscreen just how the label will look when printed, and allows you to make the necessary corrections before printing or loading the label design in the printer. The exact correspondence guarantees that every dot you can see on the screen will be printed at precisely the same area of the label, as long as the label has the required size.

In order to use all the options of the printer, the program's organization was developed so as to follow the printer's mode of operation. That is why the image editor looks somewhat different from Paint or Photoshop for example.

Each label is made up of several, different graphic elements, known as objects. Each object is independent and can be moved, edited or deleted on its own. Objects can be created from the Draw menu item. Right-click on an object to bring up a properties dialog box where you can change the location and appearance of the selected object. Left-click to select, move or resize an object, if possible. The way you can move and resize an object is not the same for all elements and is explained in the objects' description. Deleting an object is done by selecting an object and pressing the <Del> key on your keyboard. Selection of multiple objects can be done by clicking on each of them with the <Shift > key held down, or by group selection where you must zone at least one of the corners of the selected object. Moving several objects is done by selecting them and moving one of them – they will all move together.

Basic Concepts Used

·   Form

A form is a label design loaded in the printer. It is a text file containing commands for the printer. The name of the form in the printer is limited to 8 symbols, only Latin letters and digits are allowed. CAPS make no difference – "Label1" and "
LABEL1" will be recognized as one and the same form. The form DOES NOT contain the graphics and loadable fonts it uses. Therefore, if you manually delete a graphic from the printer, the form that uses it will not be able to find it and the respective area on the printed label will be empty (but no error or program /printer block will occur).

If you save the label design with "Save as Form" you will save on the disk exactly this text file, which may not be enough for reproducing the label, since it does not carry the graphics and fonts. This save option is left for compatibility with older label printer versions, which support only this format. That is why, if this is not the case, save your label designs with the "Save as Label" option.

There could be many forms with different names in the printer. However, only one of them could be active at a particular moment, and only this active form will be issued at a print command.

· Variables and Counters

The variables and counter are simply a location in the program or the printer allocated for a text, which can be entered later, just before a print run. The counters also have the quality to increase with a fixed step (increment) after a print command. You can use variables and counters for those parts of a label, which will change often (e.g.: items' names, prices, weight). This mode of work is obligatory, if you design a label for use with a digital scale, because variables are the only way for the scales to send the weight data to the printer. Variables are set in advance from Print->Define Variables or the corresponding button, and their value can be changed later, usually before print from Print->Update Variables, or by means of the button in the print dialog box itself.

The variables and counters have the following properties:

· Maximum length
· Prompt – a reminder text, useful for reference when working with variables and counters later.
· Alignment – if their length is under the maximum, and in that case also- fill characters.
· Increment step – only for counters.

· Label

A label (label design) is the inner format of DIGIWEIGH Label Editor. It contains the commands for the printer and all the additional information needed for printing the label (graphics and fonts). This is not a text file and you cannot open it with a text editor, unlike the form. Saving a label on the disk records all the information, including the current contents of the variables and counters. When you open it later, you can proceed with your design whence you left it.

When you save a label in the printer, the program automatically generates commands for the respective form and sends them to the printer, and also saves all the graphics and fonts the labels design uses.

· Graphics

A graphic is an object in the printer, which saves information about the graphic image (picture). A graphic has a name by which any form can send for it. The requirements for the graphic's name are the same as those for the form.

· Font

A font is an object in the printer that saves information about a loadable font. The name of the font is of one Latin letter, CAPS make no difference. The font is identified by this name when send for from a print text command. If there is no font with such a name, the print text command will not be executed. The loadable fonts may contain from 1 to 224 characters, which may be not successive.

· Printer's memory

The forms, graphics and loadable fonts share the memory of the printer. They are recorded there as are the files on the disk: they have names – you can delete and export them from the printer, as well as receive the list of the already loaded objects. The sum of forms, graphics mad fonts must not exceed 500 KB, though this limit will be higher with future versions of the printer. The number of objects that the printer can record is 512. If you reach the number limit or have a full memory, you must delete some of the objects in order to proceed, or work in Test print mode.

· Print and Test Print

The standard method of working with the printer is to load a label design in the device, make it active and pint the label (possibly with new values set for the variables). All the information needed is already in the printer, except the variables, and what follows is a print command. This is the only way of operating with digital scales.

0 Another method Is possible: If currently there is no active form, the printer will automatically carry out any commands, and in case of a print command it will print on the label the result of the received commands. This is used in test printing, which is a print-out of the onscreen label, without loading it in the printer. This may be useful in several cases:

· To print out a paper - preview of the current label design before loading it in the printer.
· The label design contains a small piece of information that you will not need later.
· There is no free memory in the printer and you cannot or want not to choose what to delete.
· You work with a large number of different labels, which you change often. It is more convenient to keep them on the disk and load them only in case you need them – the memory limit will not be a problem.

The main difference between the two methods is that during the test printing what is transferred through the serial port is all the data contained in the label design; while during the standard method what is transferred is the new values of the variables. If the label design has a large picture (graphic), or uses loadable fonts and you work at a lower communication speed, the transfer may take quite a while. A combined approach is possible – if we know that the graphic we are using is loaded in the printer, we can order the program to get the data directly from there, without sending it every time afresh. To

do this, go to Tools->Settings, or click the Settings button. The "Test print" field offers two choices:

·   " Send fonts and graphics directly" – the program sends all the necessary information to the printer repeatedly. The print will be correct, but eventually slower.
·   " Use stored fonts and graphics" – the printer will search for the graphics and fonts in its memory. The sending of data will be fast, but if the graphics and fonts are not in the memory, their respective place on the label will be empty.

What You Should Be Careful About

·   When you enter text and barcode data bear in mind that you must follow the rules stated in Text and barcode information format. If there is a mistake, the text will be substituted with "@@@@", and the barcode will appear on the screen with a red strikethrough. This means that the printer will not receive the data and the object will not be printed. You must find and correct the mistake. Note that most of the barcodes have requirements – number of symbols allowed and information length. If they are not met, the barcode on the screen will be crossed out and will not be printed.

·   When you print a batch of labels, the printing head may get overheated and the printer will stop to cool out. It is advisable you don't print more than some hundreds of labels with one print command.

·   The program does not keep track of changes in the label design. So before opening a new label, loading a label from the disk, or exiting the program, be sure to save the label design on the disk, or the printer. Otherwise it will be lost.

·   The printer's memory is power-independent (flash) and keeps all the saved data after the device is switched off, unless you delete it or format the memory. Even though the memory could be overwritten ten thousands times, but still a limited number of times, it is not advisable that you perform actions that write or delete information in the memory needlessly. When you design a new label, use the test print to make sure everything is OK, and load the label in the printer only when the label design is ready. You can make temporary saves on the disk of course.

·   When you load a label design in the printer, the device also automatically saves all the graphics and fonts, that were used, with names as those you set in the program. If the memory of the printer contains graphics or fonts with such names, the new information will overwrite them without warning. This could be a problem when some other form uses a graphic/font with this name. Make sure the names of the graphics and fonts do not match.

Object Types

· Text

The text object displays information with a set font and orientation. There are 5 in-built fonts supported, with sizes: 8x12, 10x16, 12x20, 14x24 and 32x48 pxls. Font 5 (32x48) contains only CAPS. You can use external fonts, which you must load in the program beforehand from Tools->Add New Font. The text properties allow you to select: the coordinates of the top left corner of the text object; font; font style (normal, bold, italic, inverse); horizontal or vertical size-increase; rotation (0, 90, 180, 270 degrees); information to be printed. The loadable fonts have only the normal print mode property. See Text information format. To move a text object left - click on the text and drag with the mouse key held down. Text objects cannot be resized – the size depends on the font and the font size.

· Barcode

The barcode object is a type of barcode. The program supports the most widely used barcodes. The barcode properties allow you to select: coordinates of the barcode top left corner; barcode type, narrow and wide bar thickness; height, rotation (0, 90, 180, and 270 degrees), show and justify barcode text. Some types of barcodes do not support wide bar thickness. The Text information format is identical to that for the Text object. To move the barcode object, left-click on it and drag with the key held down. Changing the size is possible only by changing the height and clicking with the left mouse button on the lower part of the barcode – the object will appear surrounded by a frame.

· Rectangle

Draws a rectangle area on the label design, which can be black, white or inverse. The white and inverse option allow you to change the appearance of objects that were drawn earlier and will be covered by the rectangle. For example, you can write some text and make the letter white on a black background, by placing a rectangle over the text, with a suitable size and inverse colour. The white colour deletes everything that comes under the rectangle – you can delete unwanted parts of other objects in that way. The rectangle properties allow you to select: the coordinates of the top left corner of the rectangle; rectangle's width, height, and colour. To move the rectangle, left-click on the object and drag the mouse with the mouse held down. To change the size, left click the object near the corners – the frame will appear as a thick red frame.

· Diagonal Line

Draws a line with a set thickness, which can be black, white or inverse. The use of the white and inverse color option is the same as with the rectangle. You have the choice to select: the coordinates of the two end points, thickness and color. Moving is done by left-clicking the line and dragging it with the mouse to a new location on the label design

area. To change size and slant, left click the object at the end – a thickened red frame will appear.

·   Box

Draws a rectangle box with a set thickness and black colour. You can set the coordinates of the top left corner and box line thickness. Line thickening is done at the expense of the internal space. To move the box object, select the item by clicking on some of the lines, hold down the left mouse button and drag the object. Resize by selecting the object so as the frame to appear indicating the stretch directions.

·   Picture

Displays a black-and-white image on a selected area on the label design. The program takes the picture data from a file, which must be monochrome, BMP/PCX format. What is loaded is the whole image – you cannot select parts of it. You can define the coordinates of the top left corner, the file path and name. The picture will be loaded in the printer as a graphic with the same name. This is useful when you want this picture to be used by different label designs, no matter that the graphic was loaded only once (for example – you can load a graphic with your company logo). Move a picture by left-clicking on it and dragging it to another area. Pictures cannot be resized. If you want to use a colour image of BMP/JPG format, you must first convert the image from Tools->Color To Black & White Converter and save the file on the disk.

·   2-D barcode PDF417

Draws a barcode PDF417. The barcode properties allow you to select the position, rotation (0, 90, 180, and 270 degrees), maximum width and height, maximum bar width and height, maximum row and column count, the compression method and the barcode data. The Text information format is described in a separate topic. To move the barcode object, left-click on it and drag with the key held down. To change the size select the right lower corner of the barcode (it's position depends on the rotation) - the object will appear surrounded by a frame.

Text and Barcode Information Format

The text and barcode information could be comprised of several fields that contain free text, the current date and time and some of the set and initiated variables and counters. The elements are arranged from left to right according to their description and form the text that will be printed or encoded in the barcode. The fields are:

·   Free text

The free text is entered directly, only it must be enclosed by quotation marks. If the text itself must contain a quotation mark, its quotation mark must be preceded by a '\'. For 2D barcode PDF417 only – control symbols (ASCII codes bellow 32) can be encoded using the syntax '\dd', where dd is the decimal representation of the ASCII code.

· Current Date

The code is TD[m]. m is an optional integer from –3500 to 3500, and sets a difference from the current date in days – you can use this to set an expiry date. Date could be formatted in several ways from File->Label Setup or by pressing the corresponding button.

· Current Time

The time code is TT. Time format can be set from File->Label Setup.

· Variable

Format – Vn[Modifiers].

n is the number of the variable and can have a value from 0 to 31.

The modifiers are indicators for separating symbols from the variable. Their number is arbitrary. If there are no modifiers, the variable is added as it is by default and initialization, without additional processing. In most cases, modifiers are not necessary. The printer works with the following modifiers:

>   Cuts off the leading symbols of the string that are identical with the symbol that follows the modifier's sign. It can be used to remove leading zeroes or spaces.
<   Cuts off the end symbols of the string that are identical with the symbol that follows the modifier's sign.
Rn   Leaves the right n symbols in the string.
Ln   Leaves the last n symbols in the string.
Mm.n Gets n symbols from the string, starting at m position.

Removes the leading zeroes, if the string could be interpreted as an integer.
Xmn   Substitutes all symbols with value m with the n symbol.
G   After this symbol other modifiers must follow. They will act as global modifiers – the whole text until the current position will be changed, not the last variable or counter.

· Counter

Format Cn [Modifiers]

n is the number of the counter and can have a value from 0 to 7.

The modifiers are as those for the variables.

The program and printer process the text and barcode data in the following order:

·   They get the subsequent element.
·   If the element is a variable or a counter, they get the current value. The text is formatted depending on its definition. All the modifiers are executed from left to right.
·   If the element is date or time, it is formatted as was set in Label Setup.
·   The resulting text is then added at the end of the text that was a result from the preceding elements.
·   The procedure continues till data finishes.

Examples:

"Date:"TD" Time: "TT

will generate Date: 12.JAN.2003 Time: 16:30

"Expiry Date: "TD+90

will generate the text Expiry Date: 16.04.2003

if the current date is 16.01.2003.

"Price:"V2

will generate Price: 1.20

if the value of the variable V2 is "1.20" at the moment.

V0>< C1L3

will generate a string with a variable V0 with leading and end spaces removed and a counter C1 with the three left symbols removed.

V0L1V0M3.2V0R1

will generate a string that includes the first, third, forth and last symbol of the variable V0.

Creating a New Label Design – Basic Steps

·   Determine the size of the paper label - so that you will know the dimensions of the working area.

· Clear the screen of the Label Editor from any previous label designs with File->New Label.

· Set a label size for the label design from Label Setup. If the label will contain date and time, set the date and time format.

· Decide which part of the label information is to change often – it is a good idea to provide a variable for it. For example: - item's name, weight, price. Set the necessary variables from Define variables and counters. When defining variables, try to estimate what length and justification would be best for the label outlook. Do not worry if you cannot decide immediately – these settings can be changed later. Set suitable and sensible names for the variables – this will greatly facilitate your work.

· Start adding the necessary elements on the label, one at a time: press the draw button for the object and click on the label area where you want the object to appear. Of the object is a rectangle, frame or diagonal line, you can roughly set the initial size – hold down the left-mouse button and drag to resize. The object's current position and size will be indicated by a thick red line or frame.

· When you let go the mouse button, the object's dialog box will appear where you can edit its parameters. When drawing text and barcodes, make sure you enter some data, otherwise the objects will not be visible. You can edit the entered information later. Choose font and enlargement, if necessary.

· Arrange the objects on the label, so as to cover the area regularly. Do not forger to leave some empty space around barcode objects to ensure proper reading.

· Set the values for the variables used with Update variables and counters. In case you have done that earlier, go around the text and barcode objects and check whether the entered date is valid and the correct variables are stated. The label design should be already finished – make a test print to preview it on the paper.

· Save the new label on the disk with File->Save as Label. You can then save the label design in the printer with File->Store Current Label. The new label will be accessible for print with the Print button.

Description of the menu items

· File

Load and save files, get data from the printer, store data in the printer and label setup.

· Edit

Edit commands.

·   View

Settings for the DIGIWEIGH Label Editor's screen.

·   Print
Print and test print; variables and counters.

·   Draw
Insert a new object on the label design.

·   Tools

Additional procedures – fonts, color image conversion, terminal.

·   Help

Toolbar Buttons

Draw Text

Opens a dialog for adding a text object.
Also available from the Draw menu item.

Draw Barcode

Opens a dialog for adding a barcode object.
Also available from the Draw menu item.

Draw Rectangle

Opens a dialog for adding a rectangle object.
Also available from the Draw menu item.

Diagonal Line

Opens a dialog for adding a diagonal line object.
Also available from the Draw menu item.

Draw Box

Opens a dialog for adding a box object.
Also available from the Draw menu item.

Draw Picture

Opens a dialog for adding a picture object.
Also available from the Draw menu item.

Grid Size and Adjustment

Opens a dialog box for adjustment.
Also available from the Edit menu item.

Files and Forms

Opens a dialog window where you can handle the files on the disk and forms, graphics
and fonts in the printer.
Also available from the File menu item.

Label Setup

Opens a dialog window where you can set the basic label parameters and print: size,
offset, print darkness and speed, date and time format, etc.
Also available from the File menu item.

Test Print

Opens a dialog for test print,
Also available from the Print menu item.

Print

Opens a dialog for print,
Also available from the Print menu item.

Define Variables and Counters

Opens a window where you can set variables and counters.
Also available from the Print menu item.

Update Variables and Counters

Opens a window where you can set new values for variables and counters.
Also available from the Print menu item.

Settings and Diagnostic

Opens a dialog window, where you can set the serial port and the clock, and print a
diagnostic information from the printer.
Also available from the Tools menu item.

Shortcut Key Combinations

Ctrl-A Selects all the objects on the label design.
Ctrl-B Places the selected object at first position in the object list.
Ctrl-C Highlights the selected objects and marks them for copying. Except this the whole
label is stored in the clipboard.
Ctrl-J Opens the dialog for adjustment.
Ctrl-M Opens a list of all objects on the label.
Ctrl-R Rotates the label 90 degrees clockwise.
Ctrl-T Places the selected object at end position in the object list..

Ctrl-U Unselects all selected objects.
Ctrl-V Pastes a copy of all objects highlighted with Ctrl-C.
Del   Deletes all selected objects, after confirmation.
F1   Opens the Help application.
F2   Opens the test print dialog.
F3   Opens the print dialog.
F4   Allows you to set new values for variables and counters.

Dialog boxes for creating and editing objects

·   Draw Text

Create or edit a text object

·   Draw Barcode

Create or edit a barcode object

·   Draw Rectangle

Create or edit a rectangle object

·   Draw Diagonal Line

Create or edit a diagonal line object

·   Draw Box

Create or edit a box object

·   Draw Picture

Insert or edit a graphic object

·   Draw Barcode PDF417

Create or edit a 2-D barcode PDF417

Dialog boxes for program setup and printer settings

·   Label Setup

Label setup and some print parameters.

·   Settings and Diagnostic

Options for setting the serial port and clock, and print of diagnostic information.

·   Align to Grid

Set grid step (the regular space between the points of the pattern) and adjust size (objects will move in measured steps on the grid).

·   Objects List

Opens a list of all the objects on the label where you can edit, rearrange or delete them.

Color to Black & White Converter

From this dialog you can convert color images of BMP or JPG format into a black-and-white images to be used on the labels. You can clip off unwanted parts of the image, resize it, as well as make brightness and contrast adjustments. The top are of the window is the toolbar, and below is an area where the target and converted image are tiled vertically. Smaller graphics are automatically converted, whereas to convert a larger graphic, after adjusting the settings, you have to click the Convert button.

If you need only a part of the converted image, you can frame it by holding down the left-mouse button. The framed area can then be clipped of with Cut.

·   Load
Selects a graphic file for conversion.

·   Convert
Starts conversion. Smaller graphics are automatically converted.

·   Save
Saves the converted black-and-white graphic on the disk.

·   Reset
Cancels the color corrections and resize changes of the black-and white image.

·   Test
Sends the black-and-white image from the right pane of the screen to the printer to be tested.

·   Cut
Clips off a framed are from the image in the left pane. The cut part becomes the new target image.

·   Width
Changes the width of the graphic. If Constrain Proportions is checked, Height is also automatically updated.

·   Height
Changes the height of the graphic. If Constrain Proportions is checked, Width is also automatically updated.

·   Rotation
Rotates the graphic at 90, 180 and 270 degrees.

·   Constrain Proportions
Determines whether the width/height ratio must be preserved. If checked, changes in the width will automatically update the height value, and vice-versa.

·   50% Threshold
Check to use a simple conversion procedure. This is a simple check per dot for 50 % brightness – if higher, the dot becomes white, if lower – black. In some cases this procedure is a more suitable conversion method.

·   Brightness
Changes the brightness of the black-and-white image.

·   Contrast
Changes the contrast of the black-and-white image.

·   Color Settings
The Red, Green and Blue color channels allow you to modify the color image in a way that will affect the black-and-white image.

True Type to Label Printer Font Converter

From this window you can create a matrix font for the label, on the base of some of the installed TrueType fonts.

The loadable fonts for the DW-PRT24T printers can consist of an arbitrary number of symbols that may not be successive. Since the printer's memory is limited, it is preferable if the font contains only the symbols you will need. Working with loadable fonts is the same as with the in-built fonts – they can be rotated and multiplied by an integer along the X and Y coordinate independently. The only difference is that they cannot be printed in Bold or Inverse style. They are also proportional – i.e. each symbol has a different width (for example 'w' is wider that 'i') and it is difficult to assume what the width of the whole text will be.

·   Font
Use the drop-down menu to select a font to use.

·   Style

Sets an attribute – Regular, Bold, Italic, Bold Italic.

·   Script

Select the character set for a country.

·   Top Pane

This is the pane where you can select the symbols to be copied. Select a symbol, then in the bottom pane position the mouse pointer at a cell where you want that symbol to be placed and click Copy. To copy a symbol at exactly the same place in the bottom table, double-click on it.

·   Bottom Pane

This is the pane where you copy the symbols. The symbols listed in this pane will be included in the font.

·   Clear

Clears all the symbols listed in the bottom pane.

·   Clear Marked

Clears a selected/highlighted symbol from the bottom pane.

·   Copy

Copies the selected symbol from the top pane in the bottom pane – the start position is the position of the mouse pointer.

·   Undo

Cancels a copy or delete operation.

·   Preview

Opens a dialog box, where you can access some additional font setting. The options are:

·   Width correction

Narrow or widen the symbols in horizontal direction up to 2 times.

·   Size

Select the font height.

·   Space

Sets a symbols interval. The label printers automatically add a white frame of 1 pixel around a symbol and the printed text appears wider. To avoid this, for Space. select a value –2. Allowed values are –16~16. Large negative values will result in overlapping symbols. The Space value makes no difference to the size of the generated file.

·   Remove Blank Lines

If you have not selected the whole font, probably it is possible to remove some top and bottom lines without covering the symbols. This will decrease the amount of memory the font will occupy. You can either set values for Top and Bottom or check Auto. The blank lines will be colored in blue for easy observation.

·   Save

Enter a file name as save the file. To load the new font in the label go to Tools->Add New Font .

Character Set Viewer

You can see here the languages and the ASCII codes of the symbols for each of them, supported by the Label Editor and the printers.
Drop list "Language" selects the character table and "Font" selects the font. If the current label contains loadable fonts, they are in the list, too. When the mouse cursor moves over a symbol, the ASCII code of the symbol is displayed on the right upper part of the window in decimal and hexadecimal mode.

You can copy the character table using Ctrl-C to the Clipboard as graphics for use in other programs. The same thing can be done clicking the right mouse button – a popup menu appears.

Frequently Asked Questions

Question: There is no connection with the printer. What may be the problem?
Answer: Possible Reasons:

·   Check if the printer is switched on and properly connected to the computer.
·   Check whether you have selected the correct serial port.
·   Check if the selected baud rate and protocol for the serial port match the position of the switches in the printer.
·   Make sure the operation mode set by the switches is NOT DW-PRT24T Compatibility– the printer does not work with the program, when in this mode.
·   Check if there is another application that uses the serial port.

·   If when switching on the printer you have printed a diagnostic info with the LF button, switch off /on the printer.
·   Switch off /on the printer and try again. The printer may be trying to receive some kind of data.

Question: How can I check what is the baud rate of the serial port?
Answer: When you switch on the printer, press down the LF button. The printer will issue a diagnostic information – printer's version, language, baud rate, switches' positions, printing head temperature, free memory space and current settings. Then you MUST turn off/on the printer, because it is in Dump mode and does not run commands.

Question: What kind of labels and paper-rolls can I use with DW-PRT24T
Answer: DW-PRT24T label and paper roll width: 56 mm. Use the switch to select paper/label mode. The length of the labels can be different, the maximum value is 170 mm. The label roll MUST NOT be with a black line.

Question: Can I use DIGIWEIGH Label Editor with other printers, except DW-PRT24T?
Answer: No, or at least to an limited extent. You can load a form that will be compatible with the most commonly used label printers (those of them that use EPL2 as a program language) if you: do not use modifiers in text and barcode data; do not use barcode text justification; do not use white and inverse color for diagonal lines. You can even create a font for such type of printer. But a reliable communication and print from the program are possible only using the DIGIWEIGH printers.

Question: The graphic I use in the label is displayed onscreen, but does not print out. Why?
Answer: If you use the test print command, go to Settings and Diagnostic and check the status Test print. If the field selection is Use stored graphics and fonts and the graphic is not loaded in the printer, it will not be printed out. The same problem may occur with loadable fonts.

Question: The printer often fails to print some objects from the label, and the program displays communication error?
Answer: The serial port is probably loaded almost to its limits. If the connecting cable of the printer is longer that 2 meters, and especially if you are using two connected cables, you may be experiencing some problem with the 115200 baud rate and must change the speed.

If this is not the case, check if the program uses a hardware protocol, and the printer – a Xon/Xoff one. With a larger data transfer this could be a reason for the problem.

There may be some hardware problem with the computer or printer's serial port.

Question: The print is too thin. Why?
Answer: Maybe you set low darkness print from . The label paper may be of poor quality, or too old – this makes the paper less sensitive.

Keep in mind that thermal print manages poorly the thin lines (of 1 pixel width), especially horizontal lines so avoid using them.

Question: The printer cannot recognize the beginning of the label properly. Why?
Answer: You have probably set a continuous paper working mode, or the type of labels you are using is not suitable. DW-PRT24T labels must not have a black line
If the printer recognizes every label but repeatedly fails to start at the beginning, go to Label Setup and check the values of Offset, Left margin è Top margin for any displacement.

Question: Why does the printer indicate "out of paper, when there is paper loaded?
Answer: See the answer above.

Question: Why does not the printer print on the whole label area?
Answer: With DW-PRT24T the width of the printing area is 48 mm, which is less than the label width. You cannot change this, since it depends on the printing head width.

Question: How can I create a form containing variables and counters, that I want to use with another program or printing device?
Answer: When you want to print a label from another program and device, all the data that you want to change, must be placed in variables or counters. The elements of the label can be arranged as you like. Make sure you provided enough space for the texts and barcodes, when their data is of maximum length. Load the label in the printer.

What the different application or device has to do is to activate the form, send the new values of the variables and counter and give a print order. This is done by sending direct commands to the printer through the serial port.

Send <LF> (ASCII code 10) – this will clear the printer's buffer.

Send FR"FormName"<LF> command, where FormName is the name of the form in the printer. The quotation marks are obligatory, space between symbols is not allowed, the line finishes with <LF>. This command will set the form active.

Send ?<LF> command. This tells the printer to wait for new values of the variables and counters.

For each of the variables and counters, defined in the form, send a single-line text ending in <LF> (ASCII code 10). The variables are sent first, then the counters, by ascending number. If you want to preserve the old value of a variable, send a blank line (only <LF>).

Send print command Pn,m<LF>. m is the number of identical labels to be printed. n defines how many sets of m labels will be printed. This can be used when we work with counters – after printing a set of labels their value will change automatically. To print one label, the value of n and m must be 1.

For more information read the An example of creating a label for digital scales and the manual for the printer.

Question: What is the largest size of a graphic the printer can load?
Answer: The file size depends on the free memory space, but it cannot exceed 48 KB. The printers support only PCX monochrome format, but the program can load also monochrome BMP graphics by converting them before sending them to the printer. Since the PCX files are compressed, you may assume that the size, after conversion will decrease (graphics that are a result from a photo, make an exception – usually they cannot be compressed). If the graphic has X and Y values larger that the label's, clip off the unwanted parts or resize it beforehand not to occupy memory space unnecessarily. Colour graphics can be converted to black-and-white images from Tools->Color to Black & White Converter èëè or other application.

Question: The barcode element on the label is not printed out
Answer: You may have entered unalloyed barcode data. Usually this happens when the barcode uses a variable – the change in the variable made the barcode invalid. Invalid barcode will be displayed on the screen as crossed with a red line. Check the barcode data. You can reference EAN 13, EAN 8, UPC-A, UPC-E, Code 128, EAN 128, Code 39, Code 93
 and Interleaved 2 of 5.

Question: Can I use DW-PRT24T to print from the standard Windows applications (MS Word, Excel or Paint) and how?
Answer: Yes. If you install a driver for a printer working with EPL2 language, you can print from any Win application. There are drivers for Windows 2000 and Windows XP in the installation diskette. For Windows 95 and Windows 98 you can download drivers at http://www.zebra.com. The Zebra LP2742 comes closest to the label size and settings for DW-PRT24T The DW-PRT24T Compatibility switch MUST be turned off.

Question: Can I use DW-PRT24T to print text, not labels?
Answer: Yes. However you can use only one font, and no print text parameters as bold, underlined etc. The commands for the printer are:

·   @2<LF>   Sets the printer in print text mode with font 2 (10x16).

· @3<LF> Sets the printer in print text mode with font 3 (12x20)

· @4<LF> Sets the printer in print text mode with font 4 (14x24)

· @0<LF> Sets the printer in normal mode.

Each command must be on a separate line ending in <LF> (ASCII code 10). Everything send between these two commands is printed as a text with the selected font. If the text is longer, it is automatically transferred to a new line. It is advisable when working in this mode to use continuous paper media. Switching off the printer will set the device in normal mode.

Question: What is the command language used by the printer and is it compatible with any standard?
Answer: The command language of DIGIWEIGH printers is based on EPL2 (Eltron Programming Language). Compatibility is not 100 % but is enough for the printers to work properly with most of the programs intended for these printers. The DIGIWEIGH printers have some new commands added mostly for the purpose of getting information from the printer, which is indispensable for DIGIWEIGH Label Editor. Another addition are the modifiers of the variables and the option to print linear text – both are not part of the EPL2 language.

From the standard EPL2 commands some of the settings are not supported and choose the code tables for the languages in a different way.

Creating a Label for Digital Scales - an Example

As an example of creating a new label, we shall use L00, which is designed for work with digital scales DIGIWEIGH DWP-102N
. The data from the weighed item will be printer on it.

The choice of text and barcode font and size depends on the size of the label area. The name of the label must be one of the ten possibilities to program in the scales - L00, L01, … L09. Let us use L00.

The weight data, which the scales will send, must be defined as variables. In this case, the printer offers more option and it must comply with the number of text lines sent by the scales. Their content is sent in the following order:

· Company's name – 28 symbols.

· Item's name - 28 symbols.

· Weight in kg – 6 symbols (one of them being the decimal point).

- Single item's price in USD – 7 symbols.

- Price – 7 symbols.

- Barcode data – 12 symbols.

- Scales logical number – 2 symbols.

- Current date – 8 symbols.

- Item's number (PLU)-4 symbols.

- Second line of item's description – 28 symbols.

- Third line of item's description - 28 symbols.

This is the ultimate total data number. The lines for the item's description are an option to be selected from the scales. The label must match the selection; otherwise the printer will not print it.

We shall have an example that does not use the additional lines for item's description. We have then 9 variables. We must define 9 variables, no matter whether we shall need all of them. We must also keep in mind the symbol limit in the scales – if we define a variable with a shorter length, the printer will cut off the remaining symbols. If there will be not enough space for the full length of the fields, we must edit them in the scales – for example we can decrease the item's name to 16 or 20 symbols.

We start with the label. Let us work with a label with size 56x25 ìì and DW-PRT24T printer. The final result must be like this:

The label contains 9 text fields, one barcode and one graphic. From Label Setup we choose:

- Label size : 56/25 ìì
- Width and Length will be automatically filled in.
- Gap and Offset : 0. (Gap is not used when the paper media is label roll)
- Date and Time format: DD-MN-Y2 and H:M. The data string will be Day–Month–Year (the month represented by digits, and the year - only by the last two digits). The time string will not contain the seconds.

- Darkness: 8 and Speed : 50 mm/s.
- Top and Left will have a 0 value, since label area is small.
- Orientation: Top, Language : English
- Paper: Normal Label. These are labels with NO black line.
- Font: Condensed. We shall be able to place more date on the label.

Now we must define the variables. From Define variables and counters we click the New button. We shall fill the fields with the values described bellow. This procedure must be repeated 8 more times – for each of the variables.

Variable	Prompt	Length	Justify	Value
Variable 0	Company	18	Left	Supermarket ABC
Variable 1	Item	24	Left	Bananas
Variable 2	Weight	6	None	1.20
Variable 3	Single Price	6	Right	1.50
Variable 4	Price	6	Right	1.80
Variable 5	Barcode	1	None	240012401200
Variable 6	Number	2	Left	01
Variable 7	Date	8	Left	22.02.03
Variable 8	PLU	4	Left	124

We confirm the changes with OK. Note that we have defined some additional values – so as to view the elements of the label onscreen.

The text alignment is selected according to the type of information and its position – the price and single price will be placed at the right part of the label and will aligned along its right end.

We shall not use variable 7, since the printer has a clock, but we must define the variable, because it will receive the data from the scales.

For some of the variables we set a length, shorter than the length sent by the scales. We did this to economize space –
 otherwise the label will not contain all the information.

Now we can start adding objects on to the label. We click the Draw Text button and left-click on the opt-left corner of the label, where we want to place the first text – the company's name. The draw text edit window is displayed. We can easily position the text object by dragging it with the mouse, so we shall not set the Start X and Start Y values in this window. The other options are:

Size X (multiplication by X) 2 – the text will have a double-width.

Size Y (multiplication by Y) 1 – original height

Font 2 – size 10 x16 pixels.

Style – Normal

Rotation – None

In the Text data field we must enter the data to be printed. What we enter is V0 – what shall be printed is the value of variable 0.

After clicking OK, the text must appear on the label design.

Then we repeat the procedure for the remaining text fields of the label:

Size X	Size Y	Font	Style	Data	Purpose
1	1	3	Bold	V1>< L16	Item's name
3	2	1	Normal	V2"kg"	Weight
1	1	3	Bold	V3"$/kg"	Single price
1	1	3	Bold	V4"$"	Price
1	1	2	Normal	"No: "V6	Scales number
1	1	2	Normal	"PLU:"V8	Item (PLU)
1	1	3	Bold	"Thank You!"	Advertisement
1	1	2	Normal	TD" "TT	Date and time

You can see is a combination of variables and text. The first line of the table uses modifiers – the leading and end symbols of V1 are removed, and then only the first 16 symbols are taken. The last but one line contains only text data, and the last line prints the current date and time from the clock of the printer.

To add the barcode we select. We release the mouse at approximately the place of its top left corner. In the opened edit barcode window we make the following selection:

Height – 64

Narrow bar – 2

Wide bar – 2. The value is not used for EAN13.

HR text (display text) – Left. Text alignment for EAN13 is not available, unless you select None (no text is displayed).

Rotation – None.

Barcode – EAN13 .

Barcode data - "24"V5R10

The data contains a modifier – the first two digits of V5 are replaced by "24", and the rest are preserved. If we want to print the original data from the scales, we must simply fill in V5.

We shall add a picture element on to the label – in this case the logo of DIGIWEIGH. We press the Draw Picture button and release the mouse button at the desired position. In the

opened window, we click on Load and select the file containing the logo. In the Store as filed we fill in DIGIWEIGH – this shall be the name of the graphic saved in the printer. After we click OK the picture will be displayed on the label design.

At this stage, we have added all the elements of the label. We can additionally rearrange them by pressing the left mouse button.

To save the label on the disk go to File->Save as Label. To save it the printer go to File->Store Current Label and enter a name L00. The printer is ready for work with the digital scales and the L00 label. Prior to connecting the printer, we must set one and the same speed (baud rate) for the serial ports and select label L00 in the scales

Most Commonly Used Barcodes

EAN 13

EAN 8

UPC-A

UPC-E

Code 128

EAN 128

Code 39

Code 93

Interleaved 2 of 5

DIGIWEIGH DW-PRT24T

The DW-PRT24T printer is designed to print small-sized labels and graphics on thermal paper rolls. The information is arranged in a template form, which can be partially modified under customer demand.

The possibility to save the arrangement and design of the graphic elements as a form (command file) in the memory of the printer greatly enhances the production of a large quantity of labels. The support of PCX format allows you to create parts of the label with a Windows-based program and load them in the printer's memory. Designing the text information on the label is facilitated by the 5 in-built matrix fonts with different sizes additional scalability and rotation. Additional fonts can also be loaded. The printer

supports almost all most commonly used barcodes and this makes it a necessary component of your label production process.

The result is a fast an flexible label printing method, resembling a laser printer work (resolution is 203 dpi). The printer can also print data from Windows applications (MS Word, Notepad etc.), with the necessary driver installed.

Printer Management

Printer management is done by means of commands sent through the serial interface. There are 8 supported baudrates, which are set by the position of several switches: 1200, 2400, 4800, 9600, 19200, 38400, 57600 and 115200 bps, 8 bits, no control bit. The printer uses a hardware protocol, but supports a Xon/Xoff protocol as well. The 1200 bps speed is reserved for working with the local keyboard and label print without a computer or preliminary loading of forms.

Configuration switches

Sw1	Sw2	Sw3	Baudrate (bps)
OFF	OFF	OFF	1200 (Local keyboard)
ON	OFF	OFF	2400
OFF	ON	OFF	4800
ON	ON	OFF	9600
OFF	OFF	ON	19200
ON	OFF	ON	38400
OFF	ON	ON	57600
ON	ON	ON	115200
OFF	ON		

Sw4	Hardware protocol	Xon/Xoff protocol

Sw6	Paper roll mode	Label roll mode
Sw8	Normal mode	DIGIWEIGH DW-PRT24T Compatibility

Pressing the LF button in Paper roll mode feeds paper.

Pressing the LF button in Label roll mode positions the printing mechanism at the beginning of the next label.

If, when switching on the printer, you keep the LF button pressed down, the device will print out a diagnostic information and remain in diagnostics mode. When in this mode, the received data and printed data will be of hexadecimal type – it is not interpreted as commands. To go back to normal mode, switch off the printer.

Indications

POWER   The indicator is green when the printer is switched on.
ERROR   The indicator blinks with a red light when there is a printing head
overheat.
PAPER   The indicator lights in red when paper is out and blinks with a red light if
there is no label.