GENERAL CODE®
SISTEMI DI CODIFICA

G L W W

LABEL WRITER

LABEL DESIGN SOFTWARE

USER'S GUIDE

for:

ALFA 1050 / 1100
ALFA 2050 / 2100

RELEASE 1.7

Gaze*ll*e Label Writer Label Design Software

User's Guide

Release 1.7, revised February 1995

GLWW version 2.50 and above

Trademark Acknowledgements

This application makes use of the Bitstream® 4-in-1 Processor, Version 3.1. Specifically, it uses Bitstream® Speedo™ font-scaling technology to print characters in the typefaces selected. The Bitstream® Swiss™ 721, Swiss™ 721 Bold, News 701 and Impress typefaces are included with this application.

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GENERAL CODE products are subject to continuous development and improvement and consequently may incorporate minor changes from the information contained in this manual.

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1 GETTING STARTED

1.1 Introduction

Welcome to Gazelle Label Writer, the latest label design and printing software from GENERAL CODE, which provides a user-friendly front end to the **ALFA 1050-2050-1100-2100** Direct Thermal/Thermal Transfer printers. The software provides all of the features necessary to design and print custom label formats quickly and easily in a variety of sizes and styles. It has now been extensively updated to provide a host of additional features which make it more powerful, but easier to use.

1.2 Main Features

GLWW is a DOS based programme that enables complex labels to be designed with full What-You-See-Is-What-You-Get (WYSIWYG) on screen capabilities. The software has features to enable a variety of text, barcode formats and graphics to be reproduced easily and quickly. It provides fixed and variable fields for text and barcodes, auto-increment fields, dBase III/IV and text database access, PCX format images and automatic date and time stamping at print time.

The software uses Bitstream® Speedo™ fonts matching those contained in ALFA printers for maximum typographical flexibility. Handling of PCX format images has been improved in GLWW V2.4 allowing scaling and rotation of black and white and true 256-greyscale images. Print queuing of multiple printers simultaneously reduces waiting time combined with a flexible and informative status report.

A demonstration version of the software is available which has all the features of the full package but with the following restrictions: The software will only enable you to save and print a file called DEMO.LBL, and when the label is printed an additional line of text "Demonstration Version" is printed at the top of the label.

1.3 Package Contents

The software is supplied in its own case folder which includes the following items :-

GLWW Diskette
Users Manual
Security Dongle
Registration Card

1.4 Requirements

In order to run the software you will need a computer which has the following minimum hardware :-

640K of RAM (Minimum 520K free)
Hard disk (Minimum 1.6 MBytes free)
VGA card and monitor
Microsoft compatible Mouse
A parallel or serial port for the printer

You are strongly recommended to be running **DOS 5.0 or later and have 384K of expanded memory available**. Smartdrive or any other disk cache can also increase performance.

GLWW is designed to work with all the latest ALFA printers having firmware revision 1.20 or later. Many older printers can also be supported or updated. Contact your supplier for further details.

1.5 Installation

The software is contained on a single diskette which includes installation routines for Windows and DOS. Use whichever is most convenient to you. If you encounter problems with the installation, refer to Appendix C for further details.

To perform a Windows Setup:

1. Place the diskette in your floppy disk drive (usually either A: or B:)

2. Start Windows. Select **Run** from the **File** menu and enter:
   X:\SETUP.EXE
   replacing X with the floppy disk drive name.

3. During setup, the GLWW Configuration Utility will be run. Enter the appropriate details and select **Exit** from the **Configure** menu. (For details on using the Configuration Utility, see Section 6.)

4. To start GLWW, double click on the GLWW icon in the Program Manager.

To perform a DOS Installation:

1. Place the diskette in your floppy disk drive (usually either A: or B:)

2. Change to the floppy disk chosen (normally type **A:** or **B:**) and run Install using the format:

INSTALL <drive:\directory>

where - *drive:* is the drive name where the files are to be copied to (e.g. C: or D:)

- *directory* is the name of the directory into which the files will be copied (This is often \GLWW)

Example INSTALL C:\GLWW

3. During installation, the GLWW Configuration Utility will be run. Enter the appropriate details and select **Exit** from the **Configure** menu. (For details on using the Configuration Utility, see Section 6.

4. For optimum performance, GLWW requires 384K of expanded memory. If you do not already have EMM386 installed, add the following line to your CONFIG.SYS file :-

DEVICE = <*DosPath*>EMM386.EXE AUTO

Where <*DosPath*> is the directory containing the EMM386 program.

5. To start GLWW, change to its directory and type **GLWW**.

1.6 Product Registration

Please complete the registration card enclosed with the software package as soon as you have completed the installation. Completing the registration card will entitle you to receive Technical Support, and also to be included on our mailing list, which will ensure that you receive priority details on any new products and upgrades that are introduced.

Extended Support for the software is available for an annual subscription, which will entitle you to free product upgrades. For further information on extended support please tick the box on the registration card.

2 LABEL DESIGN OVERVIEW

2.1 The Label Screen

The label screen shows a graphical representation of the label on the screen exactly as it will appear when printed. The various fields in the label format may be re-positioned with the mouse and the data changed by selecting the field. When placing new fields, the data type is selected by means of the icons at the bottom of the screen, which represent the various field types.

2.2 Mouse Functions

The following terms are used to describe the actions of the mouse referred to in this manual :-

CLICK ON means to position the cursor over the desired item and to press and release the left mouse button.

DRAG means to position the cursor over the desired item and depress the mouse button, and while continuing to hold the button down, move the mouse to reposition the object on the screen. As you drag, you will see an outline of the item you are re-positioning.

LEFT MOUSE BUTTON is used to select a particular field for editing or re-positioning. Field icons are also selected using the left button

RIGHT MOUSE BUTTON is used to edit the contents of a particular field. When a field has been selected, click on the field to bring up the field editor screens.

2.3 Function Keys

The following function key can be used to achieve keyboard shortcuts for some of the functions, details of the particular function keys available are shown in each menu and at the bottom of the label editor menu screen :-

FUNCTION KEY	OPERATION
F1	On-Line Help
F2	Create New Label
F3	Load Label
F4	Save Label
F5	Print Label Format
F7	DOS Shell
F8	Edit Label Field
F9	Label Editor Menu/Layout Toggle

2.4 Data Entry Conventions

To enter data or values into any of the dialog boxes you have to select the individual parameter box that you wish to enter or edit data using the left mouse button. Information may then be typed into the box using the keyboard. When all of the information for a particular dialog has been entered select the appropriate action required by clicking on the box at the bottom of the dialog. Boxes which can be edited will normally be displayed in reverse text, and boxes which "open" into another dialog are shown by means of the box details being surrounded by < > characters.

2.5 Help Messages

Comprehensive context sensitive help is available at all times in the program. The help messages are displayed by either pressing F1 or by clicking the left mouse button on the help menu or icon.

To move through a topic, use the arrows on the scroll bar or the cursor keys. A master index of available topics is available from the Help menu in the Label Editor or Print programs.

3 RUNNING THE SOFTWARE

3.1 Running GLWW

To run GLWW from DOS you must follow the steps below :-

1. Change to the GLWW directory (Type ***CD\GLWW***)

2. Run the main programme (Type ***GLWW***)

To run GLWW from Windows, double click on the GLWW icon in the Program Manager.

The programme will load and take you into the main menu selection screen.

3.2 The Main Menu

The software is based around a main menu which allows access to all of the functions of the software. Each function is selected by clicking with the mouse pointer. The options that are available from the main menu are shown in Fig 1 below :-

Fig 1 Gazelle Label Writer Main Menu

The function of each of the menu selections is detailed in the following sections.

4 LABEL EDITOR MENU

The Label Editor menu is displayed across the top of the screen as a row of pull-down menus. To select a menu either click on the particular function with the mouse or press the ALT key followed either by the highlighted letter from the function name, or by using the left/right arrow keys. To the right of the menu bar, the current units, label format name (an asterisk next to the name, indicates the file has not been saved) and the size of the current label format are displayed.

4.1 File Menu

The File Menu commands are used to manipulate files with such operations as opening, saving, renaming and printing files.

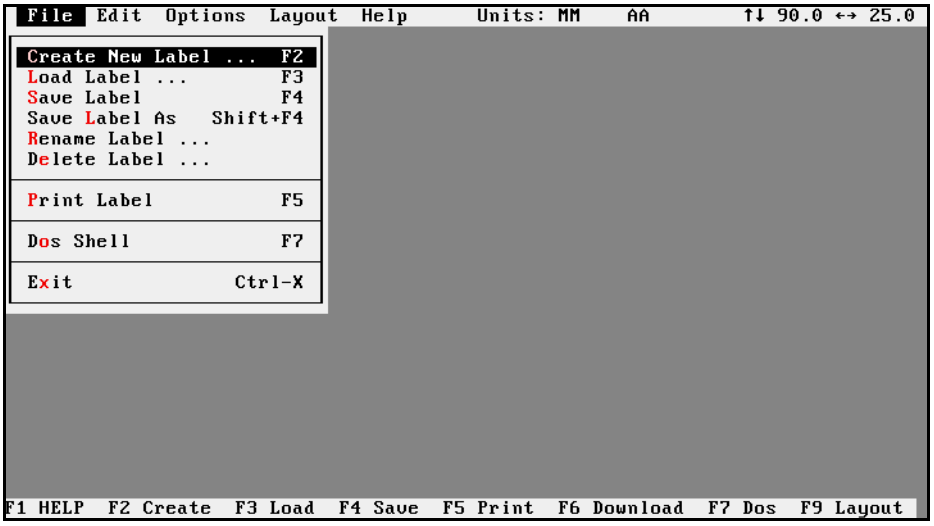

Fig 2 File Menu

The menu is selected by clicking on the File button on the menu bar (Alt-F) which then displays the pull-down menu above. Options may be selected using the mouse, hot key letter or the cursor navigation buttons.

4.1.1 Create New Label

Click on the file menu heading with the mouse and select the Create New Label function, which will bring up the Create New Label dialog box. The shortcut key for this command is F2.

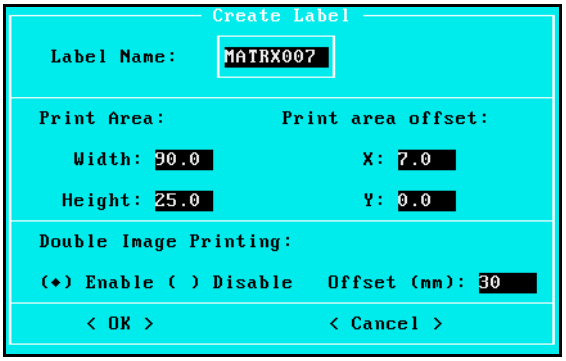

Fig 3 Create New Label Dialog

The dialog box allows you to enter the name for the new label format, which should follow normal DOS conventions of 8 characters. The label name can contain spaces but it is not recommended. An LBL extension will automatically be added to the new label filename. The dimensions of the printed area of the label should be entered and the position of this area within the physical label should also be specified. The label must be no wider or longer than the currently configured printer will allow.

Double Image Printing can also be enabled and the offset from one image to the next specified. Double Image Printing prints the same print area twice on the label, one image above the other, useful for example if printing box end labels. The offset between the first and second images should also be specified.

4.1.2 Load Label

This command lets you load an existing label formats. Activating this option brings up the Load Label dialog box. The shortcut key for this command is F3.

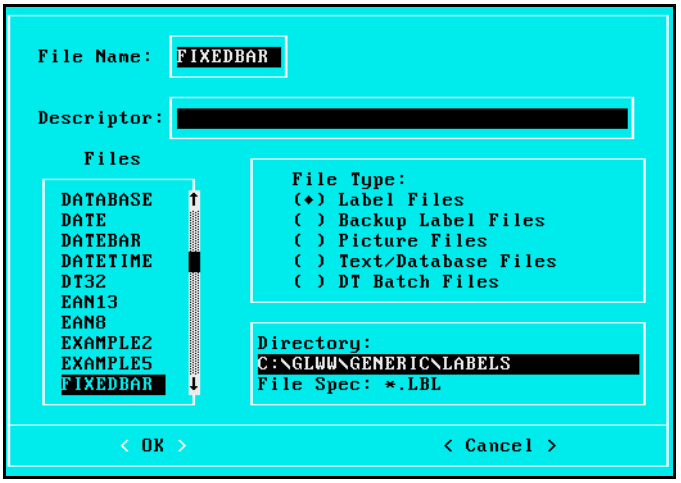

Fig 4 Load Label Dialog

The dialog box for the load label produces a list of all of the label format in the default directory. The required file can either be selected from the list of files, or by typing the file name into the Filename box. The current directory can be changed by editing the directory name in the Directory box. A filter, following the normal DOS conventions, can be typed into the Filename box to reduce the numbers of files listed. Example "TH*7" would only list labels starting with "TH" and ending with "7".

4.1.3 Save Label

The Save Label command lets you save to disk the current label format that is being worked on in the editor. The shortcut key for this command is F4

If passwords are enabled in the Option menu, the Save command will ask you to enter a password which will be use to protect this particular label format, and can be different to the passwords defined in the password function in the configuration menu.

The programme will automatically request you to save the current label format prior to exiting the editor, printing or downloading the label.

4.1.4 Save Label As

The Save Label As function allows you to save the current label format with a different name, whilst maintaining the original label format file. This is useful when you wish to create a new label which is similar to an existing label format.

The Save Label As dialog shows the standard file selector list which allows you to either type the name of a new label format, or to save the file with an existing filename which would overwrite any existing data in that file.

The directory, descriptor and files listed may be changed, in the manner described for the Load Label operation.

4.1.5 Rename File

This function allows you to take any existing label format and to save it with a different filename. This command will not create another copy of the file, but will changes the filename of the label, similar to the DOS command "REN".

The Rename dialog lets you select an existing file from the scroll window, or to type the name of the file into the File Name box. The name of the new file is typed into the Rename To box.

The directory, descriptor and files listed may be changed in the manner described for the Load Label operation.

4.1.6 Delete File

The Delete file command lets you delete an existing label format file. Care should be taken when using this function as once a file has been deleted it is not possible to undelete the file.

The Delete dialog shows the standard file selector list which enables you to select an existing file and delete it by responding OK at the bottom of the dialog.

4.1.7 Print Label

The Print Label command runs the GLWW Print with the current label format as the first label for printing. The form of GLWW Print is determined by the Quick Print option in the Options Menu. If you have not saved your current label format before you exit, you will be warned and given a last opportunity to save it.

For details on using the GLWW Print Utility, see section 7.

4.1.8 Shell to DOS

Shell to DOS is a duplication of the Shell to DOS command on the GLWW Menu. The GLWW Editor leaves little room for other applications so you may not be able to run many application from this shell.

For details on using Shell to DOS, see section 9.0.

4.1.9 Exit

This will exit the editor and will take you back to the GLWW Menu. If you have not saved your current label format before you exit, you will be warned and given a last opportunity to save it.

4.2 Edit Menu

The Edit menu provides an alternative way of editing the fields in the label format, which is often useful when you need to edit, list or delete the contents of the fields in the label format, but not to change the positional information of the fields, which is best done in the WYSIWYG screen. It also enables you to change the details entered when the label was created and the printer defaults.

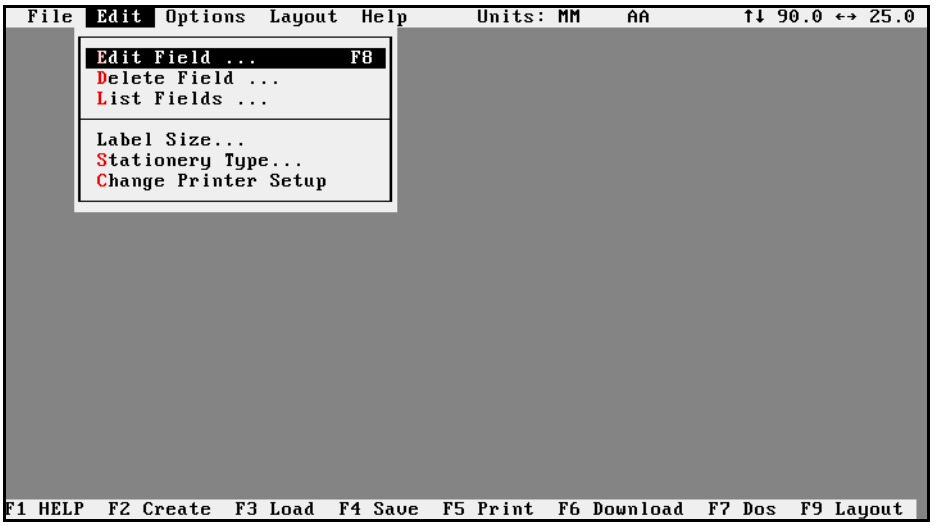

Fig 5 Edit Menu

4.2.1 Edit Field

The Edit Field command allows any of the fields in the current label format to be edited or viewed in the WYSIWYG screen. The shortcut key for this function is F8.

The Dialog box for this function shows a list of all of the fields displayed in field number order. Each field has the type of field shown and the contents of the field. A typical example of the Edit Field dialog box is shown in Fig 7 below :-

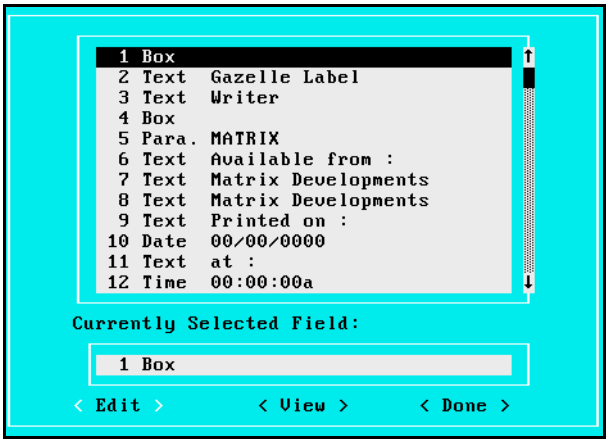

Fig 6 Edit Field Menu

To select a field, highlight it using either the mouse or the cursor keys. Choosing the Edit function will bring up the standard dialog parameter box for the type of field selected. Any of the parameters may be changed using this function, and when completed will return you to the Edit Field screen. To confirm that changes made are correct the View function displays the standard WYSIWYG screen.

4.2.2 Delete Field

The Delete Fields dialog box is very similar to the Edit fields dialog box. The View and Edit buttons are replaced by a Delete button. To delete a field, select a field from the list, click on the delete and wait for the confirmation dialog box. To delete the field, select Delete from this Dialog box.

It is normally easier to delete a field by clicking on the field with the right button on the layout screen and selecting the delete button from the dialog box but this process is an alternative method which avoids need to use the graphics screen.

4.2.3 List Fields

The List Fields dialog box contains a list of the fields in a label format with each fields' type, X and Y co-ordinates and an abbreviated form of their contents.

4.2.4 Edit Label Size

This function displays the dialog box used for the Create Label function. The label size, stationery type, X and Y offset, cutter position and double image printing can be changed.

For more details about this dialog box, see Create New Label (section 4.1.1).

4.2.5 Edit Stationery Type

Click on the Edit menu heading with the mouse and select Edit Stationery Type, which will display the Stationary Type dialog box.

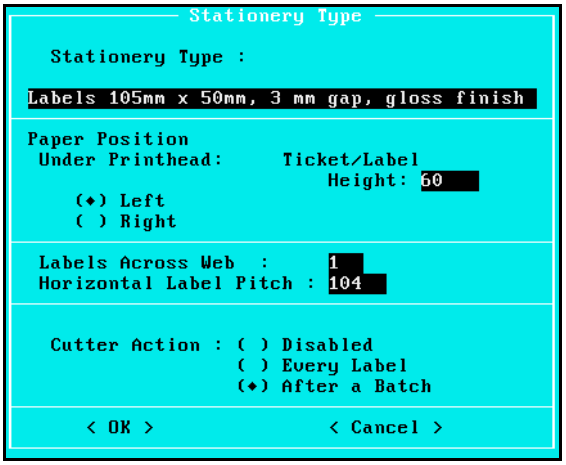

Fig 7 Stationary Type

The Stationary Type dialog box tells GLWW the type of stationery you intend to use. The Stationery Type field contains a free-form description of the stationery for reference. If you are using stationery with multiple labels across the web, click on the Labels Across Web text box and enter the number. Then click on Horizontal Label Pitch and enter the offset from the start of one label to the start of the next.

For continuous stationery, you must enter the height of the label to be ejected by the printer. If the cutter is fitted and the option selected in the Printer dialog box in GLWW Configure, another section will be displayed where the cutter can be disabled, activated at the end of each label or the end of each batch of labels by selecting the appropriate option.

For Phoenix Printer/applicators, you also can define whether the label is for a right or left hand constructed machine. (ALFA Printers are normally left hand.)

4.2.6 Change Printer Setup

This function displays a dialog box which allows the print density, print speed and paper type to be set independently of the default printer settings. The dialog box is similar to the Printer Selection dialog box in the Configuration Utility. You can also select the default printer to be used at print time.
For more details about this dialog box, see Printer Section, 6.6.

4.3 Options Menu

GLWW, and in particular, the GLWW Editor contain a number of aspects that can be configured to the user's taste. The items on the Options Menu do not change the final label format but make the GLWW environment and the GLWW Editor easier to use.

The Options Menu contains a number of menu items that reverse their meaning when selected. For example, Hide Logos toggles to Show Logos. The current state is therefore the reverse of that shown on the menu. Each of the items on the menu gets a fuller explanation below.

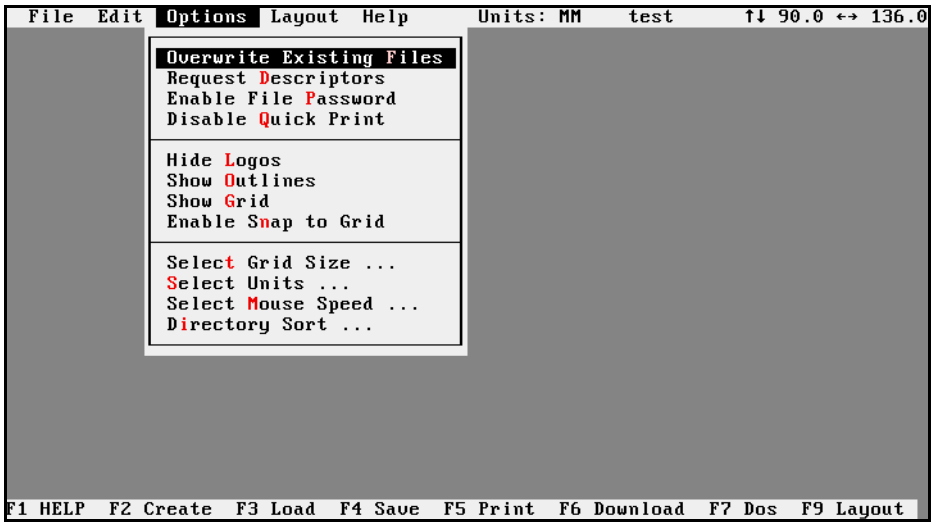

Fig 8 Options Menu

Overwrite/Backup Existing Files - When a label that already exists is saved, the previous copy would normally be overwritten. If a mistake had been made in changing the label, the original version would have been lost. GLWW will either backup the original label (to filename.bak, where filename is the label format name) or will warn you that you are going to overwrite the file and ask you to confirm this is what you want to do.

Request/Do not Request Descriptors - GLWW allows the user to add some freeform information about a label format or a field on the label. This information is requested when the label format is created or edited, if this option is set to request it. Although the information is often of use, the regular requests slow down the creation process.

Enable/Disable File Password Requests -GLWW supports file passwords which if set are requested before a label format is loaded. If this option is set to Enabled, a dialog password is display every time a label is saved requesting the password needed for reloading the label.

Enable/Disable Quick Print - Quick Printing mode is a method of printing a label format without using print queues. It is only available from GLWW Editor and is used when this option is set.

Hide/Show Logos as Graphic Images - A label format containing many fields, may display slowly on older computers, logos taking longer to display than other fields. They can be replaced by a rectangle with the logo's name in the centre by selecting this menu item.

Hide/Show Outlines - When this option is set to Show Outlines, a rectangle surrounds each fields display in the Label Editor for clarity.

Show/Hide Grid - A visible grid can make lining up fields on a label format easier but a fine grid can take a little time to display on a slow computer.

Enable/Disable Snap to Grid - When this option is enabled any field that is moved or created on a label is forced to line up with the grid.

4.3.1 Select Grid Size

A background grid can be selected to aid field positioning. To select the grid spacing required click on the selection. Time is taken to draw the grid when the display is refreshed so it is recommended not to use a smaller grid than necessary. Confirm the selection by clicking OK, or Cancel by clicking on Cancel.

The grid can be visible or hidden by selecting Show Grid or Hide Grid from the Options menu.

4.3.2 Select Measurement Units

The default measurement unit used by the label editor to define the label size can be specified. The options available for you to chose are Dots, Millimetres or inches. When you have selected the unit required click on OK to accept the changes or Cancel to exit without saving.

4.3.3 Select Mouse Speed

The mouse speed (amount of cursor movement to mouse movement) can be varied over approximately a 10:1 range. Not all mice support the double speed option so you may need to experiment. When you have selected the mouse parameters click on OK to accept the changes or Cancel to exit without saving.

4.3.4 Directory Sort

You can choose that the directory listing shown when you load, save, rename or delete a file should be sorted alphabetically (in ascending or descending order) by selecting one of the options in the directory sort box.

If you have more than 200-300 files in your directories, sorting the files will be quite slow. You may find it helpful to sort your labels into categories and store each category in a separate subdirectory.

When you have selected the required sort click on OK to accept the changes or Cancel to exit without saving.

5 LABEL EDITOR

The label editor takes you into a screen with a row of pull-down menus across the top to enable all of the functions to be selected. To design a new label select Create New Label (Alt F C) or press F2. The label format parameters screen should be completed to define the label size, file name and paper position. After accepting the parameters you are taken into the layout screen which allows you to design the label with full WYSIWYG display.

The icons at the bottom of the screen allow you to select the particular design tool required according to the particular field that you wish to place on the label format. The field function is selected by clicking on the particular icon with the left mouse button, which causes the icon to be highlighted. To enter data for a particular field, position the cursor at the top left-hand corner of field and press the right hand mouse button. The relevant parameter screen appears to enable the data to be entered. When the parameters have been accepted, by clicking on OK, the field will be displayed on the layout screen. The field may then be re-positioned by clicking and holding down the left mouse button and dragging the field to the new position. Having selected a particular field, pressing the right mouse button will take you back to the field parameters screen.

Boxes, lines and graphics files can be resized by holding down a shift button, clicking on the image with the left mouse button and dragging the outline to the correct size.

Function	**Use**
Text - Fixed	Alphanumeric fixed text field
Text - Variable	Alphanumeric text field which allows variable data entry at print time
Barcode - Fixed	Fixed barcode data field
Barcode - Variable	Barcode field that allows data to be entered at print time
Date	Date field that picks up current date at print time
Time	Time field that picks up current time when label is printed
Line/Box	Create line or box fields
Picture	Place PCX format clip art
Text File	Place ASCII text file into label
Copy Field	Duplicates the last used field and displaces the copy down and right. The last used field is the last field moved, changed or created on the graphics screen since the label format was loaded/created.
Centre Horizontally	Centres the last used field horizontally on the label

Centre Vertically	Centres the last used field vertically on the label
View Window (Larger labels only)	Choose the area of the label to view on screen by moving mouse and then click left mouse button.
Menu	Go to Label Editor main menu
Help	Select help text
Template/Printed	Toggle between printed data and template fields that enable defined areas to be "mapped" onto label format.

On a colour monitor the colour will denote the type of field that has been defined according to the following table :-

Colour	**Field Type**
Black	Fixed
Green	Variable
Red	Template

5.1 Fixed Text Parameter Screen

The fixed text parameter screen is shown in Fig 10 below.

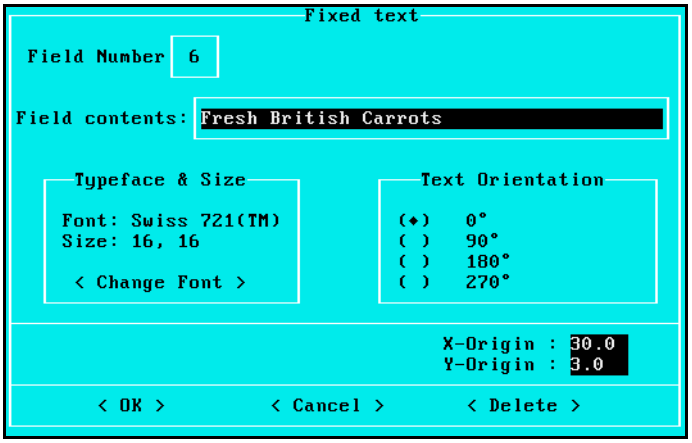

Fig 10 Fixed Text Dialog

To add/change the contents of the text field click on the Field Contents Box and type in the required data string. The characters are always left justified in the field.

The font size for the text can be changed by clicking on the Change Font box. The current font size will be shown in the box. If you choose to change the font a dialogue box is displayed which enables you to change the selected font and character size.

The orientation of the text on the label may be changed by changing the required selection from a choice of 0°, 90, 180° or 270°. The default orientation is 0°. The X-Y co-ordinates for the field may be specified by typing the required values into the X or Y ORIGIN boxes.

When all of the parameters have been entered click on OK to create the new field. If you want to cancel the new field click on Delete.

5.2 Variable Text Parameter Entry

The variable text function allows you to define text fields within the label, and to enter the actual text at the time of printing, either directly from the PC, or by means of the DT32 Data Terminal. You can define the variable field text as incrementing, or decrementing with the initial value entered at print time.

For more details of the various types of variable field text, see section 5.4.

To select the maximum number of user entered characters in the field enter the required value in the Field Length box.

5.3 Fixed Barcode Parameter Entry Dialog

The fixed barcode entry dialog allows you to enter the data for fields that will have a fixed barcode. The format for the dialog screen is shown below :-

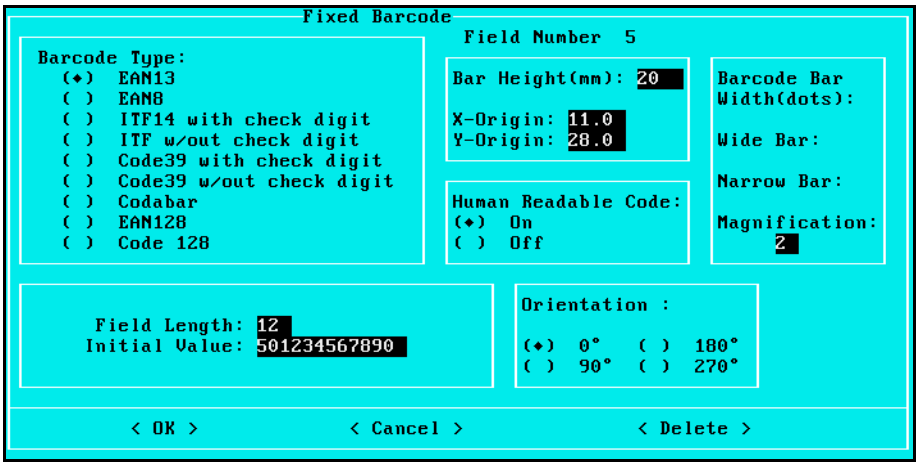

Fig 11 Fixed Barcode Parameter Entry Screen

Select the required barcode symbology from the list on the left hand side of the dialog box. Some of the symbologies are available with formats that will print both with and without check digit calculations. The selection of the barcode will determine the default number of characters in the barcode, which dependent upon the symbology chosen may be changed by entering the required length in the field length box. A value for the barcode must be entered, or the default string will be used.

The height of the barcode can be changed by clicking on the height box and entering the required value. The orientation of the barcode can be specified by clicking on the appropriate button.

Dependent upon the symbology chosen the default barcode parameters (defined in the Configuration Utility) may be changed within the dialog box. The parameters that may be changed are the narrow and wide module widths, and the barcode magnification.

Some barcode symbologies only include a restricted range of characters. If an invalid character is used, an error message will be displayed. EAN-128 allows the FUNC1 character to be included in the code by pressing Ctrl-F (typing "F" while holding down the Control key). The character is displayed on the screen as a right pointing arrow ">" (on some computers the character may be a solid arrow).

When you have entered all of the parameters click on OK to accept the changes or Cancel to exit without updating the changes or creating the field.

5.4 Variable Barcode Parameter Entry Dialog

The variable barcode dialog is similar to the fixed barcode dialog, but with the addition of a number of extra options that allow you to specify the format for the variable data as shown below :-

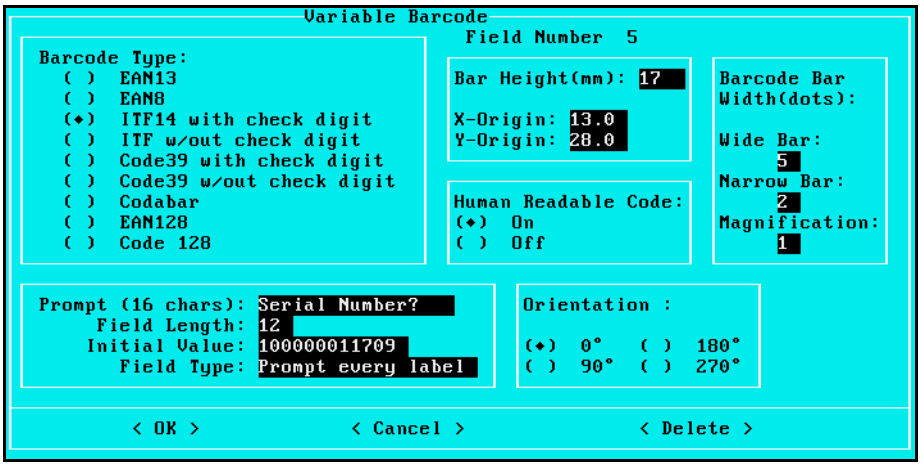

Fig 12 Variable Barcode Parameter Entry Dialog

You can now specify the prompt text for the variable entry that will appear either on the PC screen, or the DT32 data terminal at print time.

The way in which the prompt is handled by the printer is selected by clicking on the Prompt box, which then displays an option dialog which allows you to choose from the following options :-

Prompt Once - At print time the variable data is requested once only and is then repeated on each label that is printed as part of that batch. This is useful for printing batch codes, where 100 labels may be printed for a batch of goods that will all have the same batch reference number.

Prompt Each Label - At print time of a batch of labels, GLWW Print will stop between labels for entry of the variable text required for the next label. This is useful when each label will have one (or more) fields that change (e.g. part number, serial number etc.)

Prompt & Increment - At print time, you can enter an initial value for the first label to be printed. Each subsequent label will have a value that will be incremented by one from the previous label

Prompt & Decrement - This is similar to above, but will decrement by one from the initial value entered.

Always Increment - At print time the printer will increment this field for each label printed by one. The initial value is determined by the value printed on the last label of this type - even after the program is exited and the computer is switched off. This function is useful for serial number labelling.

Always Decrement - This is similar to above, but will decrement by one from the value from the last label printed.

Database Input - This feature allows you to specify a field within a record of a database that will be used for the contents of the field. GLWW supports text delimited and dBase format databases. Once you have chosen which format, another dialog box shown below that lets you specify the format for the database field. This option is explained is further detail below.

Linked - You can link one variable field to another so that information only has to be calculated or requested once. When the source field is deleted, the destination field will also be deleted.

Auto Date/Time - The date/time variable text field allows you to embed a date or time which will automatically be updated by either the system clock in the PC, or the real time clock maintained within the DT32. The field is shown on the screen as the time when the field was last changed. It is updated at print time and when the field's details are changed. This option is explained is further detail below.

5.4.1 Text Database Field Parameter Entry Dialog

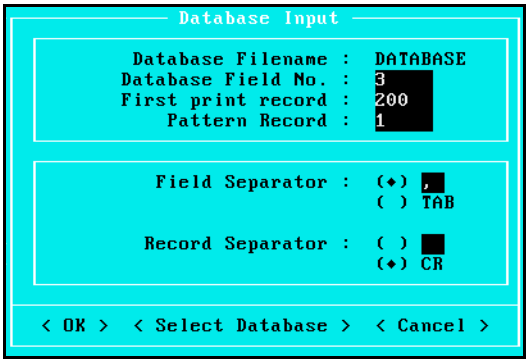

Fig 13 Database Field Parameter Entry Dialog

To select a text database or to change to a different one, click on Select Database and choose the database file from the standard directory listing box.

Database information can be imported provided it is prepared in a correct and consistent format. The database file must be a character separated ASCII text file and have the suffix .TXT. One of the records (usually the first) is selected as representative of the maximum field width for the database. This is used to determine the number of characters to clear in each field of subsequent labels.

To select the field and pattern record numbers click on the respective text and enter the number in the text box. The Pattern Record is used to determine the amount of space to leave on the label for this field. It should represent the largest field that might be encountered. To select the first field to the printed, click on First Print Record and enter the record number. You will be

asked to confirm this number when you print the label. This number is increased by one every time a label is printed.

The field separator can be a Tab character (ASCII 9) or any ASCII character. To change the field separator, click on Tab or click on the Field Separator box and enter the single separator character.

The record separator can be a carriage return character (ASCII 13, 10 or both) or any ASCII character. To change the record separator, click on CR (short for Carriage Return) or click on the Record Separator box and enter the single separator character.

When you have entered all of the parameters click on OK to accept the changes or Cancel to exit without updating the changes or creating the field.

5.4.2 dBase Database Field Parameter Entry Dialog

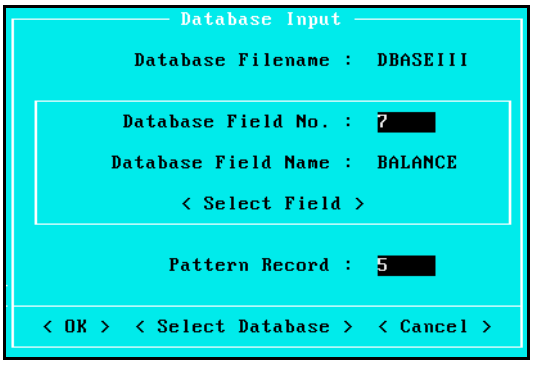

Fig 14 dBase Field Parameter Entry Dialog

To select a dBase database or to change to a different one, click on Select Database and choose the database file from the standard directory listing box.

GLWW supports both dBase III and dBase IV fields. Only integer decimal and date fields can be imported into numeric barcodes.

To select a field, either select Database Field No. and enter the field number or click on Select Field and select the field from the list. The select a pattern record number click on the text box and enter the number. The Pattern Record is used to determine the amount of space to leave on the label for this field. It should represent the largest field that might be encountered. You will be asked to enter the number of the first printed field when you print the label. This number is increased by one every time a label is printed.

When you have entered all of the parameters click on OK to accept the changes or Cancel to exit without updating the changes or creating the field.

5.4.3 Auto Date/Time Dialog

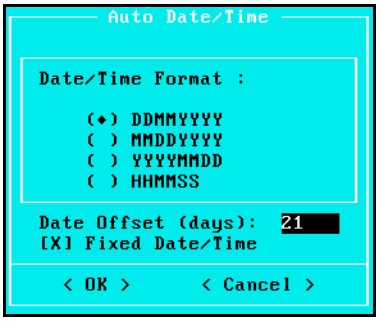

Fig 15 Auto Date/Time Parameter Entry Dialog

You can choose between date and time format and for the date specify UK, European or US and Japanese format. It is also possible to enter an offset for the date in number of days from the current date. This can be useful to automatically enter a "Sell by" or "Use by" date.

The barcode must be large enough to contain the numeric representation of the time or date or an error will be produced.

You can specify whether the date or time printed on the label will be changed from one label to the next in a batch of labels. By selecting Fixed Date/Time, you can speed up printing by keeping the date or time constant.

5.5 Date Entry Dialog

The date entry field allows you to print a date which will automatically be updated by the system clock in the PC. The field is shown on the screen as a series of 0's which represent the particular format selected. The date entry dialog is shown below :-

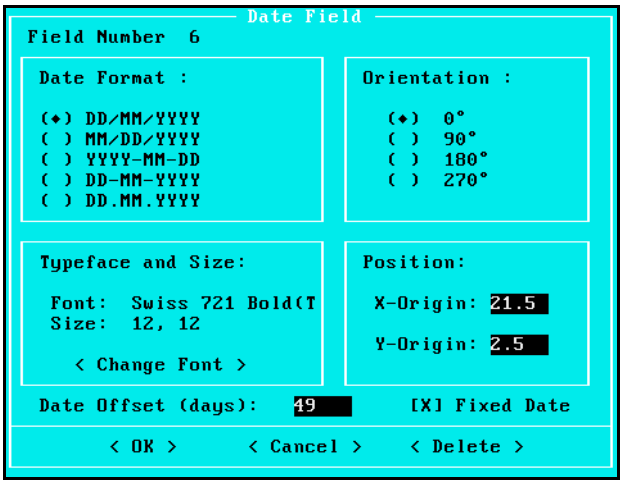

Fig 16 Date Entry Dialog

You can specify the format for the date displayed between UK, European, US and Japanese. Like other text fields you can also specify the font used for the date field and the orientation for the field. It is also possible to enter an offset for the date in number of days from the current date. This can be useful to automatically enter a "Sell by" or "Use by" date.

You can also choose whether the date printed on the label will be changed from one label to the next in a batch of labels. By selecting Fixed Date, you can speed up printing by keeping the date or time constant.

5.6 Time Entry Dialog

The time entry dialog lets you specify the format for the time in a similar way to the date. The dialog let you enter the font to be used as well as the orientation of the text.

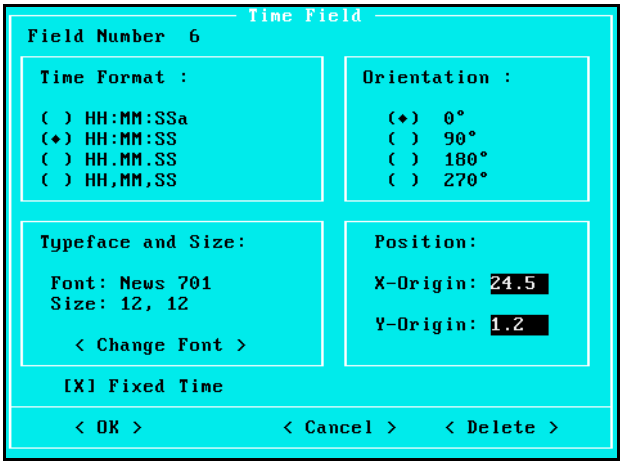

Fig 17 Time Entry Dialog

You can specify whether a 12 or 24-hour clock is used and the separator between the three elements of the time. You can also choose whether the date printed on the label will be changed from one label to the next in a batch of labels. By selecting Fixed Date, you can speed up printing by keeping the date or time constant.

5.7 Box/Line Entry Dialog

GLWW can include lines and boxes in label formats. Once they have been added to the label format, they can be changed by click on the field with the right mouse button. To change the field from a box to line, selected Vertical Line or Horizontal Line. To change the dimensions, click on the appropriate text entry box and type in the correct size. Boxes and lines can be black or 25% grey. To change the colour, click on the appropriate setting.

Once the box or line has been created, its dimension can be changed on the graphics screen by holding down a shift key, clicking with the left mouse button on the field and dragging it to the correct size.

5.8 PCX Logo File Entry Dialog

GLWW can import black and white and 256-colour greyscale PCX files directly into a label layout, and will then convert these automatically to a binary file when they are transferred to the printer or DT32. Graphics bitmaps can be rotated like any other field and can be scaled either by entering new sizes into the dialog box or by clicking with the left mouse button on the logo while holding down the shift key and dragging the box out to a new size.

GLWW will adjust itself to 256-colour greyscale images by dithering the image to black and white. The dither occurs after the scaling so that the quality of the image is preserved. You can

choose between three dithers for screen display. Bayer's is much faster than the other two but displays quickly. Burkes' dithers are slower but of higher quality. The darker Burkes dither represents the image with the correct proportion of black and white to represent the grey. The lighter dither is display exactly as it will be printed. The greys in this dither have been transformed for optimum printing.

The program asks you whether the file image will be taken from an existing logo in memory or from a disk file. GLWW will automatically store any logos already placed on the current label so that more than one copy may be used. If you select File the program will display a list of files having a PCX extension which are in the directory from which the program was run. You can change the default directory by clicking on the directory box and typing a new directory. You can reduce the size of the list of logos by typing a filter into Filename box.

Greyscale images reply on the Print Density in the Change Printer Setup dialog box being set correctly. Paper and ribbons supplied by GENERAL CODE should produce best results with the print density set at 100% but other papers or ribbons may produce better results with higher or lower settings. The best way is to experiment. A test image (GREYSCAL.PCX) is supplied on the distribution disk to help determine the ideal setting.

Once you have selected the file required you can only change the X and Y co-ordinates and size of the image as shown in the figure below :-

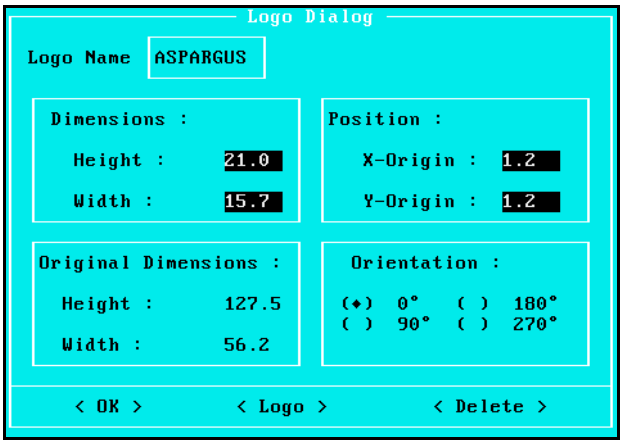

Fig 18 Logo Dialog

5.9 Text File Entry Dialog

The text file field allows you to select an ASCII format file which can be placed onto the label. This file is then treated as a single field, and can only be re-positioned as a single field.

The initial Text File Dialog lets you select a file from a list in the default directory which has a .TXT extension. The default directory can be changed by clicking on the directory box and typing in the new directory name. Once you have selected the required file another dialog box is displayed which allows you to change the font size and orientation of the text field. The extra line spacing can be entered as a percentage of the vertical font size.

5.10 Font Selector

Fixed, Variable and File Text, Time and Date Fields all allow the select the font typeface, size and effects from the Font Selector. To change the font being used by a field, select Choose Font from the main dialog box. The font selector is shown in fig 19.

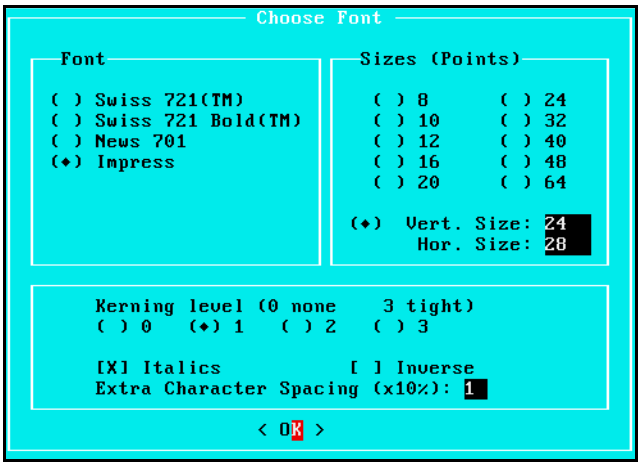

Fig 19 The Font Selector

To choose the typeface, click on its name in the Font section. To change the size, either click on one of the listed sizes or click on Vert. Size/Hor. Size. To change the font size to one not already listed, click on Vert. Size/Hor. Size and enter the Vertical and Horizontal point size required into the black text boxes. The two sizes are set independently and can be between 3 and 999 points (assuming the label is big enough).

The fonts shown in Fig 20 are included as standard with GLWW and new ALFA printers. The fonts have been enlarged for this manual. The quality will be higher in normal use.

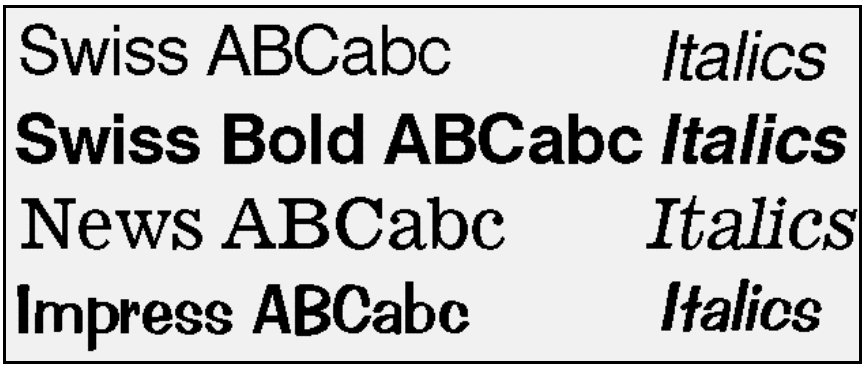

Fig 20 GLWW Fonts

Kerning is the process of moving characters closer together to improve their appearance. For example, if the letters "AV" were spaced normally, there would be more white space between them than the letters "ML". Kerning would move the letters "AV" closer (often allowing the left of the "V" to start above the right of the "A"). Kerning can bring characters a little closer or much closer. GLWW represents kerning on a scale on 0 to 3 where 0 is no kerning and 3 is tight kerning. To change the kerning select one of the numbers 0 to 3.

AV ML AV

Not kerned Kerned

To italicise the font, select Italics or to print White text on a black box, select Inverse. When characters need to be read quickly or by a machine, extra spacing between each letter can often improve clarity. Spacing can be increased by multiple of 10% of the horizontal point-size. To change the spacing, select on the Extra Characters Spacing box and enter a number between 0 and 9 (0 to 90% more space).

6 CONFIGURATION UTILITY

The configuration pull-down menu allows you to define barcode formats, output port, communications protocol, measurement parameters, nationality, printer format, password protection and paths. The menu is selected by clicking on the Configure button on the menu bar, or using the hot key (Alt-C).

Fig 21 Configure Menu

6.1 Barcode Defaults

The magnification and module width of the different symbologies are preset, which is determined by the dot resolution of the printer. The normal default for printers is a magnification factor of 2 which will give a module size of 0.33 mm on 6 dot/mm printers and 0.25 mm on 8 dot/mm printers.

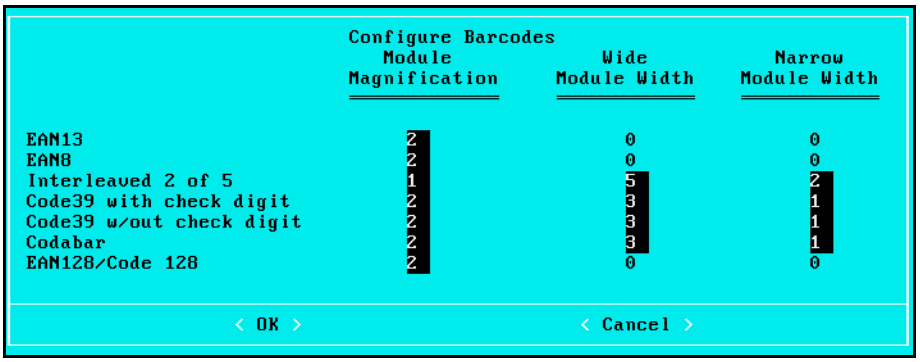

Fig 22 Barcode Configuration Dialog

The module width for EAN barcodes cannot be changed as these are defined by the symbology. To change other parameters click on the particular box and enter the new value. When all of the required changes have been made click on the OK button. If you wish to exit without updating the values click on the cancel button. The defaults widths are shown in fig 22.

6.2 Communications Settings

Changes to the set-up for the communications apply to all of the serial ports available on your machine. To change the value click on the required option box. When all of the changes are complete, click on OK to accept the changes or cancel to exit without updating the changes. The setting must match exactly those in the printer or DT32 terminal.

6.3 Printer Selection

Multiple printers of different models can be used with GLWW simultaneously. Only one printer can be attributed to each communications port on a computer. To change the printer attached to a port, click on the line containing the port's name and select the Printer button. The Configure Printer dialog box will be displayed.

GLWW defines different parameters dependent upon the printer that is selected (resolution, print width, speed, head temperature), and so you must select the printer that you will be using with the software.

To select the printer model being used click on the printer model box and press the Enter key. A list of available printer drivers will pop-up. Please refer to the table below for cross-reference name of printers:

Commercial name:	Factory name:	printhead width	resolution
ALFA 2050 ALFA 1050	LP568	56 mm	8 dots/mm
ALFA 2100 ALFA 1100	LP1048	104 mm	8 dots/mm
ALFA 2050/6 ALFA 1050/6	LP526	52 mm	6 dots/mm
ALFA 2100/6 ALFA 1100/6	LP1056	105 mm	6 dots/mm

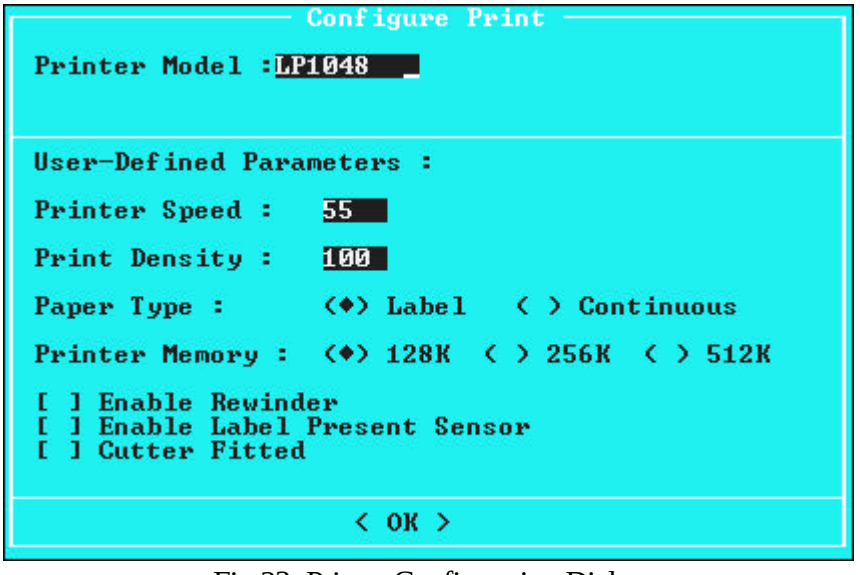

Fig 23 Printer Configuration Dialog

To select a particular driver click on the printer required and press OK to accept, or Cancel to exit without saving the changes.

The default print speed or print density can be set by clicking on Printer Speed or Printer Density and entering an appropriate value. The valid speed range is 40-139 mm/s and print density is 50% to 200% of the factory default setting.

To enable the External Rewinder or Label Present Sensor (mounted on the front of the printer above the label) click on their options. If a cutter is fitted, select Cutter Fitted and a range of extra options will be displayed in the Stationery Type allowing you to control its use.

Once the changes have been made, select OK to return to the list of printers.

6.4 Passwords

You can configure the program to set access to the system which is controlled by Passwords. To set a Password click on the text entry box for the program and type in the Password required. When all of the changes are complete click on OK to accept the changes, or Cancel to exit without updating the changes. If any of the text entry boxes are left blank then no password will be requested for that program.

6.5 Paths

The DOS system of paths allows files to be kept in groups. GLWW encourages the use of directories by allowing different default directories for each file type. The default directories are those listed when Load Label, Save Label, Select Database, etc. are chosen.

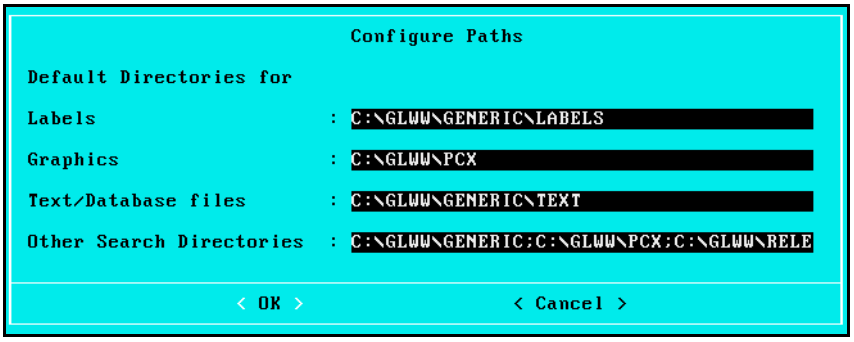

Fig 24 Paths Dialog

To set a Path, click on the text entry box for that type of file and type in the path required. Paths should be entered in full, including the drive letter.

GLWW keeps a reference including a full path of imported files in every label. so if a file used in a label is moved, GLWW will not be able to find it when the label format is next used. If you specify a set of Working Directories, GLWW will look for the file in these directories if it is not found in its initial path.

6.6 Exit Configuration

To exit the configuration menu and return to the Main Menu select exit.

7 PRINT UTILITY

The Print Utility is a sub-program of the GLWW Editor but can also be used as a separate standalone utility. The Print Utility prints label formats that have already been defined using the label editor. The number of labels to be printed and any variable information which has been defined will be entered at this stage.

To print a label format, either select Print from the File Menu of the GLWW Editor or select Print Utility from the main GLWW Menu. If you select Print from the GLWW Editor with the Quick Print option enabled, a simplified interface will be used - see section 7.5.

7.1 Print Queue

When the Quick Print option is not being used, GLWW Print uses the print queue. List of formats can be set up and variable field data entered independent of the printer speed.

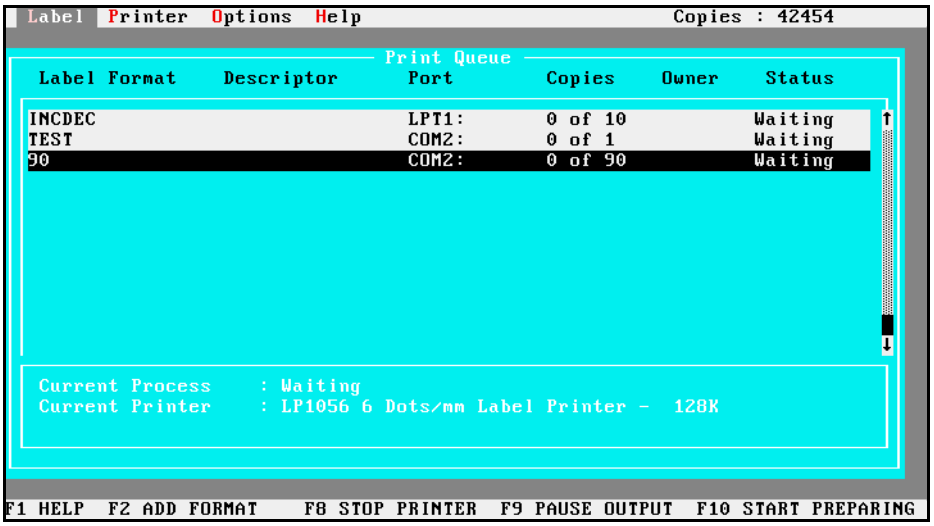

Fig 25 Print Queue

Printing takes place in two stages. During the first, known as preparing, variable field data is collected from the user, or from a database, or by incrementing or decrementing previous data. This stage is often very quick. If a label contains no prompted or database data, thousands of labels may be prepared in a second.

Once the preparation process has been started, the second process starts. Known as printing, this is the stage where the label formats are passed to the printer for printing. This process runs in the background while GLWW Print is running.

Once preparation of all the formats is complete, more formats can be added and the menus become operative again. If you leave GLWW Print, printing may pause until you start it again. Warning: If you switch off the printer before restarting GLWW Print, printing may not restart properly.

GLWW Print supports up to 5 printers of the same type simultaneously (on ports COM1, COM2, LPT1, LPT2, LPT3).

Once printing has started, it can be suspended by selecting Pause Output to Printer from the Printer Menu. A few labels may print before the printer buffer is cleared. If a label format does not contains any prompted or database fields, all the label formats may have already been sent to the printer. The printer can still be stopped by selecting Stop Printer from the Printer menu. This command only works with labels with fixed fields.

7.2 Label Menu

7.2.1 Add Label Format

To add a label format to the print queue, select Add Label Format from the Label Menu or press F2. The normal directory listing box will be displayed. Select the name of the label format and click on OK. The Add Format dialog box will be displayed.

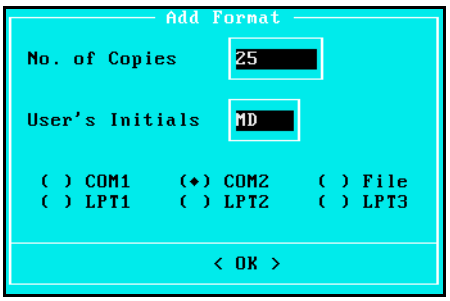

Fig 26 Add Format

To change the number of copies, click on the No. of Copies text box and enter the number required. To identity who added a label format to the queue, the user can enter his or her into the User's Initials text box. The Initials then become the default ones. This information is displayed in the queue list and in the Print Report File. To change to a printer on a different port select the name of the port. If File is selected, the filename will be requested when the preparing stage starts. You can only change to ports that are listed with printers in the Printers section of GLWW Configure.

To confirm the selection, click on OK. If the Preview Label option has been selected, a preview of the label will be display. Click on Continue or Cancel to accept or reject this format.

7.2.2 Remove Label Format

If a label format has been added to the queue in error, you can remove it by clicking on the errant label format in the last and selecting Remove Label Format from the Label menu or pressing F3.

This option can also be used to remove a format during the printing stage if the Output to the Printer has been paused.

7.2.3 Copies

To change the number of copies needed of a label format already in the print queue but not yet prepared, select Copies, click on the No. of Copies text box and enter the correct number. This command can also be used to change the initials or the port to be used for printing.

If this command is used after a label format has been printed (when the Status is marked as Done), it can be used to print more copies of the label format. Enter the number of extras copies in the text box and select OK. The Status will change from Done to Waiting.

7.2.4 Shell to DOS

If you have enough memory, you can run a DOS shell to enter DOS commands temporarily before returning to GLWW. While you are in DOS, no more label formats will be sent to the printer, but the printers will continue to process any formats they have received.

7.2.5 Exit

Leave GLWW Print and returns to the GLWW Editor or the GLWW Menu. If GLWW Print is still printing, the output to the printer will be suspended. The printing will continue when you restart GLWW if the printer has not been switched off.

7.3 Printer Menu

7.3.1 Start/Stop Preparation

When you have added at least one label format to the list, selecting Start Preparing/Stop Preparing from the Printer menu (or press F10) will start the preparation of the listed label format. Any prompted fields will be requested and any database information will be collected. Once preparation is completed (normally after just a few seconds), the menus become operative again.

Stop Preparing can be used to abort the label format preparation but will not stop the output to the printer of label formats that have already been prepared.

7.3.2 Pause/Restart Output to Printer

Once label formats have been prepared, they are sent, in the background, to the printer. To stop the flow of information to all the printers, select Pause Output to Printer from the Printer Menu (or press F9). To restart the flow, select Restart Output to Printer from the Printer Menu (or press F10 again).

If a label format does not contains prompted or database fields, the label format will only be sent to the printer once and therefore Pause Output to Printer will have no effect once the information for the first label has been sent.

7.3.3 Stop Printer

If a label contains only fixed fields, an instruction will be sent to the printer to print the same label as many times as instructed. To stop the printer, select Stop Printer from the Printer menu, select the port of the printer to be stopped and click on OK.

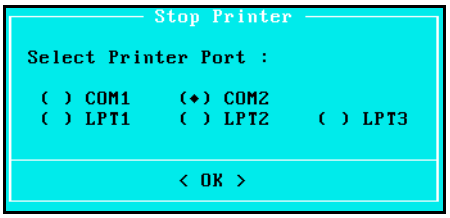

Fig 27 Stop Printer

The copies counter will not be reduced by the number of labels not printed so its value will become meaningless.

If more label formats have been sent (or are being sent to the printer), then this command will be ignored.

7.4 Options Menu

7.4.1 Pause Between Formats

When printing several batches of label formats, it is often useful to pause between batches to change labels in the printer or to move label from the rewinder. By selecting this option from the Options menu, GLWW will automatically pause at the end of each batch of labels as if Pause Output to Printer had been selected from the Printer menu. To restart output, select Reset Output to Printer from the Printer menu or press F9.

7.4.2 Preview Labels

It is often useful to be able to view a label format in order to verify it before it is added to the queue. If this option is selected, the label will be displayed on the screen after it has been selected from the directory listing box. Above the label will be two buttons - Continue and Cancel. Selecting Continue will add the label format to the list, but selecting Cancel will abandon it.

7.4.3 Start Printing After Add

If you regularly only print one label format at a time, selecting this option can simplify the printing process. With this option selected, preparation of label formats will start immediately after a label format has been added to the queue.

7.4.4 Reset Counter

The counter is on the right of the menu bar. When printing is complete, the number of copies sent to the printer, are added to the counter. It can be used to determine how many labels have been printed from a reel and used as a guide to the number left.

If the Stop Printer command is used, the number of labels stopped is not subtracted so the counter reading is then no longer valid.

7.5 Quick Print Mode

If Quick Print is enabled in the GLWW Editor and Print is selected from the File menu of the GLWW Editor, GLWW Print uses a quicker non-queuing mode. The same Add Format dialog box is displayed but the label format details are displayed in a smaller box:

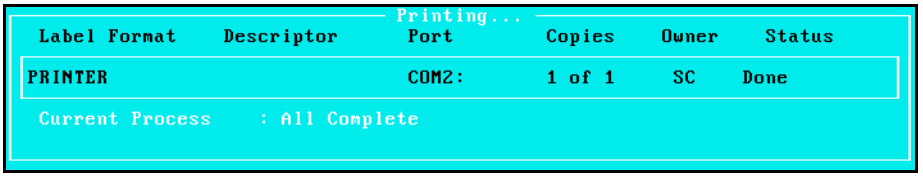

Fig 28 Quick Print Progress Window

When the label format has been printed, GLWW Print returns immediately to the GLWW Editor. The counter and the report file are both updated although the counter is not displayed.

7.6 Printing Trouble Shooting

Symptom	Check
No labels printed	Printer attached and switched on Paper (and wax ribbon on thermal printers) present Cable connected to correct port Baud rate, parity etc. in GLWW Configuration Utility match those on the printer DIP switches. NB. GLWW requires that all printers use the same communication parameters
Poor print quality	Print head is not dirty Correct heat setting (See section 6.6) Correct speed setting (See section 6.6) Paper is good quality and has not been mistreated.
Label format on screen does not match printed label	The printer type listed in the Printers section off GLWW Configure matches the printer in use.
Time/Date print incorrectly	Your PC's clock has right time Date offset is correct (See section 5.5) Correct local time/date format chosen
Some fields don't print	Correct printer driver is being used All files used when label was created are still present
Some country-specific characters don't print	DOS version 5.0 or later present Code pages are set up correctly in your AUTOEXEC.BAT and CONFIG.SYS files Characters are ALFA Printers' character set. See appendix A.
Database fields print corrupted or do not print	Check the pattern record is the largest record Check database has sufficient records Database file is still present on disk

8 DOWNLOAD TO DT32

This utility is for use in conjunction with the DT32 Control Panel, which allows pre-defined label formats to be transferred to the DT32 for printing in stand-alone applications.

The Download Utility can download single label formats picked individually, a batch of formats or a mixture of both. The batch lists can be edited in a DOS text editor or from the Download Utility's Main Menu:-

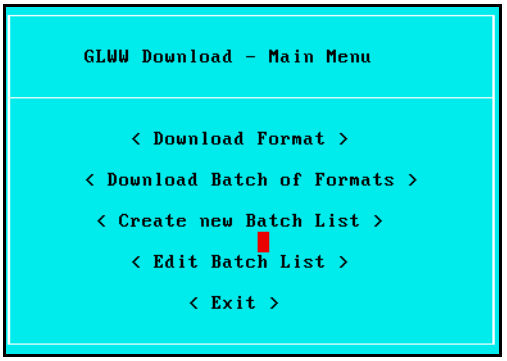

Fig 29 GLWW Download Utility Main Menu

Before loading the Download Utility, the DT32 Data Terminal must be active, have a memory card present and be connected to the PC. The download header is sent before the menu is displayed so if the menu is not displayed, recheck the DT32 and the connections.

8.1 Download Format

This command lets you download a single label format. Activating this option brings up the Load Label dialog box.

The required label format can either be selected from the list of files, or by typing the file name into the Filename box. The current directory can be changed by editing the directory name in the Directory box. A filter, following the normal DOS conventions, can be typed into the Filename box to reduce the number of files listed.

When you select Ok, the label format starts downloading. The block number on GLWW should always match that on the DT32 and indicates the download is progressing successfully. Any errors are displayed in the Downloading Progress box:-

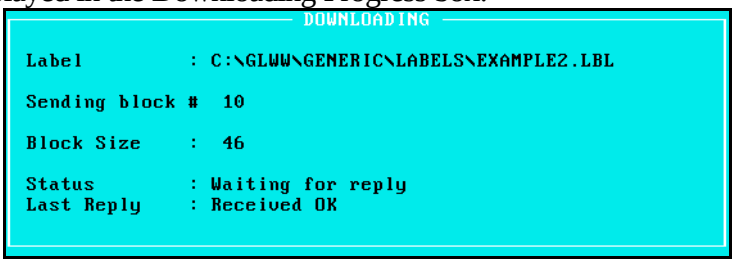

Fig 30 Download Progress Box

8.2 Create New Batch of Formats

It is often easier to download a batch of labels onto a memory card than to remember which formats to use and downloading them individually. GLWW provides an environment where a batch list can be prepared and altered before being the label formats are downloaded.

To create a new list, select Create New Batch List from the GLWW Download menu and type in a name for the batch list (the name can be up to 8 characters long). GLWW Download batch files always have the extension ".DT".

8.3 Edit Batch List

The batch list file contains the full name of all the formats in the order they will be downloaded to the DT32 Download Terminal.

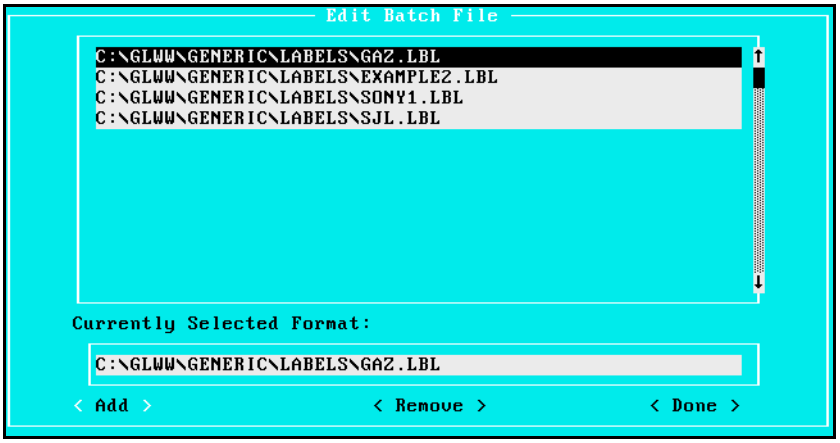

Fig 31 Batch File Editor

To add another label format, click on Add, select the label format required from the Directory Listing box and click on Ok. To remove a label format, click on the label format in the batch file listing box, and then click on Remove.
When the batch file is complete, select Done and the batch file will be saved.

8.4 Download Batch of Formats

To download a batch of formats, select Download Batch of Formats from the Download Utility's main menu and choose the name of the required batch file form the Directory Listing displayed. Then select Ok. The name of each label format any downloading errors will be displayed in the Download Progress box during downloading.

8.5 Exit

To complete the downloading process, select Exit from the Download Utility's menu. Any logos contained in the label formats downloaded will now be downloaded to the Download Terminal. If there are many logos, this may be quite slow. At 9600 baud, you must allow at least 1 second for every 1000 units in the block.

9 SHELL TO DOS

This will temporarily enable the program to be suspended and will allow you to shell out to the DOS prompt. The program can be restarted by typing Exit at the DOS prompt.

The program is only suspended and is still in memory so the memory available to other programs is reduced. Some programs may not have enough memory to run.

This command is also available from within the GLWW Editor and the GLWW Configuration Utility.

10 EXIT

This will exit the program and take you back to the DOS prompt.

APPENDIX A - SUPPORTED CHARACTER SET

The GLWW set of programs support the characters shown below. They are mapped from National character sets onto this set.

Ą ą Ć ć Ę ę Ł ł Ń ń Ś ś Ź ź Ż ż

! " # $ % & ' ( ) * + , - . /

0 1 2 3 4 5 6 7 8 9 : ; < = > ?

@ A B C D E F G H I J K L M N O

P Q R S T U V W X Y Z [\ ] ^ _

` a b c d e f g h i j k l m n o

p q r s t u v w x y z { | } ~

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à á â ã ä å æ ç è é ê ë ì í î ï

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APPENDIX B - CODEPAGES AND LANGUAGE SPECIFIC CHARACTERS

GLWW is used internationally for label format design and printing. It uses information provided by DOS to adjust to the keyboard and character code pages used on different computers.

In order for GLWW to work correctly, MS-DOS V3.3 or later is needed and CONFIG.SYS and AUTOEXEC.BAT must contain the necessary information. On most computers, the DOS Setup routine adds the appropriate commands. This section may be of interest when foreign characters (those characters not present in the original ASCII character set, 32-127) fail to print or the wrong characters are printed.

In the CONFIG.SYS, there should be the line:

COUNTRY = XXX,[YYY],<path>COUNTRY.SYS

where XXX is the country code (this is often, the international dialling code for your country) and YYY is the default code page for DOS to use.

The value of YYY determines the code page and range of characters available for use on the WYSIWYG screen. GLWW supports all common character code pages, but for any one country only two code pages are legal. The table below shows the recommended code page for many countries.

Country/Language	Code page	Country/Language	Code page
English / US.	437	Sweden	850
Germany	850	Finland	850
French	850	Poland	852
Netherlands	850	Hungary	852
Belgium	850	Portugal	860
Spain	850	Canadian-French	863
Italy	850	Norway	865
Switzerland	850	Denmark	865

Many countries can also use code page 850. GLWW supports all the characters shown in Appendix A. A few rarely used characters listed in these code pages are not currently available in GLWW.

If the correct characters are not being displayed on the text screen, try adding the following lines to the ends of your AUTOEXEC.BAT:

```
MODE CON CODE PAGE PREPARE = ((YYY) C:\DOS\EGA.CPI)
MODE CON CODE PAGE SELECT = YYY
```

The first line, loads the correct code page into the screen character buffers while the second, makes the correct code page the active code page.

DOS allows printers to support Codepages as well as the screen devices. Printers are supported by adding extra lines to the CONFIG.SYS loading .CPI files or by using the MODE LPT1: command in the AUTOEXEC.BAT. ALFA Printers do their own code page translation and having these commands present, may prevent correct printing.

APPENDIX C - GLWW INSTALLATION NOTES

System Requirements

- IBM-PC or compatible
- DOS 5.00 or higher
- Hard disk (minimum 2MB free)
- 640K main memory (minimum 520K free)
- 384K Extended or Expanded memory
- Microsoft compatible mouse
- VGA card & monitor
- A free serial or parallel port for the printer

Checking the DOS version

At the C: prompt, type `VER` ↵
The PC will report the DOS version number, e.g.

```
MS-DOS Version 6.20
```

Ensure that the version reported is 5.00 or greater.

Checking hard disk space

At the C: prompt, type `DIR` ↵
The PC will give a list of files, ending with a report of the amount of free disk space, e.g.

```
          3325952 bytes free
```

Ensure that the free space is at least 2,000,000 bytes.

Checking free memory

At the C: prompt, type `MEM` ↵
The PC will report the amount of memory available. The format of the report is different in DOS-5 and DOS-6. The important features are highlighted in the examples below.

DOS-5 memory report :-

```
    655360 bytes total conventional memory
    655360 bytes available to MS-DOS
    524384 largest executable program size

    655360 bytes total EMS memory
    393216 bytes free EMS memory

   3145728 bytes total contiguous extended memory
         0 bytes available contiguous extended memory
   2457600 bytes available XMS memory
           MS-DOS resident in High Memory Area
```

DOS-6 memory report :-

```
Memory Type        Total  =   Used  +   Free
---------------  -------   -------   -------
Conventional         640K       92K      548K
Upper                123K      123K        0K
Reserved             128K      128K        0K
Extended (XMS)     3,205K    2,181K    1,024K
---------------  -------   -------   -------
Total memory       4,096K    2,524K    1,572K

Total under 1 MB     763K      214K      548K

Total Expanded (EMS)                 1,024K (1,048,576 bytes)
Free Expanded (EMS)                  1,024K (1,048,576 bytes)

Largest executable program size        548K (561,552 bytes)
Largest free upper memory block          0K       (0 bytes)
MS-DOS is resident in the high memory area.
```

The important values to note are the largest executable program size, which must be 520K or greater, and the amount of free expanded (EMS) memory, which must be 384K or greater. If there is not enough memory free, then it may be possible to edit the system configuration files to give access to more memory. Unfortunately, there is no one solution which can be applied to every computer system, as each PC will be set up differently. The following guidelines are taken from the MS-DOS user's guide, and assume some familiarity with the workings of DOS. For further information, consult the manuals supplied with your PC, and your PC supplier.

If you are running DOS-6, the MemMaker program can be used to optimise your computer's memory usage. This is probably the simplest approach and avoids having to edit the system files by hand. See the Microsoft manuals for details.

If your PC has extended memory (referred to as XMS in the MEM command report), ensure that your CONFIG.SYS file starts with a line similar to the following, ensuring that the correct full pathname is supplied :-

```
DEVICE = C:\DOS\HIMEM.SYS
```

The next line should install the Extended memory manager, EMM386. This will allow programs to use additional memory, and also allows the XMS memory to be used as EMS memory. In DOS-5, the CONFIG.SYS file should contain a line similar to the following :-

```
DEVICE = C:\DOS\EMM386 384 RAM AUTO
```

In DOS-6 you can omit the number 384 as the whole of extended memory can be used by default.

To free conventional memory, DOS should be loaded in the high memory area, so the CONFIG.SYS file should contain the line :-

```
DOS = HIGH,UMB
```

Any additional device drivers (lines starting with `DEVICE =` ...) should be loaded into high memory by substituting `DEVICEHIGH =` ...

Do not install any device drivers that you do not actually need; they all take up memory.

In the AUTOEXEC.BAT file, TSR programs such as DOSKEY, MODE, SMARTDRV, network card drivers, etc. should be loaded into high memory if possible (or removed if not required), by prefixing the command with `LOADHIGH` or `LH`.

If you have installed a RAM-disk driver (e.g. RAMDRIVE.SYS), you can save memory by reducing its size or removing it entirely.

If you have installed SmartDrive (Microsoft's disk cache program), you can save memory by reducing the cache size.

Windows Installation

The Windows installation program requires Windows Version 3.1 or higher in order to run correctly. If your Windows version is older than this, run the DOS installation instead.

Software Security Device (Dongle)

In order to protect the GLWW package from unauthorised copying and distribution, the software will only operate on a machine fitted with a dongle. The dongle should be fitted to the PC parallel port (sometimes labelled Printer or LPT1). Any device already connected to the parallel port should then be connected to the dongle instead. The dongle does not interfere with the operation of the port in any way. If the software is run without the dongle, a warning message is displayed prompting you to replace it immediately. NOTE: in some cases, where a printer is connected to the dongle and the printer is not switched on, the dongle will not operate. Either disconnect the printer or switch it on.

Printing Problems

If the label editor runs correctly, but the program crashes when a label is printed, the most likely cause is an interrupt conflict within the PC. This may be caused by an add-on card such as a network interface, additional I/O card, etc. Either resolve the conflict by changing interrupt numbers (consult your PC or add-on card supplier), or connect the printer to a different port.

Password Problems

Occasionally, where there have been installation problems as described above, the GLWW configuration file is not updated properly, and the program prompts for passwords unexpectedly. To generate a new configuration file, type the following commands :-

```
CD \GLWW ↵
DEL GLW.CFG ↵
GLWCFG /C ↵
```

NOTE: If you have installed the software in a directory other than C:\GLWW, substitute the directory name for GLWW in the first command above.