DATAMAX PRINTER CONFIGURATION UTILITY (DPCU)

Welcome to the Datamax Printer Configuration Utility Help. The pages are organized by the respective tabs in the DPCU Window. To get details about each item on a tab click on the link below or using the search function enter a word you are looking for. Further details about the commands and procedures can be found in the appropriate operator's manual or the Datamax Programmer's Manual. See www.datamaxcorp.com

PURPOSE

The purpose of DPCU is to provide a graphical interface to the printer's configuration parameters. These parameters are usually set up one time when the printer is installed. For printers with a display and menu the items are the same, however with the Datamax Printer Configuration Utility you can make all your changes and then configure the printer.

DPCU also allows printer configurations to be saved and modifed and sent to other printers of the same model. DPCU provides user functions for donwloading files and sending printer comands. For port connections that are not bi-directional default configuration files are provided (See File, Open) which can be modifed as necessary then sent to the printer.

Basic Operation

The idea behind DPCU is to allow easy configuration of the printer. With DPCU all items are modifed on the screen and then sent to the printer all at once. First query the printer by using the Query Printer toolbar button (Bi-directional communication is required). This will get the current printer settings. Next select each tab and modifiy the settings as needed. Then send the settings to the printer using the Configure Printer toolbar button.

Host Connection

Toolbar

Menu

System Settings

Media Settings

Print Control

Printer Options

Sensor Calibration
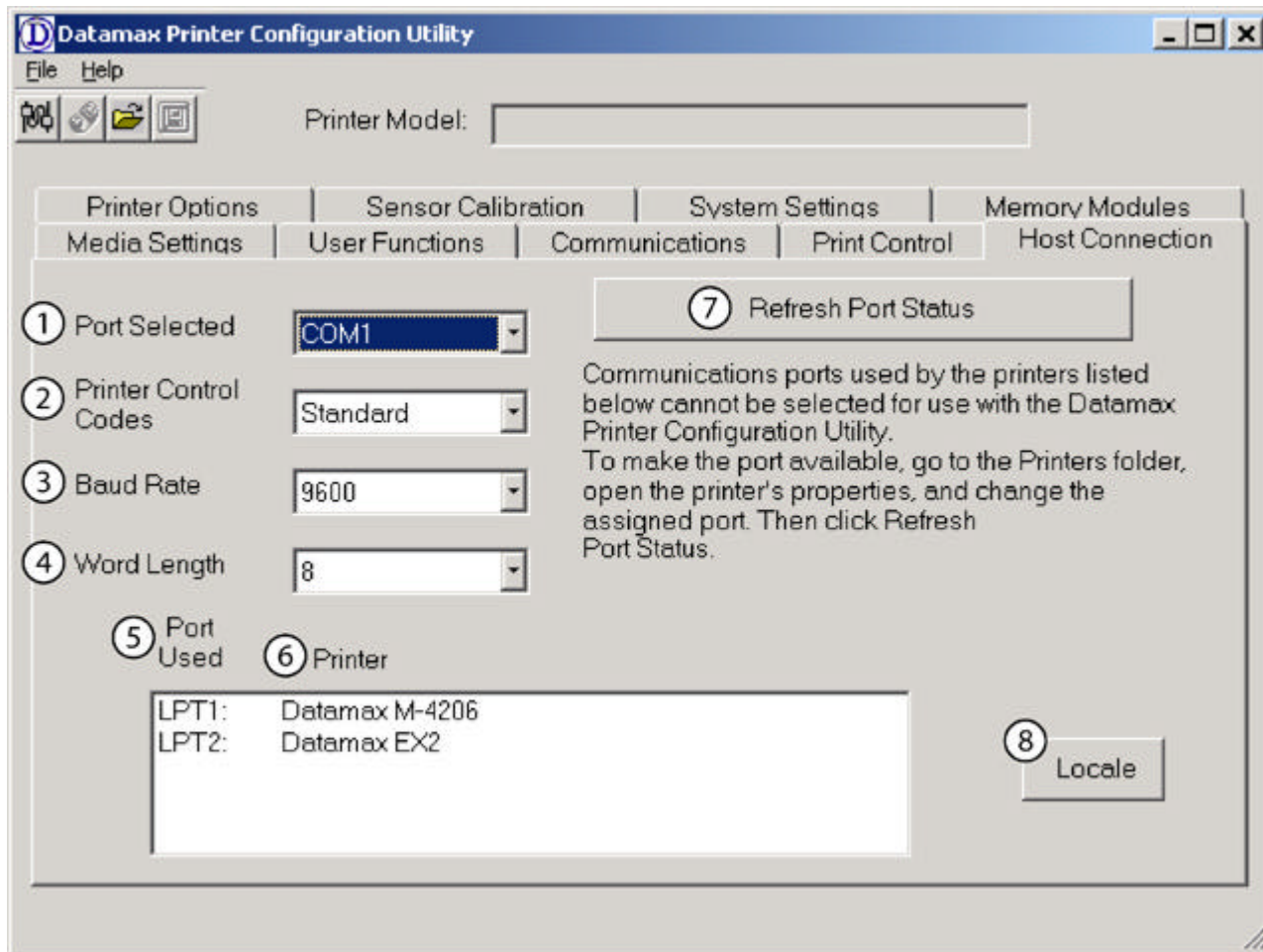
Communications

Memory Modules

User Functions

HOST CONNECTION

This tab controls the settings of the host communications with the printer. Allowable ports and port parameters are controlled here.

The settings on this page must match with the printer settings to work correctly. Also if the parallel port is to be used the printer should have a bi-directional parallel port and it should be set to bi-directional. Printers with a display allow you to set this in the menu. By default the printer port is set to uni-directional. The Datamax E-Class and the EX2 do not have bi-directional parallel ports. Also some Windows 98 systems do not work correctly with a bi-directional parallel port. If bi-directional communications is not available, open a default configuration using the toolbar or menu. Without bi-directional communications DPCU functions are limited since it will not be able to receive data from the printer.

1 - Port Selected
This is the port the printer is connected to. Currently only Serial and Parallel ports are supported. Also for parallel the printer and the host must have bi-directional capabilities. Without bi-directional communications DPCU can only send data.

2 - Control Codes
Control codes are the attention getters for the printer. They define what type of command is being sent. There are Immediate, System Level, and Bitmap Font loading commands. The control codes default to standard since that is the default for Datamax printers. These codes must match the printer settings to communicate with the printer. See the Datamax Programmer's Manual.

3 - Baud Rate
Serial port baud rate. The DPCU defaults to 9600 as do all Datamax printers.

4 - Word length

Number of data bits used in serial communications. This defaults to 8 to match Datamax Printer defaults.

5 - Port Used

This is a list of ports currently in use by printers. If a port is listed here it CANNOT be used with this application because Windows has control of it. By selecting the properties for the printer that is using a desired port, on it ports tab, the port selection may be temporaily changed to allow DPCU usage of the port.
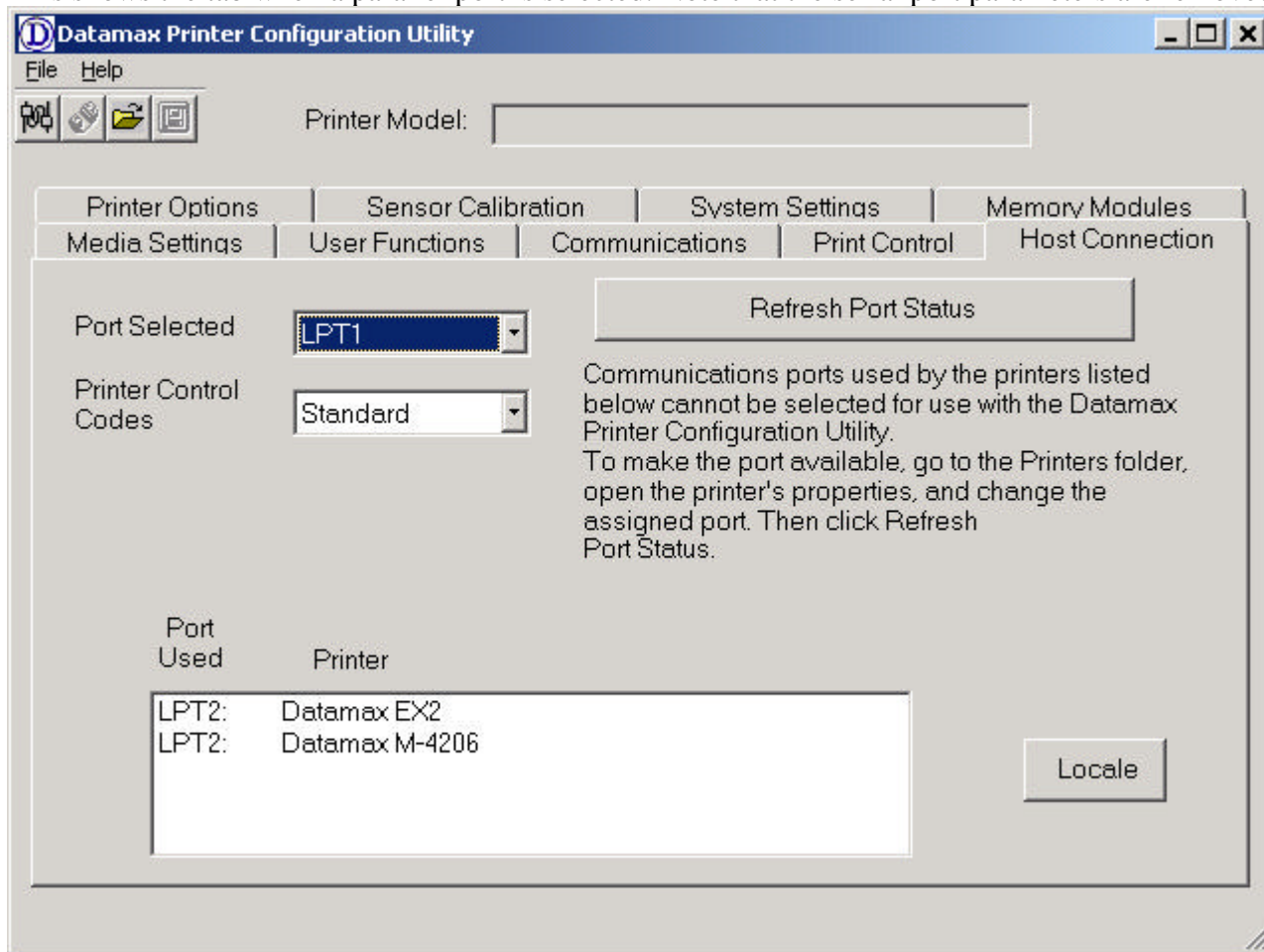
6 - Printer

This is the printer that the port in item 5 is connected to. This will let you find the printer in the printer folder and change the port so it can be used in this application.

7 - Refresh Port Status

Once a port is no longer being used by a printer driver or other application you can press this button to get it added to the dropdown list identified in item 1.

Be aware that other software applications may have or may take control of a port. If the application lists the port and you attempt to query the printer you may get a message that says the port is no longer available for use. Some programs that may take a serial port are communications/terminal software, modem connection software, or PDA sync software.

This shows the tab when a parallel port is selected. Note that the serial port parameters are removed:

8 - Locale

The Locale button is used to determine the Windows defined locale. This can be used to create a database in the language for this locale.
Click here for more details.

Localizing the application.

The Datamax Printer Configuration Utility can be configured to show up in the language of your choice. The text is stored in a MS Access 2000 table. If you are running a non US version of Windows the Locale button on the Host Communications page will show you the MS Windows identified locale.

Localizing the application:
1. Once the application is installed press the Locale button located on the Host Connection page. Record the value that is in the message box.
2. Copy the Configurator_en-US.mdb file and then using the Locale information from Step one change the name of the copied file. For example if the Locale button produces sp-SP the name would then be Configurator_sp-SP.mdb.
3. Using MS Access 2000 open this file and then open the ConfigStrings table.
4. Place the desired translation in the TranslatedText column as shown below. Translations are samples only.
5. Save the file when all translations are complete. Now when the program is run you should have the correct language information.

ConfigStrings : Table

ID	FieldTextIdent	TextToUse	TranslatedText
1	MediaTab	Media Settings	ajustes de los medios
2	UserTab	User Functions	funciones del usuario
3	PrintTab	Print Control	
4	CommTab	Communications	
5	HostConfig	Host Connection	

APPLICATION TOOLBAR

The toolbar has 4 icons. Two are used to retrieve and send configuration data to the printer. The other two are used to save and retrieve configuration files on the computer. This allows you to save the configuration for use in other printers or restore if the current printer configuration is changed for some reason.

The toolbar button to send a printer configuration and the button to save a configuration file are inactive until a printer is queried for its configuration or a previously saved configuration file is opened.

This button is used to retrieve a configuration from the printer that is connected to the selected port on the Host Configuration Tab. Bi-directional communications with the printer must be available to use this function. If bi-directional communication is not available open a configuration file.

This button is used to send the current configuration settings to the printer that is connected to the selected port on the Host Configuration Tab.

This button is used to open a previously saved configuration file. Default configuration files are provided for all printer models which can be used when bi-directional communication is not available.

This button is used to save the current configuration settings to a file. Files can be named and located as desired.

File
   Open - Allows for opening saved configuration files.
   Save As - Allows saves of configuration files for use in other printers   or to restore a printer to a previous configuration.

Help
   Help - Opens this file.
   About - Provides information about the DPCU application.

The following controls are dependent on the printer in use and may not exist for your particular printer model.

Internal Module
This command sets the number of 1K blocks (or 4K blocks for non-display models allocated for the internal RAM module. This command is dependent on the Scalable font cache command. These two commands split the available memory. Available memory is dependent upon printer model. If the combined values exceed available memory both values will be set to factory defaults.

Default Module
This command, typically used prior to the loading of PCL-4 bit-mapped fonts is designed to allow the user to select between modules when downloading information. The default module is one of the following:
   The first alpha designator of the existing modules if item 2 has not occurred.
   The module selected by this command.

Scalable Cache
This command sets the number of 1K blocks (or 4K blocks for non-display models) allocated for the scaleable fontengine. This command is dependent on the Internal Module command. These two commands split the available memory. Available memory is dependent upon printer model. If the combined values exceed available memory both values will be set to factory defaults.

Single Byte Symbol Set
This command selects the scalable font symbol set. The selected symbol set remains active until another symbol set is selected. Option dependant. Not all symbol sets can be used with all fonts.

Double Byte Symbol Set
This command selects the font symbol set for Unicode fonts such as Chinese or Japanese. The selected symbol set remains active until another symbol set is selected. Option dependant. Not all symbol sets can be used with all fonts.

Format Attribute
Specifies type of format operation. "An" where n is the value shown below.
1 XOR
Mode In this mode, the region where the text strings, images, or barcodes intersect will not be printed. (An odd number of overlapping objects will print.)

2 Transparent Mode
This is the default mode. The intersecting regions of the text strings, images, or barcodes will print, allowing the user to print fields on top of one another.

3 Opaque Mode
Interacting text is obliterated by the text formatted last. Each character cell is treated as opaque. This mode is effective only in rotation 1. See Record Structure Types.

5 Inverse Mode
This mode allows inverse (white on black) printing. (e.g. a proportionally sized border and background are printed similar to a photographic negative) If text or image fields overlap in this mode, the effect will be similar to XOR mode.

Buzzer Enable
This command controls the audible signaling device that acknowledges User Interface entries and, if enabled, sounds printer warning and fault conditions.

Head Bias
This command instructs the printer to switch the dot zero position: as viewed from the printer's front panel (or label output side) - when dot zero occupies the left-most location on the printhead then printing is left justified; when dot zero occupies the right-most location, printing is right justified.

Label Rotation
Rotates the printed label by 180 degrees.

Imaging Mode
This command instructs the printer whether to pre-image the label format.
Multiple Label - The printer images multiple labels as memory permits, achieving the fastest throughput; however, if time-stamping, the time will reflect the moment the label is imaged rather than when actually printed.
Single Label - The printer images the next label only after the previous label has been successfully printed. Single processing provides time-stamps that are more accurate, but it slows label throughput time.

Pause Mode
Causes the printer to pause after each label. Pressing the pause button prints the next label. Printer power must be cycled to clear this mode.

Peel Mode
This command, when enabled, specifies that a Feed operation be prevented when the label is presented and not removed, or if the printer is to wait for the GPIO start of print signal.

Units of Measure
Printer will interpret distance values based on this setting, inches when set for Imperial and millimeters when set to Metric.

Input Mode
This command defines the type of printer language: Standard DPL processing or Line Mode which extracts data terminated by a carriage return to be inserted in a DPL template and printed.

DPL Emulation
This command enables the <STX>O and <STX>f print positioning commands to allow backward compatibility with label formats that were designed for the Allegro(r) Prodigy(r), and Prodigy Plus(r) (If the printer is display-equipped, also Prodigy Max(r) emulation).

Exact Time Print
Will cause the label printing to format and print so that the actual printer time shows on the label when printing a time field.

Column Emulation
Emulates different dot densities for printing across the label. Range is model dependent.

Row Emulation
Emulates different dot densities for printing up the label. Range is model dependent.

SOP Emulation
This command enables the <STX>O<STX>f print positioning commands to allow backward compatibility with label

formats designed for other printers.

Back After Print
When the present distance is set with the GPIO enabled, this command determines the timing of the label back up. When enabled, the printer immediately backs up the label after the applicator-issued start of print signal is received, resulting in faster throughput. If disabled, the printer will not initiate repositioning until the next label is ready to print (may help prevent the curling of the label edge).

Backup Delay
If this is set to a non-zero value the label will back up from the presented position after the delay time. If the value is zero the label will not back up.

Font Emulation / Font Substitution
This command allows font substitution for CG TIMES, Font ID SA0, or a downloaded font, Font ID S50, in place of the system bitmap fonts 0 – 6 or the Scalable Fonts S00, S01 and SA0 – SA3.

Label Store
Controls how the label recall functions. If it is set for State and Fields the label recall will recall the printer state and the label data. When set to Fields Only the printer will use the current system settings to print the label. Items affected are paper speeds, heat setting, dot height and width, zero slash setting, label length, and present distance.

Exact Time Print
Will cause the label printing to format and print so that the actual printer time shows on the label when printing a time field.

No Reprint
Will not reprint label after fault condition is cleared.

Fault Handling
When a fault condition (ribbon out, media out, etc.) is detected, this command determines the level of intervention and the disposition of the label being printed at the time the fault occurred.
Interaction Level:
     Standard - Printing stops and a fault message is displayed. After the problem is corrected, the FEED Key must be pressed to clear the fault. The label in process is reprinted.
     Void and Retry - If the Retry Count setting has not been exceeded, 'VOID' is printed on the label in process and reprinting occurs automatically; If the Retry Count has been exceeded, printing stops and a fault message is displayed. After the problem is corrected, the FEED Key must be pressed to clear the fault. The label in process is reprinted; or, If the CANCEL Key is pressed the operator now has the option of canceling the reprint: To allow the reprint, press the ESCAPE Key or to cancel the reprint, press the ENTER Key (the operator now has the option of canceling the entire label batch by pressing the ENTER Key again.)
NOTE: VOID will not be printed when insufficient space exists for the height of the text (see VOID DISTANCE, below) or if the fault occurred after the entire label was completed (i.e., when the label reaches its Present Distance at or above the TOF).
     No Reprint - Printing stops and a fault message is displayed. After the problem is corrected, the FEED Key must be pressed to clear the fault. The label in process is not reprinted.

DPI Emulation
Allows emulation of different printer dot densities. Settings are model dependent.

MEDIA SETTINGS

The following controls are dependent on the printer in use and may not exist for your particular printer model.

Media settings control the sensing of the labels and ribbon.

Media Type
Selects the printing method: Direct Thermal for heat sensitive media or Thermal Transfer for use with media requiring a ribbon to create an image.

Sensor Type
Determines whether the printer looks for a label gap, reflective mark, or uses continuous label length to determine the print length.

Continuous Label Length
Paper length when the printer is set to use continuous label stock. See **Sensor Type** setting.

Maximum Label Length
This instructs the printer to move media this distance in search of the top-of-form (label edge, notch, or reflective mark) before declaring a paper fault. A paper fault condition can occur if this setting is too close (0.1" [2.54mm]) to the physical length of the label. Therefore it is a good practice to set this command to 2.5 to 3 times the actual label length. The minimum value should be 5" (127mm).

Paper Out Distance
This sets the length of travel before an out of stock condition is declared.

Label Width
Print width of the label.

Print Control

The following controls are dependent on the printer in use and may not exist for your particular printer model.

Heat
Controls the amount of heat applied the label. Controls image quality. Adjusted based on label and ribbon materials.

Print Speed
Controls speed of paper movement during printing.

Feed Speed
This command controls the rate of label movement between printed areas.

Reverse Speed
This command controls the rate of label movement during backup positioning for start of print, cutting or present distance.

Slew Speed
This command controls the rate of label movement between printing areas when the GPIO port is used.

Row Offset
Adjusts starting print row position.

Column Offset
Adjusts right to left printing position.

Present Distance
Distance paper is advanced beyond the printhead to allow label removal, peel operation, or cut amount.

Darkness
The command controls the printhead strobe timing to fine-tune the HEAT setting.

Print Contrast
Adjusts edge definition of printed elements.

Row Adjust
Fine tunes the Row Offset.

Column Adjust
Fine tunes the Column Offset.

Present Adjust
Fine tunes Present Distance.

SOP Adjust
Sets the start of print (SOP) location, relative to the top of the form.

Stop Location
Sets the label stop location after printing.

Printer Options

The following controls are dependent on the printer in use and may not exist for your particular printer model.

Present Sensor
Auto will detect whether the present sensor is installed and enable it if found. Enable will enable the present sensor even if it is not installed. This will cause a present sensor fault. Disable turns off the present sensor if installed.

Retract Delay
Controls the time before the label retracts after removing the label blocking the present sensor.

Cutter Enable
Auto will detect whether the cutter is installed and enable it if found. Enable will enable the cutter even if it is not installed. This will cause a cutter fault. Disable turns off the cutter if installed.

Ribbon Saver Enable
This command enables the operation of the ribbon saver.The ribbon saver works continuously when enabled and will engage automatically when the minimum amount of label white space is exceeded.

Scanner Configuration
Barcode Count - Number of barcodes to be read. Range 0-99 (0 = Auto)
Minimum Readable height - Sets the vertical distance of the code that must have identical reads.
Mode - Enables the printer to detect the scanner.
    Auto - Scanner is automatically detected and enabled.
    Enabled - Scanner is enabled but if not found a fault is generated.
    Disabled - Scanner is disabled.
Barcodes - Enables or disables the barcodes the scanner will read.
Redundancy Level - Sets the number of times the scanner must read a valid code before declaring the read good.

RFID Mode
Sets the RFID mode - Disable, HF, or UHF. Fault is generated if the correct module is not installed.

RFID Position
Sets the position of the RFID tag in the media.

HF AFI Value
Sets the hexadecimal value for the HF AFI

HF AFI Lock Status
Determines if the AFI vaule will be locked after writing.

DFSID Value
Sets the hexadecimal value for the HF DFSID

HF DFSID Lock Status
Determines if the DFSID vaule will be locked after writing.

HF EAS Value
Sets the hexadecimal value for the HF EAS

HF Tag Type
Sets the HF tag type.

UHF Lock Code
Sets the hexadecimal value for the UHF Lock Code

Lock After Write
When enabled the tag will be locked after writing.

Erase on Fault
When enabled if an RFID fault is encountered the tag will be erased.

Retry Attempts
Number of attemts to retry RFID Read/Write operations. (0 - 9)

GPIO Devide
Enables the appropriate device.

GPIO Start of Print
Defines the programmable signal input that controls the Start of Print (SOP) process.
    Active low - SOP signal must go low for at least 50 milliseconds to start printing.
    Active high - SOP signal must go high for at least 50 milliseconds to start printing.

GPIO End of Print
Defines the programmable signal output that signifies the End of Print (SOP) process.
    Active low - Outputs a logic low (zero) following printing.
    Active high - Outputs a logic high (one) following printing.
    Low Pulse - Outputs a low pulse (approximately 30 milliseconds long) following printing.
    High Pulse - Outputs a high pulse (approximately 30 milliseconds long) following printing.

Ribbon Low Signal
This command sets the signal output that signifies the Ribbon Low Diameter condition for the optional GPIO.

GPIO Backup Label
This command determines the timing of the label back up when the GPIO 1 option is installed and enabled. When enabled, the interface supports an input signal that allows the printer to back up a label once it has been presented.

<h1 style="text-align:center">Sensor Calibration</h1>

The following controls are dependent on the printer in use and may not exist for your particular printer model.

Values on this page should only be modified if there is a problem with proper Media detection. Changes to these settings could cause label sensing and/or print positioning problems.

Quick Media Calibration
Performs a Quick Media Calibration. See operator's manual for details.

Media Calibration Wizard
Steps through a calibration of the media. This is printer dependent. Check the operator's manual for details.

Enable Items
This will allow modification of the settings on this page and will then send them to the printer or save them with a saved configuration file. Please read the warning at the top of the page.

Disable Items
This prevents the modification of settings on this page. Modifying the settings can cause label sensing and/or print positioning problems.

Empty Sensor Level
Sets the threshold value for the 'Empty' media sensor parameter.

Gap Sensor Level
Sets the threshold for the media sensor's gap parameter.

Mark Sensor Level
Sets the threshold for the media sensor's mark parameter.

OOS Maxvolt
Sets the maximum sensor reading that can indicate Out of Stock with the sensor set to 'EDGE' and the sensor gain set high.

OOS Maxvolt Reflective
Sets the maximum sensor reading that can indicate Out of Stock with the sensor set to 'MARK' and the sensor gain set high.

Paper Sensor Level
Sets threshold for the media sensor's paper parameter.

Refl Paper Level
Sets the threshold for the media sensor's reflective parameter.

Refl Sensor Gain
Reflective mode gain value.

Reflective TOF Low
Sets the minimum sensor reading for mark (reflective). If set to 0 the setting is not used.

Reflective TOF Delta
Sets the minimum change in the sensor reading required to regcognize a 'Paper to Mark' transition.

Reflective TOF Gain
Sets the value to be used for the voltage output to the TOF gain circuit.

Trans Sensor Gain
Gain value used when set for gap (edge) sensing.

TOF Low
Sets the minimum sensor reading for paper (EDGE). If this value is set to 0 the setting is not used.

TOF Delta
Sets the minimum change in sensor reading required to recognize a 'Paper to Gap' transition.

TOF Gain
Sets the value to be used for the voltage output to the TOF gain circuit.

Communications

The following controls are dependent on the printer in use and may not exist for your particular printer model.

Serial Port
This configures the serial communications port(s).

Parallel Port Direction
This controls the data flow directions for the parallel port(s).

Host Timeout
This command controls the number of seconds a communications port must be idle before the printer may process data from a different port. The value is also used to "timeout" an image / label format download (i.e., if, at any time, data flow stops before a complete label format is received, the data will be ignored).

Control Codes
This command, depending upon printer type, allows a change to the prefix of the software commands interpreted by the printer. Consult the Datamax Programmer's manual for details.

Feedback Mode
This command enables the feedback of ASCII hex characters to be returned from the printer following specific events after each completed batch of labels when using serial communications. The default value is 'Off'
Invalid Character 0x07 (BEL)
Label Printed   0x1E (RS)
Batch Complete   0x1F (US)

ESC Sequences
This command allows data containing invalid ESC control code sequences to be processed (helpful because some systems send a "banner" to the printer). When set to 'Disabled,' ESC sequences are ignored and the data is processed. Bitmapped font downloads are disabled in this mode.

Heat Command
This command causes the printer to disable the DPL Heat command; instead, the Heat value is controlled via the menu setting.

Speed Commands
This command causes the printer to disable the DPL speed commands (Print, Feed, Slew, and Reverse); instead, the speed values are controlled via the printer configuration settings.

TOF Sensing
Determines if TOF sense commands are acted on.

Symbol Set Commands
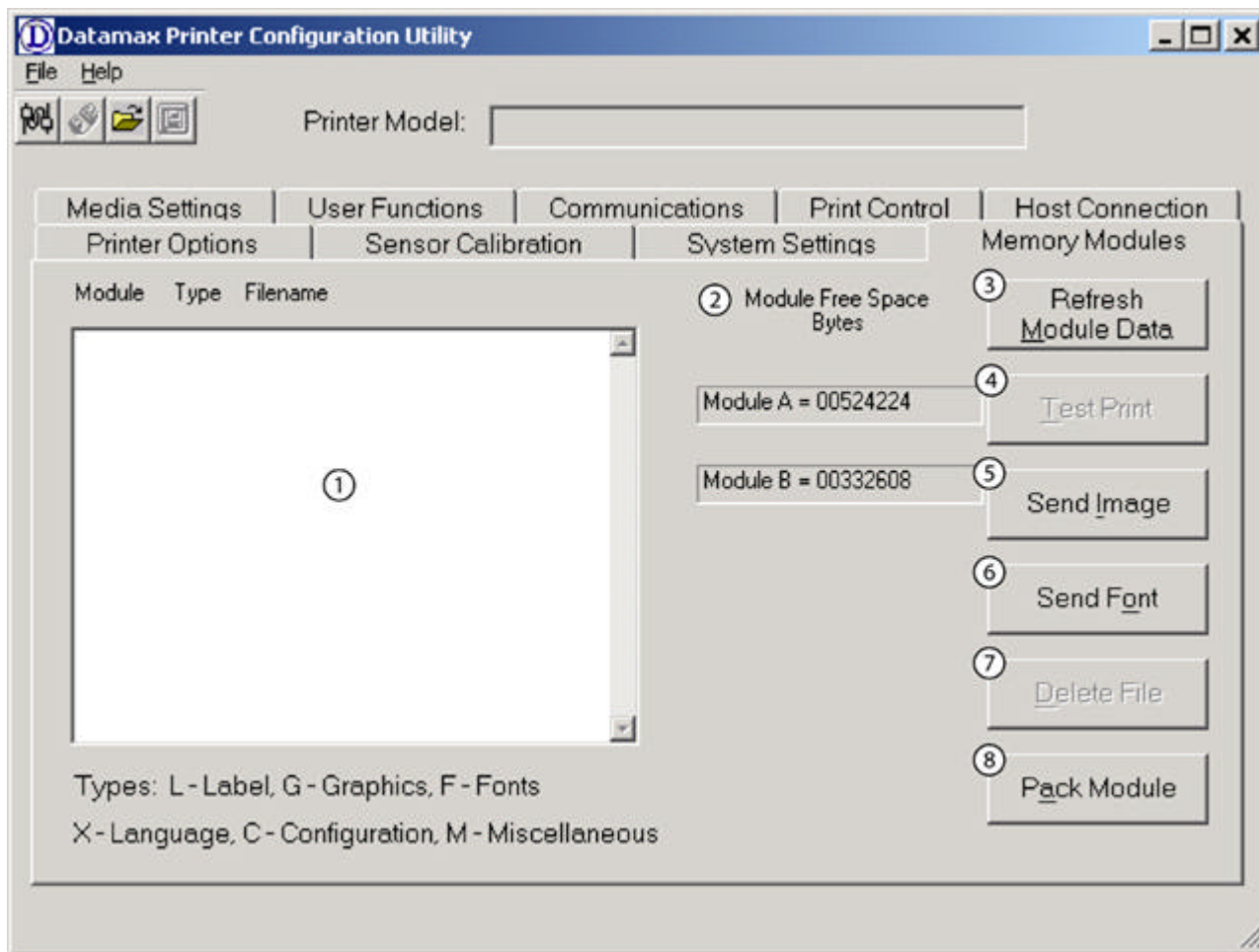When enabled/on printer will ignore <STX>yS and yS commands.

CNTRL-Codes (Data)
When enabled allows printer to act on control codes included in the data portion of label format field.

Memory Modules

Memory module usage is controlled from this page. During the initial printer query the module information is also received.

1 - File Listing
This box shows the files by Module location, type and name. Selecting a file here allows you to test print or delete the file.

2 - Module free space
This lists the modules and available space.

3 - Refresh Module Data
Pressing this button will refresh the file listing and module free space. Normally used after sending a new image or font file to the printer.

4 - Test Print
This button will perform a test print of an image or font file. For bitmap fonts please select valid characters. This button is not active unless a file is selected in Item 1.

5 - Send Image
Allows you to send a graphic to the printer. Allowable graphic types are black and white BMP, PCX, IMG, and Datamax 7-bit format.

6 - Send Font
Allows you to send a TrueType or bitmap(PCL4) font to the printer.

7 - Delete File
This button will allow you to delete a file from a module. ONCE A FILE IS DELETED IT CANNOT BE RECOVERD. This button is not active unless a file is selected in Item 1.

8 - Pack Module
Once a file has been deleted this will recover the space that was used. The pack process takes about 1 minute per MB of module size.

This tab allows the user to interact with the printer. Various printer operations can be done here.
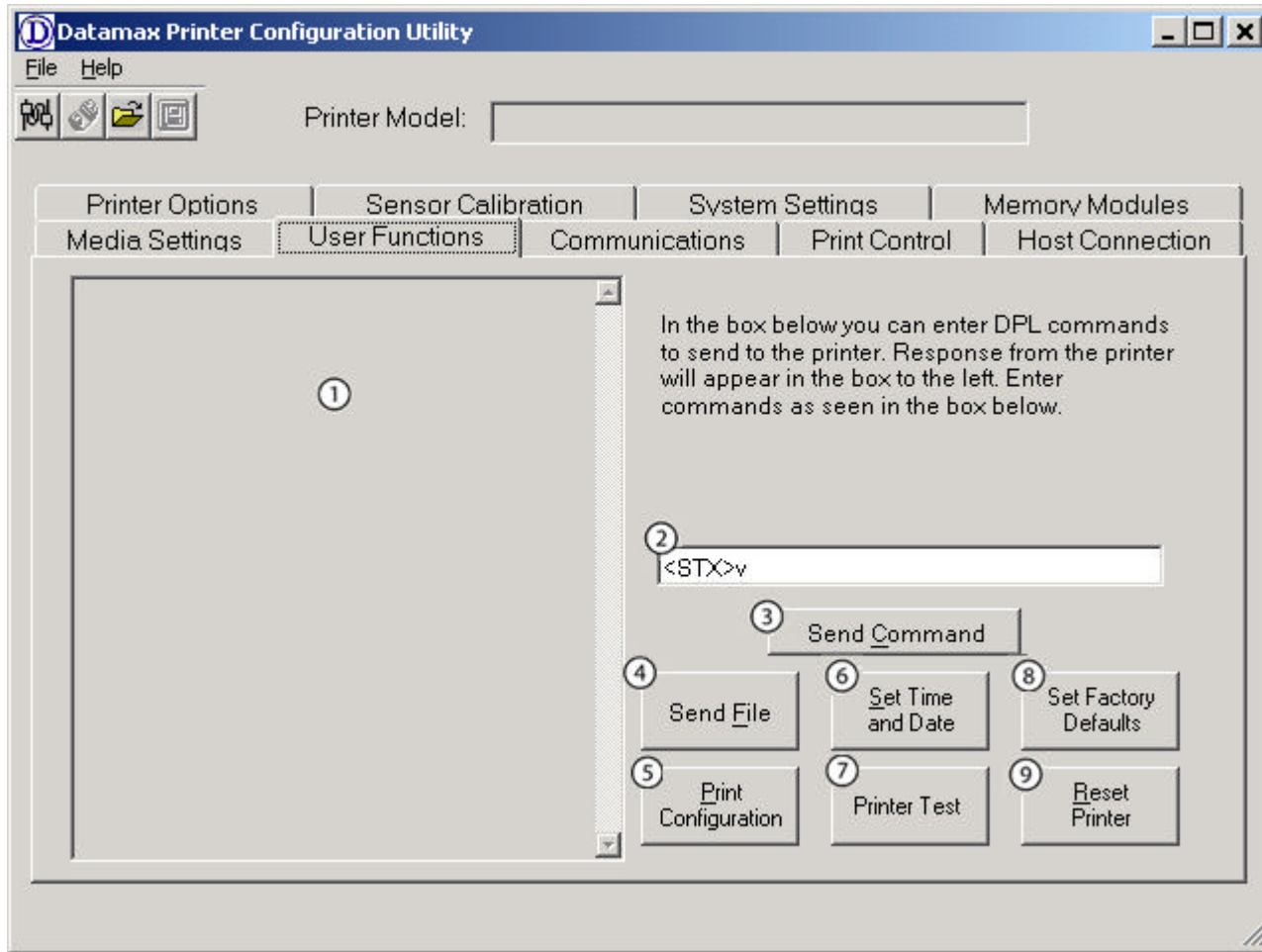
1 - Text
This area holds any data that comes from the printer when commands are sent.

2 - Command window
This is where Datamax DPL commands can be entered. Immediate and system level commands can be entered. Please consult the Datamax Programmer's Manual for a detailed listing of all commands. The format of the command is as shown on startup. The <STX> is the attention getter for system level commands. <SOH> is the attention getter for immediate commands. In the sample 'v' represents a system level command to return the printer firmware version to the host. Commands are entered in this manner to allow the correct attention getter to be sent based upon the printer control code setting.

3 - Send Command
Pressing this button will send the command in item 2 to the printer. Also if you press <ENTER> after entering the command it will be sent. Any printer response will be shown in the text box identified in item 1.

4 - Send File
This function will allow you to send any file to the printer. The file must be formatted to work on the printer or unpredictable results may occur. For proper file formats see the Datamax Programmer's Manual. See Memory Modules for sending fonts or images.

5 - Print Configuration
This will cause the printer to print the current configuration.

6 - Set Time and Date

Sets the printer time and date. This setting is not retained if the printer does not have a time and date hardware device. The time and date will be maintained as long as the printer is not reset.

7 - Printer Test

Prints a printer resident test label.

8 - Set Factory Defaults

This will set the printer configuration to the factory default settings.

9 - Reset Printer

This will perform a soft reset of the printer.