Management Utility Help

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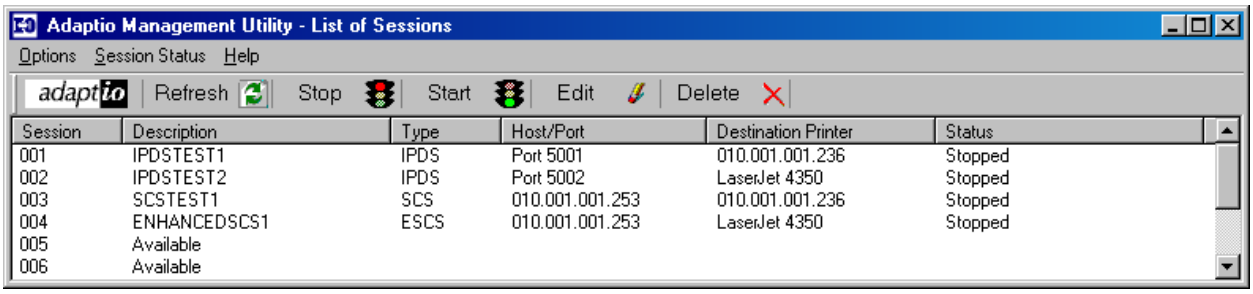
SWPSMS-OMAN01-114

List of Sessions

This is the first screen presented upon running the Management Utility. This screen displays all IPDS and SCS host print sessions. From this screen, sessions are created, started, stopped, edited and deleted. The current status of each session is also displayed. IPDS and SCS data streams may also be captured using options on this screen.



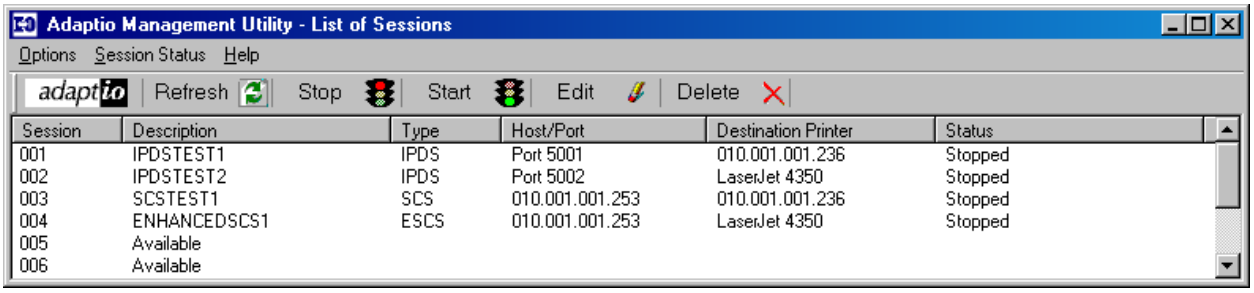
In the List of Sessions, for each session the following information is presented:

Session Number	Lists the total number of licensed sessions.
Description	This name is used to easily identify each session on the displayed list.
Type	Identifies whether the session is an IPDS, SCS or Enhanced SCS

	session.
Host/Port	Identifies the IPDS Port the IBM host uses to connect to this session, or for SCS sessions, the IP address of the IBM host.
Destination Printer	Shows the IP address of the target PCL 5e laser or Epson/IBM Proprinter dot-matrix compatible printer if the connections to the printer is done via the TCP/IP Port 9100 socket. Alternately, if a Windows printer has been selected, shows the printer name.
Status	Shows the status of the session. If the session's status indicates "Attention", highlight the session and then go the Session Status menu for detail information.

Menus

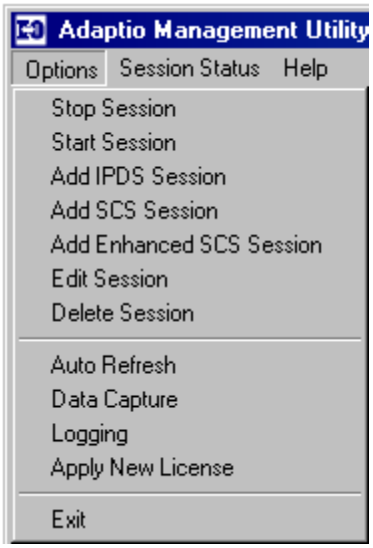
Menus allow access to scanning options, diagnostic options, details on certain types of errors, and access to the user's guides and help files.



Options Menu	Provides options for adding, starting, stopping, editing and deleting sessions. Additional options include logging and capturing the incoming IPDS or SCS data streams. The session to perform this operation on must be highlighted in the List of Sessions.
Session Status	Displays current status and error conditions a session. The session must be highlighted in the List of Sessions.
Help Menu	Provides access to the Management Utility Help manual, IPDS Reference Manual, and SCS Reference manual.

Options Menu Commands

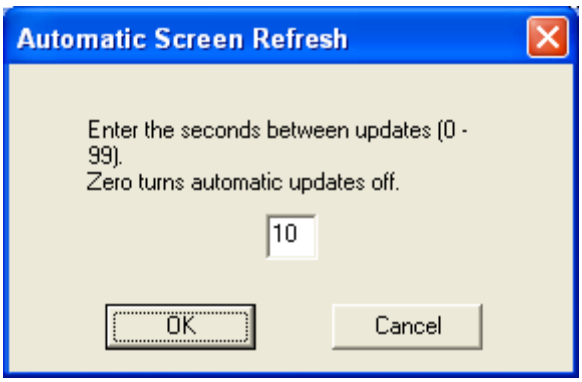
The Options menu offers the following commands:



Stop Session	Stops the highlighted session.
Start Session	Starts the highlighted session.
Add IPDS Session	Creates an IPDS printer session.
Add SCS Session	Creates a SCS printer session.
Add Enhanced SCS Session	Creates an Enhanced SCS printer session
Delete Session	Deletes the highlighted session.
Auto Refresh	Allows the List of Sessions to be refreshed automatically every few seconds. The delay between refreshes is user selectable.
Data Capture	Captures the incoming IPDS or SCS data stream and saved the data to a file. This file is used by technical support to diagnose printer configuration issues.
Logging	Allows logging of the session activity to log file. This file is used by technical support to diagnose session issues, communications problems to the IBM host and target printers.
Apply New License	Installs a license file, removes the “not licensed” watermark and activates the number and types of licensed sessions.
Exit	Exits the ***Adaptio*** Session Management Utility.

Auto Refresh

This option allow you to customize the time delay between refreshes of the List of Sessions.

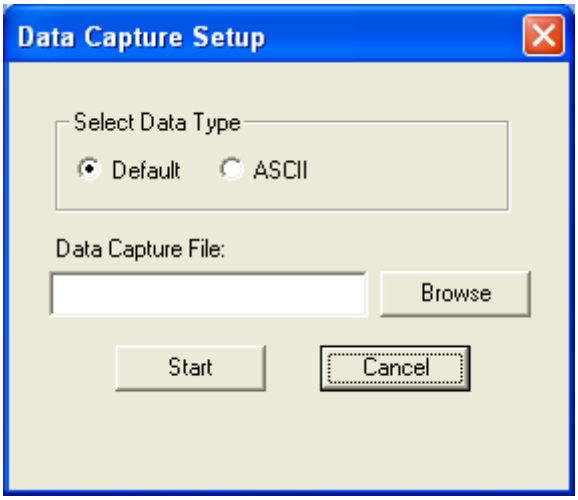


Enter the desired delay in the field. Entering a 0 will turn off the automatic refresh feature.

Note: The auto refresh feature does use some CPU resources. In fully loaded printing environments or where the server hardware is being used to it maximum, turning off the automatic screen fresh will reduce the overhead and free up CPU resources.

Data Capture

Data Capture is a method of capturing either the incoming EBCDIC (buffer) data stream or the outgoing ASCII (output) data stream to a file on the PC. This is a useful tool in resolving questions regarding the data stream and the resulting printed page.

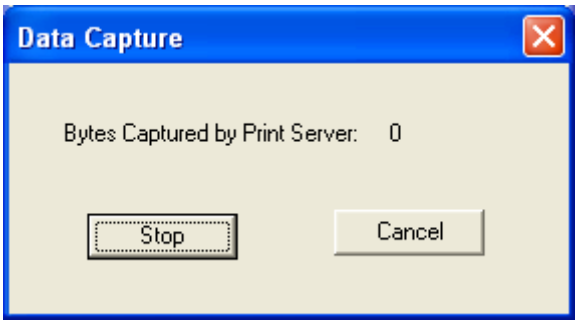


Select Data Type	Default is for incoming EBCDIC data stream from the IBM host. ASCII is for the outgoing data stream going to the printer. This selection is used when capturing the data stream for creating a template for Enhanced SCS printing. Generally only the default selection is required by technical support for troubleshooting.
Data Capture File	The file on the PC where the data is recorded.

To start Data Capture:

1. From the List of Sessions highlight the desired session
2. Select Options, Data Capture
3. Select the type of data to capture (select Default unless instructed differently by technical support)
4. Enter the file path and name where the captured data will be stored.
5. Select Start

After starting the data capture, a new window will appear displaying the number of bytes captured.



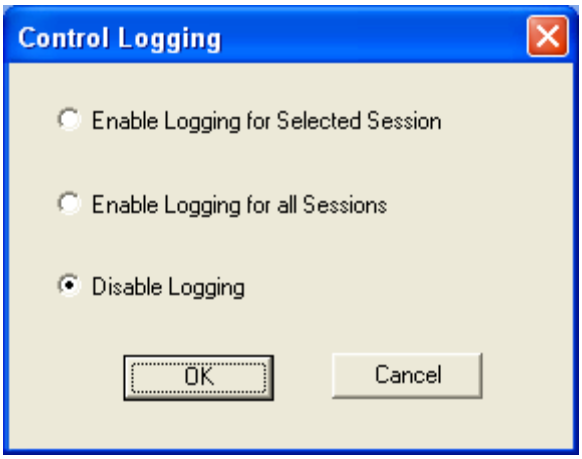
At this point, the desired print job should be sent. While capturing data the number of bytes captured indicator will increment on the screen. Once the bytes captured stops incrementing, the print job should be complete. Select STOP to end Data Capture.

The data capture file will be used by technical support to recreate the printing issue.

Logging

Enables logging of session specific errors to a log file. This file is used by technical support to troubleshoot specific session errors.

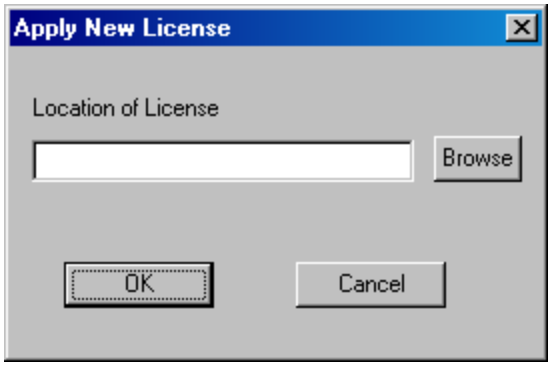
Note: Certain system level errors are always logged to the Microsoft System Event Log. This feature expands the logging to capture more detailed information.



Enable Logging for Selected Session	The highlighted session will be
Enable Logging for all Sessions	
Disable Logging	Stops logging errors

Apply New License

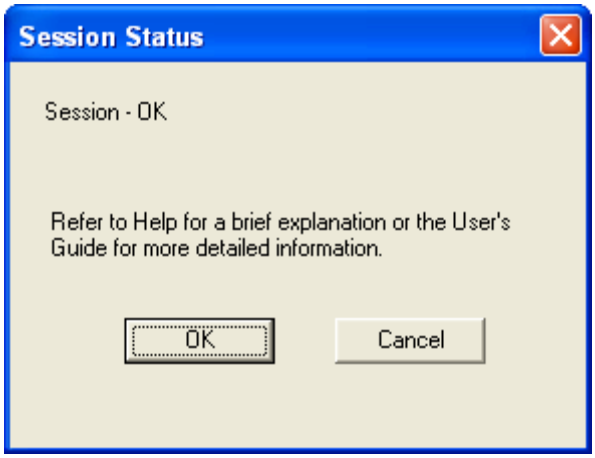
adaptio Host Print Software is freely available in a fully functional single-session demo version. Licensing ***adaptio*** will remove the “not licensed” watermark and activate up to 128 printing sessions.



1. Use the Browse button to navigate to the license file in its temporary directory.
2. Click OK. The license will be copied into the ***adaptio*** installation directory.
3. The ***adaptio*** service will be stopped and restarted. Print jobs will no longer have the “not licensed” watermark on them.
4. Exit and restart the ***adaptio*** Management Utility. The List of Sessions will now reflect the licensed number of sessions.

Session Errors

When an “Attention” indicator is displayed in the Status column of the List of Sessions screen for a Gateway Session, a brief description of the error can be displayed by highlighting the session, then clicking on the “Session Error” menu.



If there is an error, a brief description will appear on this screen. Refer to the error codes below for a brief description of the error and possible remedies.

- Port 9100 Session Error Codes
- Windows Printer Connection Messages
- TN5250e Host Communication Status Codes
- TN5250e Printer Connection Status Messages
- TN3270e Printer Connection Status Messages

Port 9100 Session Error Codes:

151 (Port 9100) — Can't start session, not enough info given in the configuration	No IP address was specified for the target printer when the Gateway Session was configured. Redo the Gateway Session configuration, being sure to specify the correct IP address for the target printer.
152 (Port 9100) — Invalid IP address was specified for the 9100 server	The IP address specified as the address of the target printer (port 9100 server) when the Gateway Session was configured was formatted incorrectly. Redo the Gateway Session configuration, being sure to specify the correct IP address for the target printer.
153 (Port 9100) — TCP transmit attempt failed	This is a Gateway Session internal error, and should never be seen. A Gateway Session firmware upgrade with a fix may be available.
154 (Port 9100) — Attempt to start TCP session failed	The target printer is not powered up. Verify the target printer is powered up and operational. The Gateway Session was configured with the wrong IP address for the target printer. Check the configuration of the Gateway Session to be sure the IP address entered for the target printer is correct. TCP/IP communication is not possible between the Gateway Session and target printer. Verify IP communication is possible between the two locations on the network (such as by pinging the target printer from a location in the same subnet as the Gateway Session). Also check to see network traffic from the Gateway Session's location to the target printer is not excluded for port 9100 by communication equipment such as a firewall or router. Take any steps required to make the path available. The device at the address given for the target printer is not a port 9100 server. Verify the target printer does in fact support port 9100 printing.
155 (Port 9100) — Attempt to start TCP session was refused by server	The target printer is busy printing jobs for other users, and is temporarily refusing to accept a job from the Gateway Session. If the target printer is expected to receive print jobs from more than a single source, this code may indicate that the target printer is temporarily unavailable. If the condition only occurs when the target printer is busy, the error code should be considered informational only, and no action is required. If this condition persists, or is reported when the targeted printer is not busy, then check the following errors. The Gateway Session was configured with the wrong IP address for the target printer. Check the configuration of the Gateway Session to be sure the IP address entered for the port 9100 server is correct. The device at the address given as the target printer is not a port 9100 server. Verify the target printer does support port 9100 printing.
156 (Port 9100) — Server reports printer is offline	The target printer has been set offline; printing is suspended. Set the printer back online.

157 (Port 9100) — Server reports printer is unavailable (needs intervention)	The target printer has an error condition, such as paper out; printing is suspended. Take steps to clear the error condition at the printer.
158 (Port 9100) — Error status, cause unknown	This is a Gateway Session internal error, and should never be seen. A Gateway Session firmware upgrade with a fix may be available

Windows Printer Connection Messages

161: Attempt to open Windows printer failed	The Windows printer configured for this session is no longer defined on this PC server. Edit the configuration for this session, selecting a currently-defined Windows printer as the session's destination printer. The Windows printer is currently not accessible to the PC server. Take steps to make the printer accessible. Verify the printer has power; and if the printer is accessed through a remote computer, verify that that computer is visible from the PC server, and that the PC server is authorized to use the printer.
162: Attempt to write to Windows printer failed	The Windows printer has become inaccessible to the PC server. Take steps to make the printer accessible. Verify the printer has power; and if the printer is accessed through a remote computer, verify that that computer is visible from the PC server, and that the PC server is authorized to use the printer.
163: Windows reports the printer is offline	The PC server's printer has an error condition, such as paper out; printing is suspended. Take steps to clear the error condition at the printer.
164: Windows error status, but cause unknown	This is a print server internal error, and should rarely be seen. Contact I-O's Technical Support Group. A firmware upgrade with a fix may be available.

TN5250e Host Communication Status Messages

301: Host is unreachable.	The controller is currently unable to establish any TCP connection to this host on behalf of any attached printer or display. • The host for this session is not powered-up. Verify that the host is powered-up and operational. • TCP has not been started on the host computer. Verify that TCP/IP, including telnet, has been configured and started on the host computer. • The controller was configured with the wrong IP address for this host. Check the configuration of the controller to be sure that the IP address entered for the host computer is correct. • TCP/IP communication is not possible between the locations of the controller and this host computer. Verify (as by pinging the host computer from a location near the controller) that IP communication is possible between the two locations on the network. Also check to see that network traffic from the controller's location to that of the host computer is not excluded for telnet (normally port 23) by communication equipment such as a firewall. Take any steps required to make the path available.
302: No TCP session for this device.	The controller has successfully established TCP connections for some printer or display sessions, but has failed to make a TCP connection for this session. • The host computer considers a previous TCP connection for this session from this controller to be still active. This situation may arise if the controller has been shut down while printers or displays were powered on. Check the device status for this device on the host. If the host shows the device to be active while the controller is showing status code 302, and if you know that the device description is used only by this controller, vary the device off. Then retry the connection. • The device name (specified during controller configuration) for this session is in use on this host by some other remote device. Verify that all device names specified during configuration of the controller are not duplicated by any device otherwise connected to this host. • The host shows an invalid status for this device. Verify that the host shows the device status as being either 'varied off' or 'vary on pending'. If device status is any value other than these, vary the device on or off.
303: No TN5250 negotiation started by host.	The controller has successfully established a TCP connection to the host for this session, but the host has not yet initiated TN5250 negotiations on the TCP connection. This condition should never last more than a few seconds. If this status lasts more than a few seconds at a time, it indicates a host computer malfunction or mis-configuration. Report the problem to the administrator of the host computer.
304: TN5250 session negotiation proceeding.	A TN5250e TCP connection for this session has been established with the host, and values for TN5250e parameters for the session are being negotiated by the host and the controller. This is a normal but transient status that exists briefly during startup of the host session for every device. No action is required. A 304 status should be considered to be an indication that session startup is

	proceeding normally. If a session reaches the 304 state and does not move on to some other state within a few seconds, contact technical support.
305: TN5250 session negotiation aborted by host.	The controller has successfully established a TCP connection to the host for this session, but negotiation of TN5250 parameters for the session was aborted at the request of the host computer. This status should never be seen. If the controller and the host computer successfully begin TN5250 negotiations, startup of the session should always complete successfully. Contact technical support for help in resolving the problem.

TN5250e Printer Connection Status Message

0101 — Host not responding to pings	This message usually indicates one of the following: • TCP/IP has not been started on the host. • The host's IP address has not been correctly entered in the 5250 Printer's configuration on the thin client. • The controller has not been correctly connected to the LAN.
0102 — Host rejected connect to Telnet port	The host answers pings, but rejects a TCP/IP connect attempt, probably because its Telnet server has not been started.
0111 — Host Telnet session lost	Usually means that the printer has been varied off at the host, the host has gone down, or there has been a communication (e.g. router) failure.
2777 — Damaged device description	
8902 — Device not available	This code appears when the 5250 Printer connection attempts to start a session for a printer whose name duplicates the name of a printer already active on the host. In many cases, this means that the controller with a 5250 Printer session has been powered-off and then powered back on within a few minutes. When the controller with an active 5250 Printer session is turned off, it takes the host about 10-20 minutes to determine that the TCP/IP sessions for the printers are no longer active. If the 5250 Printer session is restarted while the host shows the old printer sessions is still active, requests for new sessions will be rejected with this code. You can recover by doing one of the following: • Wait 10-20 minutes before trying to establish another printer session. • At the host, manually terminate the old TCP/IP sessions. • Avoid the problem by allowing the 5250 Printer session to end its TCP/IP connection gracefully before powering the controller off. Do this by powering-off the attached printer 2 minutes or more before closing the printer session.
8906 — Session initiation failed	
8907 — Session failure	
8920 — Object partially damaged	
8921 — Communications error	
8922 — Negative response received	
8925 — Creation of device failed	

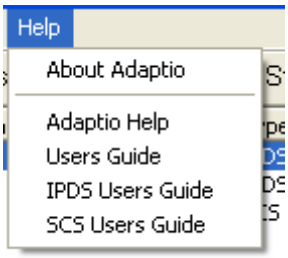
8928 — Change of device failed	
8930 — Message queue does not exist	
8935 — Session rejected	
8940 — Automatic configuration failed or not allowed	
E001 — No Telnet printer support at host	The operating system on the host supports only display (not printer) devices in Telnet sessions. Update your host to support TN5250e printer sessions.
I902 — Session successfully started	
I904 — Source system at incompatible release	

TN3270e Printer Connection Status Message

0102 — Host rejected connect to Telnet port	This code simply means that the print server's attempt to start a Telnet session with the host failed. This message usually indicates one of the following: The host is down. No Telnet server is active on the host. Communication hardware (e.g. router) required for this connection is down. The host's IP address is incorrectly configured on the SCS Printer Emulation setup page.
0111 — Host Telnet session lost	Usually means that the printer has been stopped on the host. Also appears if the host goes down or if there is a communication (e.g. router) failure while a Telnet session with the host is active.
E001 — No Telnet printer support at host	The operating system on the host computer supports only display (not printer) devices in Telnet sessions. Verify your operating system is at a release level that includes support for printing via Telnet sessions.
E003 — TN3270 session negotiation failed	Usually means that there is no printer defined on the host with the printer name that appears in the connection status message. This code will also appear if there is a printer with the desired name, but that printer is already active and therefore not available for use over this new connection. Verify that a printer with the desired name is defined on the host, and that the printer is available for use by this print server.
I002 — Session successfully started	The printer session is ready for print jobs.

Help Menu Options

The Help menu provides links to on-line documentation about the use of the Management Utility.



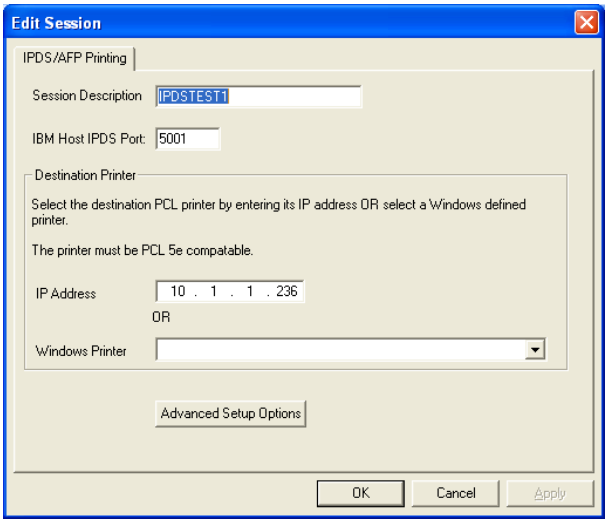
About Adaptio	Displays version number, build date, computer name, the user identified PIN number, number of licensed sessions.
About Help	Information about how to use this Management Utility (this document).
User's Guide	Detailed information on setting up and configuring ***adaptio***.
IPDS Reference Manual	Detailed information about using the various IPDS configuration options available. IBM host setup instructions are also included.
SCS Reference Manual	Detailed information about using the various SCS configuration options available. IBM host setup instructions are also included.

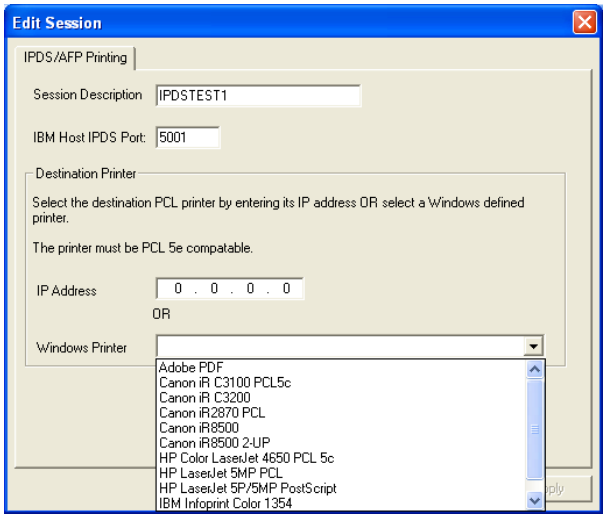
IPDS Printing

Adaptio converts IBM's EBCDIC character set to ASCII, and IBM's AFP/IPDS data stream into PCL5e. ***Adaptio*** connects to the IBM host via IBM's proprietary TCP/IP protocol of PPR/PPD. The converted data streams are sent to the target printer either by a direct port 9100 socket, or by using the Windows printer object.

To create or edit an IPDS session:

1. Highlight an available session or a previously configured session on the List of Session.
2. Select the OPTIONS | Add IPDS Session or OPTIONS | Edit Session menu option.
3. Enter the following information:

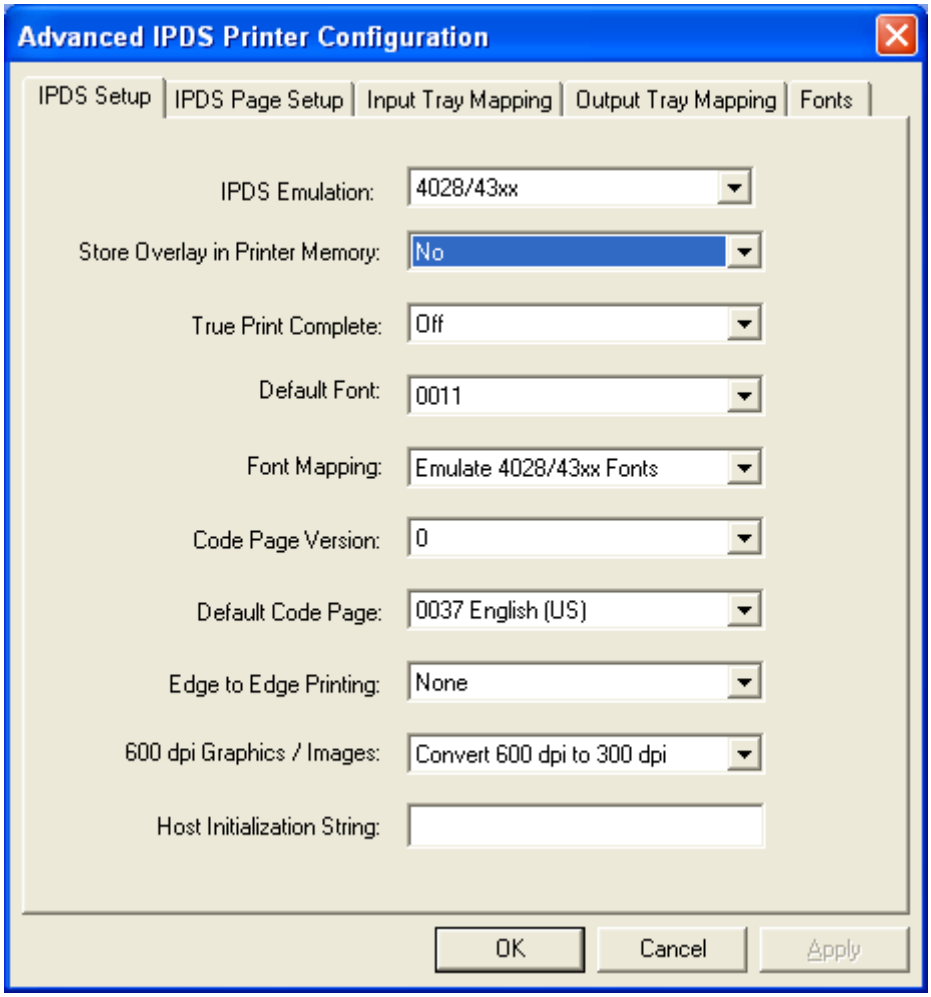




Session Description	Enter the name this printer session will use in the List of Sessions.
IBM Host IPDS Port	Enter the port number that the IBM host will use to connect to this printer session. This port number along with the PC's IP address on which Adaptio is running will be required when the IBM host is configured.
Destination Printer– IP Address	Enter the IP address of the target printer that the converted IPDS data stream will be sent to. ***adaptio*** will use a direct Port 9100 socket to connect to the target printer. The printer must be a PCL 5e compatible laser printer.
Destination Printer – Windows Printer	From the drop down box, a listing of all Windows Printers configured on this PC will be presented. ***adaptio*** will use the Windows printer object to connect to the target printer. Note: the IP address must be 0.0.0.0 in order to select a Windows Printer. Also note that print jobs sent via this method will experience a short delay (20 seconds or thereabouts) as the Windows Spooler prepares the connection. Note: If the target printer is a "shared" printer on another PC,

	Windows requires that the ***adaptio*** service be logged in as an administrator. This is done on the ***adaptio*** server PC by navigating to Start | Control Panel | Administrative Tools | Services. Select the I-O Adaptio Print Server entry, right click, select Properties. Select the Log On tab, click on the This account radio button. Then enter the administrator's name and password.
Advanced Setup Options	Click on this button to access the Advanced IPDS Printer Configuration features: • IPDS Setup • IPDS Page Setup • Input Tray Mapping • Output Tray Mapping • Fonts • Finishing Command Support
OK	Click OK to save the configuration settings for this session.

IPDS Setup

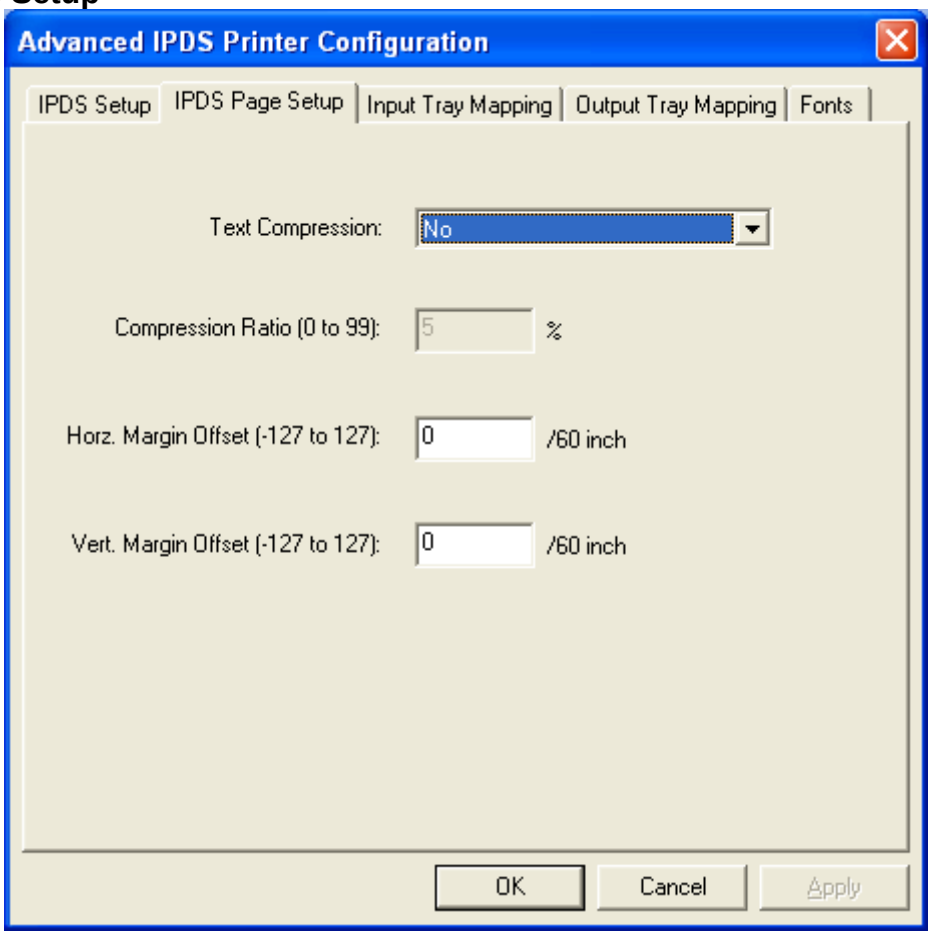


IBM Emulation	Select the IBM printer model you want the session to emulate. Select 4028/43xx when 300 dpi fonts are desired. This emulation is recommended since it ensures the fastest possible processing. Select 3812/3816 when 240 dpi fonts are desired. Use this emulation for compatibility with older applications.
Store Overlay in Printer Memory	The session is able to store IPDS overlays in its memory. When requested by the host these overlays are downloaded to the printer along with other host data. While this minimizes the risk of losing overlays accidentally, there is a noticeable performance decrease. Higher throughput is achieved when storing the IPDS overlay as a converted PCL macro on the printer's RAM.
True Print Complete	Determines if the printer interface reports a print complete to the

	host after a page has actually been printed, or if the print complete message is sent as soon as the printer has started processing the page of the host print job. Setting True Print Complete to ON will cause the printing process to slow down.
Default Font	Selects which font will be loaded/mapped by the session when the host requests the "default font". The default font can be any font shown in the pop up window. Some of the IPDS fonts reside directly on the session and are downloaded to the attached printer when requested. Most IPDS fonts, however, are mapped to printer resident fonts. Also check "Font Mapping" and the user defined fonts in the Fonts section for related information.
Font Mapping	Selects how IPDS font commands from the host are mapped to printer resident PCL fonts. Best Fit: Maps a requested IPDS font to a printer resident PCL font that most closely resembles the original, actual IPDS font. Emulate 4028 Fonts: Maps the requested IPDS font to a printer resident PCL font that most closely resembles a font the IBM 4028 would have printed. The IBM 4028 printer does not support all IBM fonts and substitutes in many cases. Emulate 3812/16 Fonts: Maps the requested IPDS font to a printer resident PCL font that most closely resembles a font the IBM 3812/16 would have printed.
Code Page Version	Selects which code page version will be used if more than one is available.
Default Code Page	Selects the default code page (EBCDIC) used in the EBCDIC ASCII conversion. These code pages are resident in the printer interface.
Edge-to-Edge Printing	Some printers have the capability of printing from one edge of the paper to the other edge. Non edge-to-edge printers have an unprintable area around the entire page. The printable area of an edge-to-edge printer is essentially the same as the page size. For a non edge-to-edge printer, the printable area is smaller than the page. For example, an HP 4050 printer has a PCL printable area of 8" x 10.5" on an 8.5" x 11" page, while an HP 8150 (in edge to edge mode) has a printable area that is almost as large as the page (the 8150 can print to within 1.5 mm of the edge of the page). When a document that is designed to use the full page is printed on a non edge-to-edge printer, the document may not print correctly, i.e. the document may not be aligned correctly. There is a possibility that text on the right, top and bottom edges of the

	page will be cut off or overprinted. Using the edge-to-edge option when using a non edge-to-edge printer may help improve the alignment. Using horizontal and vertical offsets may also improve the alignment of the document. Choose the edge-to-edge option if the printer is capable of edge to edge printing and your documents are designed to use the full page. Choose the simulated edge-to-edge option will expand the maximum PCL printable area by 1/6" leaving a 4.2 mm margin on all sides. This option is not suitable for extremely large graphics that extend from the left to within ¼" of the right margin.
600 dpi Graphics	Select whether to have graphics converted to 300 dpi or passed through at 600 dpi. Selecting the 300 dpi option will increase printing speed, but may in some limited cases result in a coarse graphic. Selecting the 600 dpi option will decrease printing speed, but improve the appearance of graphics that are very coarse when printed at the lower resolution.
Host Initialization String	Stores a string of up to 25 ASCII hex pairs that is sent to the printer after the session has reconfigured the printer for host printing. However, formatting instructions sent with the host data generally override this setting. This allows you to further modify the printer configuration (e.g. select a different font for all host printing). Example: 1B 26 6C 38 44 Sets LPI to 8 LPI on a PCL laser printer.

IPDS Page Setup



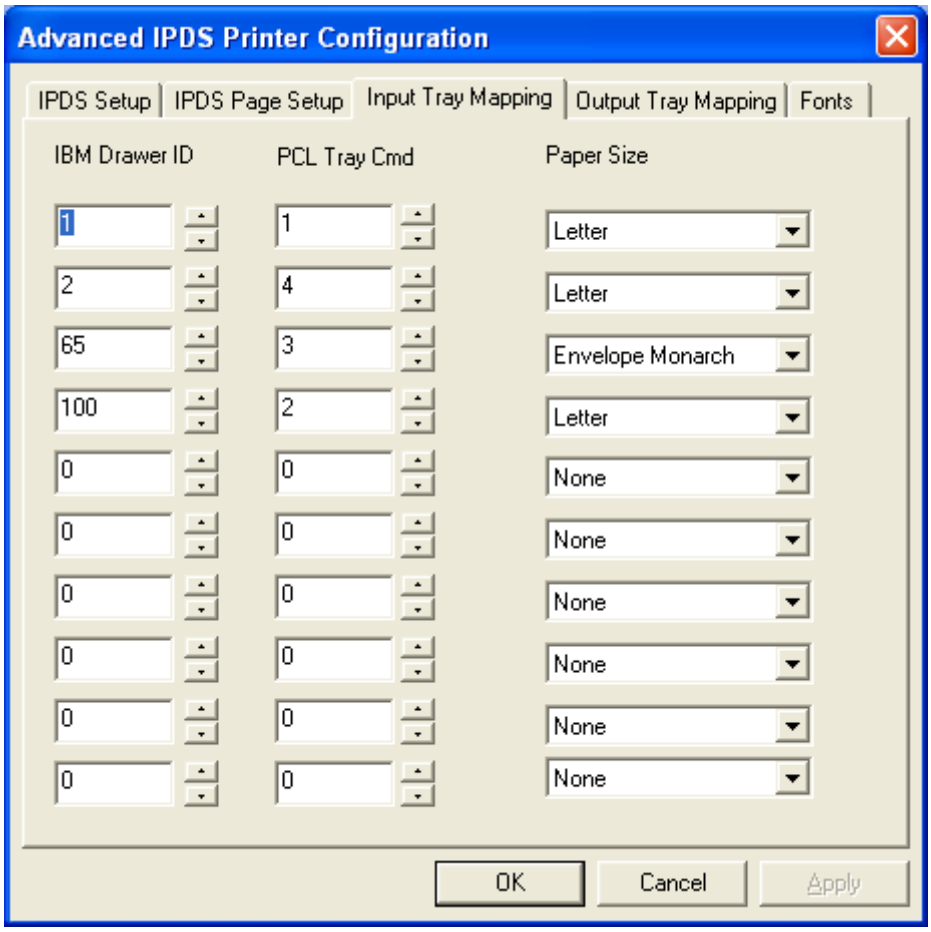
Text Compression	Determines the direction of compression of host text data to fit the logical page into the printable area of the physical page. The compression ratio is set through the "Compression Ratio" parameter. Note: Compressing AFP/IPDS documents containing images, graphics or bar codes in addition to text may cause alignment problems, since only text is compressed.
Compression Ratio	Determines the percentage of compression of host text data to fit the logical page into the printable area of the physical page. This command only takes affect if the "Text Compression" parameter is to "Yes, LPI only" or "Yes, LPI & CPI".
Horz. Margin Offset	Selects the horizontal offset of the logical page on the physical page in 1/60 of an inch. If parts of the logical page containing data are moved off the physical page, this data will not print! NOTE: The default values of "Horizontal Margin Offset" and "Vertical Margin Offset" align the logical page with the top left hand corner of the physical page. Since laser printers generally

	have a nonprintable area of approx. 1/4 inch around the outside of the physical page, host data that falls within this 1/4 inch area would be lost. To remedy this, you may want to adjust the margin offsets by the value 15 (15/60=1/4).
Vert. Margin Offset	Selects the vertical offset of the logical page on the physical page in 1/60 of an inch. If parts of the logical page containing data are moved off the physical page, this data will not print! NOTE: The default values of "Horz. Margin Offset" and "Vert. Margin Offset" align the logical page with the top left hand corner of the physical page. Since laser printers generally have a nonprintable area of approx. 1/4 inch around the outside of the physical page, host data that falls within this 1/4 inch area would be lost. To remedy this, you may want to adjust the margin offsets by the value 15 (15/60=1/4).

Input Tray Mapping

Ten (10) host input paper bin selections are supported. The IBM host's input paper Drawer ID is mapped to the physical tray available on the printer. This is done by associating the IBM Drawer ID received from the host with a PCL tray command value for the desired input tray that is sent to the printer.

To change the default tray mapping for IBM Drawer ID 2 to PCL Tray command value 7 and Paper Size 11x17, first locate or set one of the available rows to IBM Drawer ID 2 in the left column. Then change the PCL Tray CMD to 7 in the middle column. Next select "11x17" from the Paper Size dropdown box.



IBM Drawer ID	Enter the IBM Drawer ID here.
PCL Tray Cmd	Enter the PCL command reference value for the physical paper source tray. Refer to the printer's user's guide for these tray values. (This value will be inserted into the ESC&l?H command that is sent to the printer.) **Note**: Enter a "0" in this field if no tray command is to be sent to the printer.
Paper Size	Select from the drop down list the appropriate paper size of the paper source tray. By default all input trays are a set to letter

size except the tray associated with IBM Drawer 65 that does not have a paper size.

Note: Select “None” if no paper size command is to be sent to the printer.

Because IBM Drawer ID 65 is generally used with envelopes, it normally is mapped to the envelope feeder and has an envelope paper size or no size. However, Drawer 65 may be mapped to any tray number and to any paper size.

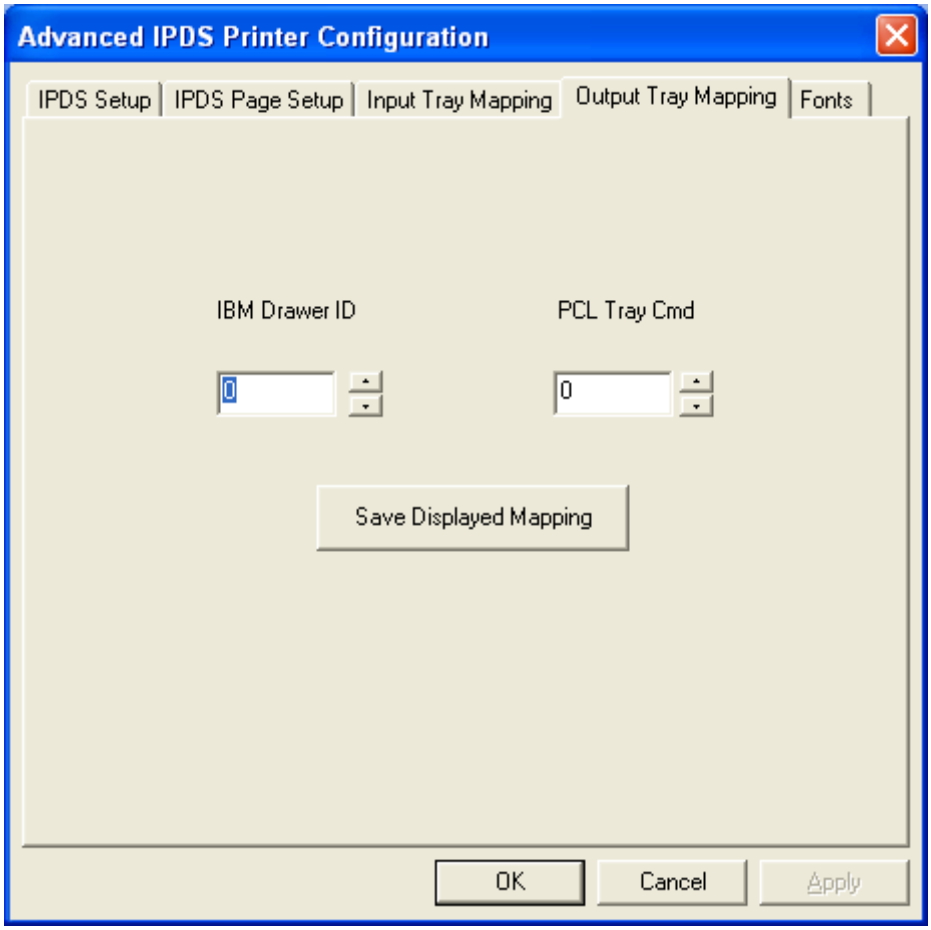
Output Tray Mapping

Twenty (20) Host paper output bin commands are supported. Host paper output bin commands are mapped to physical output bins available on the printer. The printer's bins are identified through a numeric value associated with the PCL commands for the target output bin.

Example: ESC&l5G is the PCL command for bin 3 of the Lexmark Optra S 2450. The numeric value for the mapping command would be 05.

By default IBM output tray #1 is mapped to PCL Tray #1, IBM tray 2 is set to PCL Tray #2, etc.

To change the Output Tray Mapping for IBM Drawer ID 4 to PCL Tray # 2, first scroll to IBM Drawer ID 4 using the arrows next to the currently displayed IBM Drawer ID. Then scroll to PCL Tray # 2 using the arrows next to the currently displayed PCL Tray #. The desired settings are now displayed. Click on the <Save Displayed Mapping> button to permanently store the new output tray mapping.

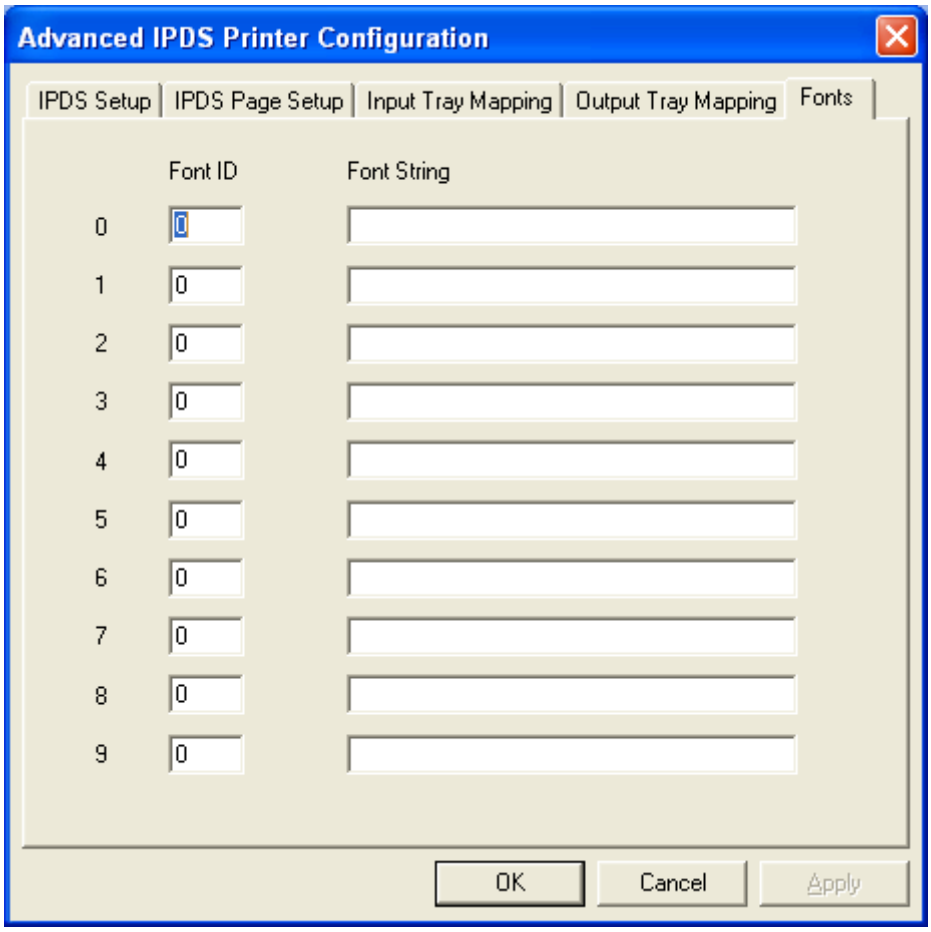


IBM Drawer ID	Enter the IBM output drawer ID.
PCL Tray #	Enter the PCL command reference number for the physical paper source tray. Refer to the printer's user's guide for these tray references.

Save Displayed Mapping	Press this button to save the output tray mapping current being displayed. For each tray mapping that is configured, this button must be pressed to save that mapping.

Fonts

Assigns an IBM host font ID to a font that is resident in the printer. Note that this function only works with printer resident fonts. This function does not work with IBM host downloaded fonts.



0 … 9	The number assigned to the font string.
Font ID	The IBM Font ID that will be assigned or reassigned.
Font String	Enter in Hex format the font string command that will be sent to the printer when the IBM Font ID is received by the session. A maximum of 25 hex pairs may be entered per string. The IBM FGID number is entered in the Font ID. The Escape string in Hex format for the desired font is entered in the Font String field. For example, if the font string of ^{e}c(12U^{e}c(s0p12h10v1s3b6T)" is to be used as a substitute for FGID 12345, enter in the Font String field the Hex string of "1B 28 31 55 1B 28 73 30 70 31 32 68 31 30 76 31 73 33 62 36 54". Then whenever an IBM Font ID of 12345 is received, the session will send the new font string to the printer. (Note that the "^{e}c" in the example represents the Escape character.)

If this string were sent to an HP LaserJet, it would tell the printer to use the following font values:

12U	= code page 850
0p	= fixed spacing
12h	= 12 pitch
10v	= 10 point
1s	= italic
3b	= bold
6T	= letter gothic

Refer to the printer manual or documentation for a list of available fonts and their respective strings. Also refer to the session user's guide for more detail on font substitutions.

Note that when substituting fonts, that the original spacing of the host's font will still be used. For example if a 10 point font is substituted for an original 12 point font, the 10 point font will be spread out to the 12 point spacing.

Digital Printer Finishing Features

Adaptio optionally offers support for finishing such as stapling, stitching, folding, inserting, punching and so on. Document management features such as queuing, multiple copies, etc. are also considered to be part of the finishing feature set.

Finishing features can be accessed through two different methods – through issuance of native IPDS commands from the IBM host or through the Management Utility. The Management Utility is used to access the digital printer's finishing features not supported by IBM's' native IPDS finishing commands.

Combinations of up to four different finishing functions can be setup and saved in the Management Utility as a finishing profile.

When a particular print job needs one of the finishing profiles, designating the output bin number at the IBM host (in a printer file or form definition file) that has been setup in the Management Utility for those features will activate the desired combination of finishing features. For example, in the configuration utility, a finishing profile has been created for IBM drawer 128 that will create a booklet that is saddle stitched. To activate this finishing profile, at the IBM host, the IBM Output Drawer number would be set to 128. When the IPDS print job is received by the print server, and the IBM Output Drawer 128 command is received, the print server will add the appropriate digital printer commands to cause the job to be printed as a saddle stitched booklet.

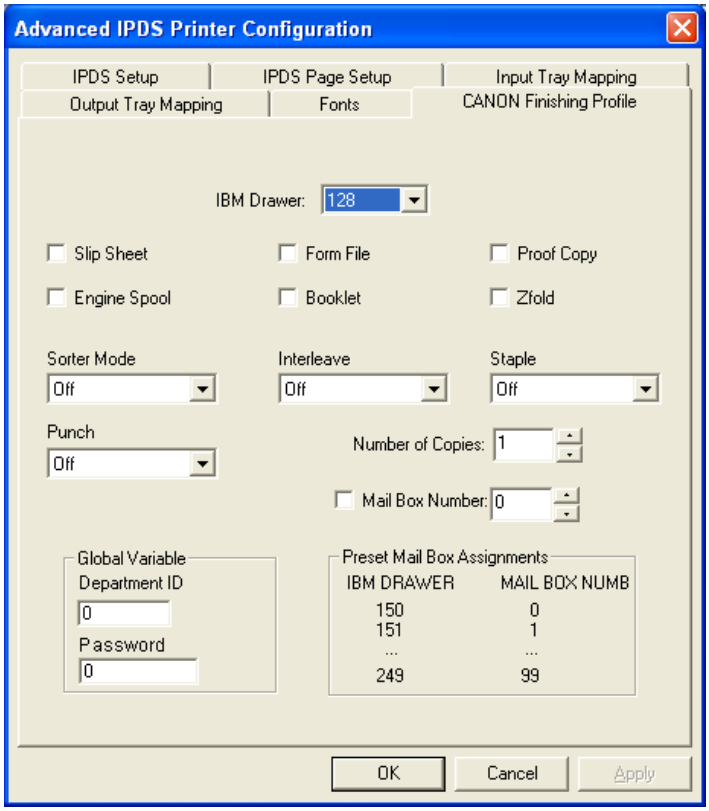
To choose a finishing function, do the following:

1. Check the Enable Host Finishing Command box.
2. Check the box next to the option where the finishing function is of for those finishing functions where multiple options are available, click on the drop down box to select the desired option. Up to four different commands may be selected for each finishing profile.

Digital printers from the following manufacturers are supported.

- Canon imageRUNNER printers

Canon imageRUNNER Printers



- Preset mail box assignments are embedded in ***adaptio***. A finishing profile is not required to use the preset mail box assignments. A user only needs to select at the IBM host an IBM output drawer number of 150 through 249 to cause their print jobs to be redirected to the imageRUNNER mail boxes.

- The check box in front of Mail Box must be checked for the finishing profile's mail box selection to be active. (The check box is not used for preset mail box assignments.)

- If the Department ID function has been setup on the imageRUNNER printer to control what print jobs may be sent to that printer, you will need to enter that value in the Department ID field (a numeric value from 1 to 7 digits in length) as well as a Password (a numeric value from 1 to 10 digits in length). These are global values (they are the same for all finishing profiles). Only IBM host jobs sent via a finishing profile will include the Department ID.

- Saddle Stitch may only be used with Booklet.

- Booklets: When printing an 8 1/2 x 11" booklet using 11 x 17" paper, in the Management Utility paper handling section, you will need to map the printer 's 11 x 17" paper tray as 8 1//2 x 11". Then when printing from the IBM host, send the input paper bin that coordinates with this new tray mapping. The printer will recognize that it is receiving 8 1/2 x 11" pages, but will be using 11 x 17" paper. The stapling option of saddle stitch must also be selected to cause the imageRUNNER to fold and staple the booklet.

- Auto Roll of Paper Trays: It may be desirable to have the printer automatically switch from one paper tray to another of the same size when the first tray is emptied. This can be accomplished by selecting “0 ” as the PCL tray ID in the Management Utility’s paper handling section. The paper size must be specified. For example, if the high capacity tray, trays 1 and 2 all contained 8 1/2 x 11 paper and you wanted the printer to automatically roll from one tray to the next when a tray becomes empty, you would use this option.

- Proof Copy: This option must be used in conjunction with the Mailbox option. The entire job will be sent to the mailbox and the first five pages will be printed for the user’s review.

- Sorter Mode: This option must be used in conjunction with the Copies option. Selecting Off will cause multiple copy jobs to be grouped and offset in the output tray. Selecting Collate will cause the job to be printed in sequence, with each copy offset in the output tray. Selecting Group will cause all copies of page 1 to be printed, than offset for page 2,and so on. Note that when multiple copies are selected at the IBM host, these sorter mode options are not in effect.

- Interleave: This option will cause the output to go to the top tray.

- Number of Copies: Use this option to print multiple copies of a job that does not require any other finishing operations. Do not use this option in conjunction with any other finishing operation. For example, if multiple copies were desired of a booklet, set this option to 1 and at the IBM host, set the host to print the number of copies desired.

See the digital printer’s user’s guide for proper use and application of the finishing features. See also the Print Server’s User’s Guide for operational notes, hints and troubleshooting.

SCS Printing

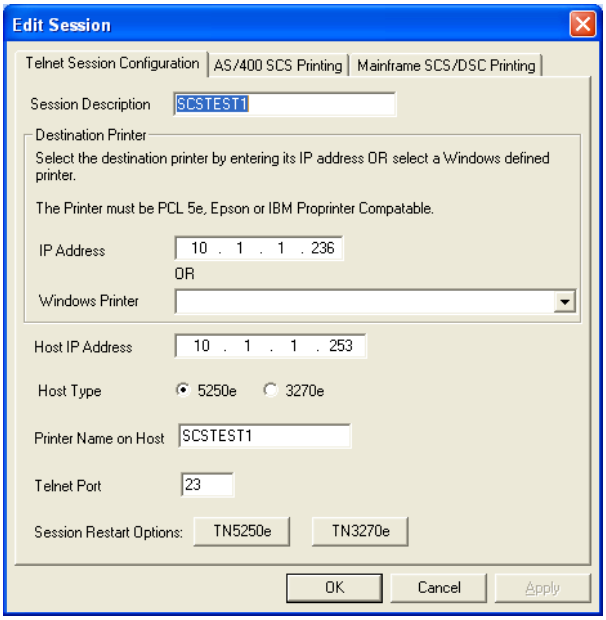
adaptio converts IBM's EBCDIC character set to ASCII, and IBM's SCS data stream into PCL 5e for laser printers, Epson or IBM Proprinter for dot-matrix printers. ***adaptio*** connects to the IBM host via IBM's proprietary TCP/IP protocols of TN5250e for System i5, iSeries or AS/400 midrange systems, or TN3270e for zSeries and S/390 mainframe hosts. The converted data streams are sent to the target printer either by a direct port 9100 socket, or by using the Windows printer object.

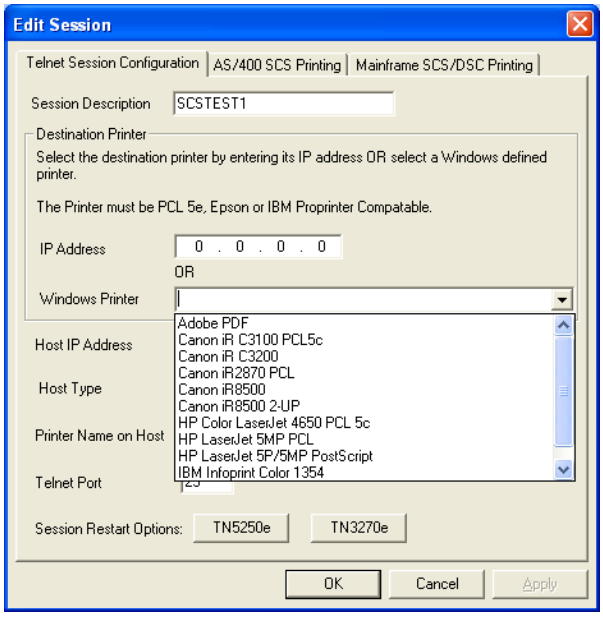
On AS/400 systems, TN5250e is auto-configuring, if the system value qautoconfig is on. The AS/400 will create a 3812 page printer device automatically. For your convenience, a 3812 to 4214 conversion module is included in the session and will automatically convert the laser printer commands to dot-matrix commands. If your application uses a dot-matrix printer and requires form alignment functionality, other I-O Corporation print servers provide full IBM AnyNet and SNA protocols which more effectively handle the specific and unique capabilities of dot-matrix printers.

For IBM mainframes, TN3270e requires manual configuration. See the SCS Reference Manual for specific instructions.

To create or edit an SCS session:

1. Highlight an available session or a previously configured session on the List of Session.
2. Select the OPTIONS | Add SCS Session or OPTIONS | Edit Session menu option.
3. Enter the following information:



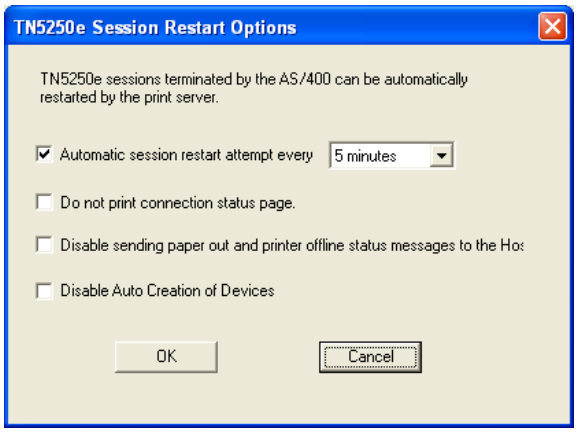


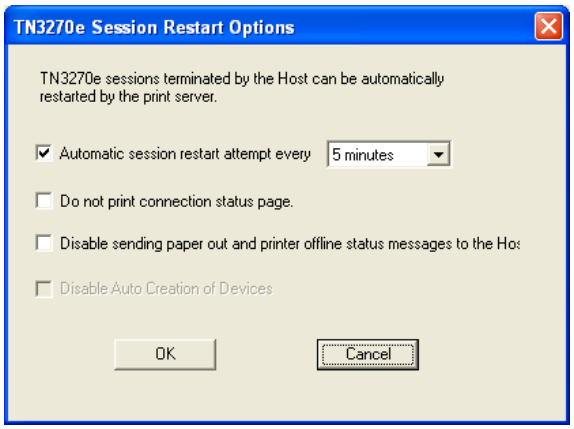
Session Description	Enter the name this printer session will use in the List of Sessions.
Destination Printer – IP Address	Enter the IP address of the target printer that the converted IPDS data stream will be sent to. ***adaptio*** will use a direct Port 9100 socket to connect to the target printer. The printer must be a PCL 5e compatible laser printer.

Destination Printer – Windows Printer	From the drop down box, a listing of all Windows Printers configured on this PC will be presented. ***adaptio*** will use the Windows printer object to connect to the target printer. Note: the IP address must be 0.0.0.0 in order to select a Windows Printer. Note: If the target printer is a "shared" printer on another PC, Windows requires that the ***adaptio*** service be logged in as an administrator. This is done on the ***adaptio*** server PC by navigating to Start | Control Panel | Administrative Tools | Services. Select the I-O Adaptio Print Server entry, right click, select Properties. Select the Log On tab, click on the This account radio button. Then enter the administrator's name and password.
Host IP Address	Enter the IBM host's/IP address.
Host Type	Select the host type – 5250e for a TN5250e connection to System i5, iSeries or AS/400 midrange systems; or 3270e for TN3270e connection to an IBM zSeries or S/390 mainframe system.
Telnet Port	Normally Telnet communication occurs on port 23. However, some firewall or security programs may prevent any communication entering into their LAN by preventing communication on port 23. You may enter another port (between 1023 and 65535) here to have the Telnet communication redirect to.
Printer Name on Host	Enter the name that the IBM host will use for this printer session. TN5250e will auto-configure a printer device on the AS/400. TN3270e requires a printer device to be configured on the 3270 host. When the session 5250e session is started for the first time, a telnet session will automatically start assuming the following is in place: 1. The box for a printer is checked 2. The Printer Device Name has been entered in the name field (max. 8 characters). 3. The attached printer is in READY mode. **Note**: If the Device Name fields are left blank, the session will establish IBM 3812 printer sessions with device names of QPADEVnnnn, where nnnn is a host assigned 4digit number. The AS/400 will assign a new value for nnnn every time a new session is started (which makes tracking the device somewhat difficult). **Note**: If the target AS/400 does not support TN5250e, the session will establish VT100 terminal sessions with device names of QPADEVnnnn, where nnnn is a 4digit number.
Session Restart Options	These buttons will bring up additional screens where restart options can be setup.

Session Restart Options

To ensure continued communication with the host, the session will periodically contact the host and attempt to reestablish the telnet sessions if required. To select an option, check the option's box.

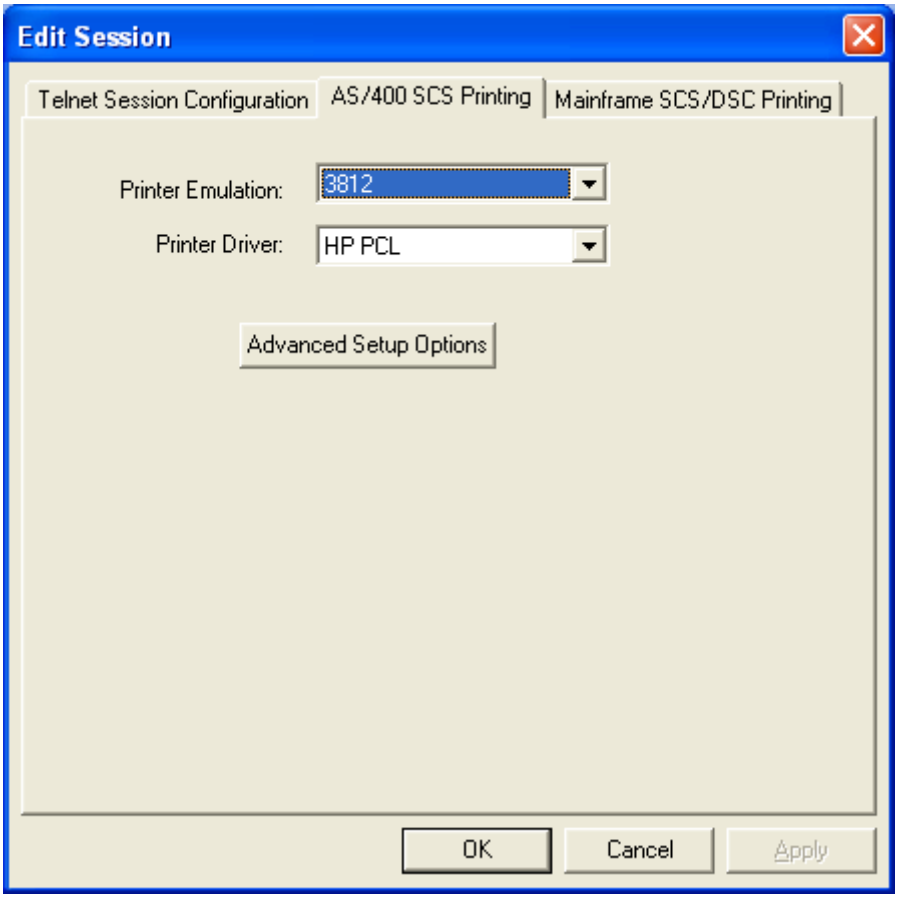




Automatic Restart after 5 minutes	Select this option and set the number of minutes you want the session to wait before attempting to restart the Telnet session with the IBM host.
Do not print connection status page	The session will print messages about the connection status with the host. These messages are useful when troubleshooting. They may be turned off by clicking on the white box in front of the corresponding selection displayed on the TN5250e or TN3270e Session Options screen.
Disable sending paper out ….	For AS/400 Hosts running OS/400 V4R3 or earlier versions that do not have the most recent PTFs applied, it may be necessary to disable sending paper out and printer offline messages to the host. Otherwise the print jobs for the TN5250e printer sessions may hang up on the Host and not get printed.
Disable Auto Creation of Devices	(Available only for TN5250e) Prevents the session from trying to create a new device at the host. Use this option when a device has been created manually at the host. This prevents Telnet from overriding the default values (such as the message queue) that were change when a device has been edited or setup manually.

AS/400 SCS Printing

Each SCS session is associated with an independent 5250-printer emulation, which can be configured by clicking on the Advanced button listed in each session's configuration box.



Printer Emulation	Select the IBM printer model you want the session to emulate. When attaching a PCL laser or ink jet printer, select the IBM 3812 emulation. When attaching a dot-matrix or line printer, IBM 4214 emulation is the recommended choice. When printing to a specialty printer such as a bar code label printer or embosser, or when printing to an older, lower featured dot-matrix or line printer; select the IBM 5256 printer emulation. This selection is ignored on TN5250e connections.
Printer Driver	This selection determines the ASCII print Driver used when converting IBM 5250 data (EBCDIC) to ASCII. The standard driver for attached laser printers is HP PCL. However,

since some earlier PCL laser printers, such as the HP LaserJet II and some III series printers, do not support the Printer Job Language (PJL), you may wish to select the PCL (non-PJL) driver.

When selecting the printer driver for a dot-matrix printer, choose the one that most closely fits the personality of the attached printer. If none of the dot-matrix driver's match or if you are printing to a specialty printer such as a bar code label printer or embosser, Select the generic print driver.

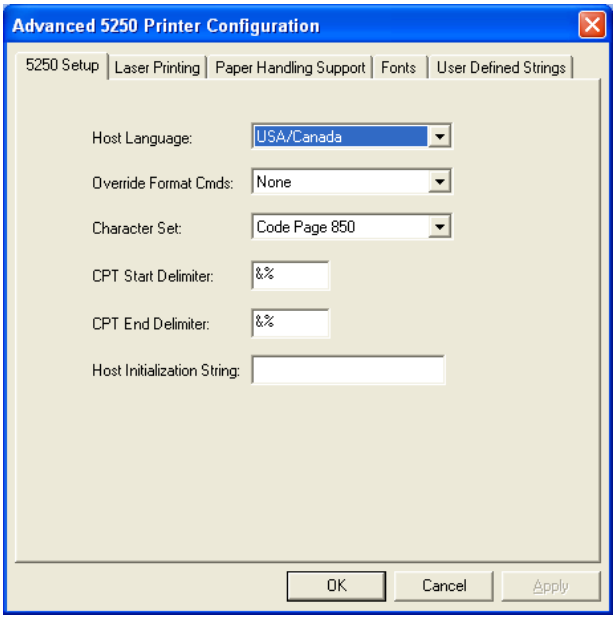
For sessions that support bar code printers, this selection will also allow the choice of the appropriate bar code print driver.

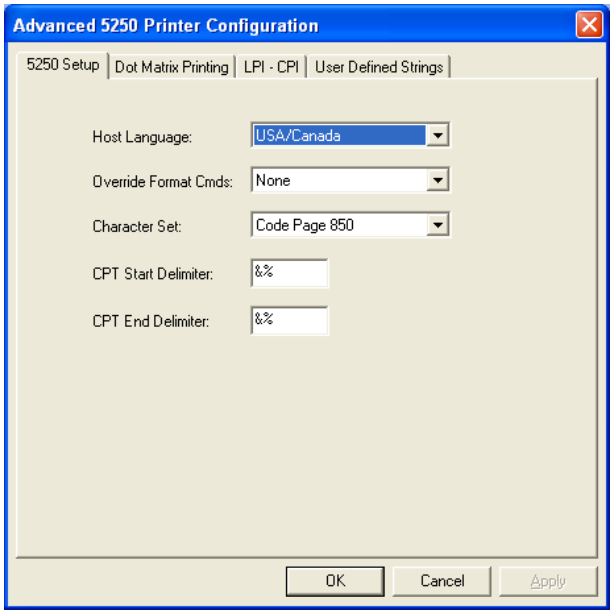
Advanced Setup Options

Click on this button to access the Advanced 5250 Printer Configuration features:

- 5250 Setup
- Laser Printing
- Paper Handling Support
- Fonts
- Do-matrix Printing
- LPI - CPI
- User Defined String

5250 Setup

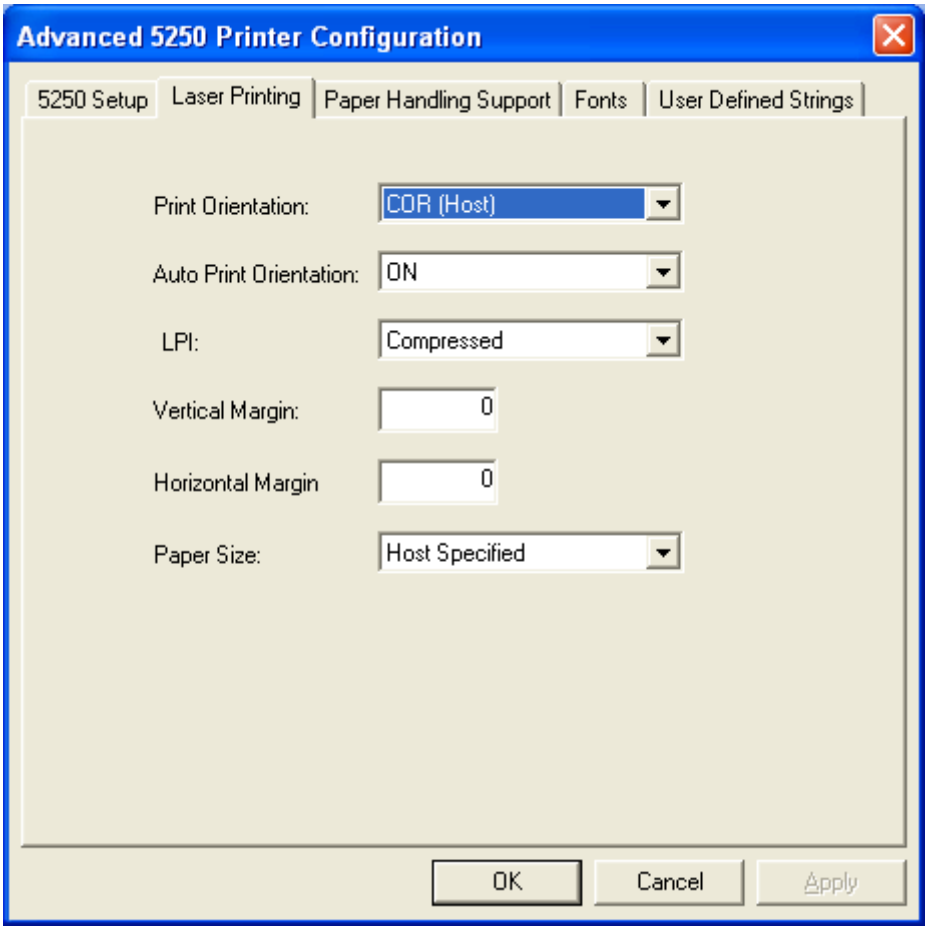




Host Language	Selects the host language to be used by the 5250 host when the command "Use Default Language" is received.
Override Format Commands	Allows operator settings on the printer's front panel to override format commands coming from the host. The following options are available: **None**: Causes none of the IBM format commands to be overridden by the printer's front panel settings. **All**: Causes all of the IBM format commands to be overridden by the printer's front panel settings. **NLQ**: Causes all NLQ commands from the AS/400 to be overridden by the printer's front panel settings. **CPI**: Causes all CPI commands from the AS/400 to be overridden by the printer's front panel settings.
Character Set	Selects which character set will be used when both are available for the desired font. The character set selected is used as the underlying ASCII table for EBCDIC to ASCII translations. Consult the printer's user's guide to verify the printer also uses the character set selected and the selected font is supported.
CPT Start Delimiter	Replaces the default Command Pass Thru (CPT) start delimiter "&%". This delimiter is also used as a Host Download delimiter. It may be one or two characters long. The first character may be any printable character. Placing two spaces in this field will delete the previous entered characters.

CPT End Delimiter	Replaces the default Command Pass Thru (CPT) end delimiter "&%". This delimiter cannot be used as a Host Download delimiter. It may be one or two characters long. The first character may be any printable character. Placing two spaces in this field will delete the previous entered characters
Host Initialization String	Stores a string of up to 25 ASCII hex pairs that is sent to the printer after the session has reconfigured the printer for host printing. This allows further modification the printer configuration (e.g. select a different font for all host printing). If using the IBM 3812 printer emulation, this init string will be sent to the printer at the beginning of each printed page. In all other emulations the init string is sent at the beginning of the first host print job. Example: 1B 26 6C 38 44 Sets LPI to 8 LPI on a PCL laser printer.

Laser Printing



Print Orientation

Determines the print orientation if it is not already determined through the host or the session's APO (Automatic Print Orientation) setting.

The "COR (Host)" value selects COR (Computer Output Reduction), but allows the host to override this through the Print Quality settings "Standard" or "NLQ". If one of these print qualities is selected on the AS/400, the print job will print in portrait orientation.

The actual print orientation of the AS/400 print job is determined by a variety of factors. They are (in order of impact on the final print orientation):

1. Page Rotation specified in the print file of a data processing document or in the document format menu of a word processing document.
2. Automatic Print Orientation (APO) setting on the session's 5250 printer session.
3. The Session's Print Orientation setting.

For the session's Print Orientation setting to determine the final print orientation one of the following conditions must be met:

1. The Page Rotation in the AS/400's print file or document format

menu is set to DEVD, AUTO, or not specified and the session's Automatic Print Orientation is set to OFF.

2. The Page Rotation in the AS/400's print file or document format menu is set to DEVD, AUTO, or not specified and the session's Automatic Print Orientation is set to ON and the printed page exceeds the dimensions 8.5x14 inches.

Please refer to the SCS Reference Manual for more detailed information.

Automatic Print Orientation

Selects or deselects Automatic Print Orientation (APO).

If set to ON, the session's APO feature determines the final print orientation of AS/400 jobs if no page rotation was specified on the host. The APO feature automatically rotates print jobs with dimensions of 8.5 x 14 inches or smaller to portrait (if the height is larger than the width) or landscape (if the width is larger than the height).

Please refer to the SCS Reference Manual for more detailed information.

LPI

Selects compressed or true LPI (lines per inch) printing.

By default LPI is compressed allowing 66 lines to be printed onto a letter sized paper when the host requests 6 LPI. If you are using an electronic forms package or print on preprinted forms you should select true LPI. The last selection applies only if you want to run software that was set up for older XPoint Twinax Controllers.

Vertical Margin

Adjusts the upper left hand corner starting vertical position for printing on the page in 1/60 of an inch. Valid ranges are 127 to 127.

For example, entering 20 in this field moves printing on the page up 1/3 inch (20/60) or 2 lines at 6 LPI

Horizontal Margin

Adjusts the upper left hand corner starting horizontal position for printing on the page in 1/60 of an inch. Valid ranges are 127 to 127. For example, entering 12 in this field moves printing on the page 1/5 inch (12/60) to the right or 2 characters at 10 CPI

Paper Size

Selects the paper size. The available options are:

Host Selected: With the default Host Selected, the session will automatically look for and recognize the paper sizes mentioned below:

- Letter Paper – 8.5x11 in. (215.9 x 279.4mm)
- A4 Paper – 8.27 x 11.69 in. (210x297mm)
- Legal Paper – 8.5 x 14 in. (215.9 x 355.6mm)
- Executive Paper – 7.25 x 10.5 in. (184.2 x 266.7mm)

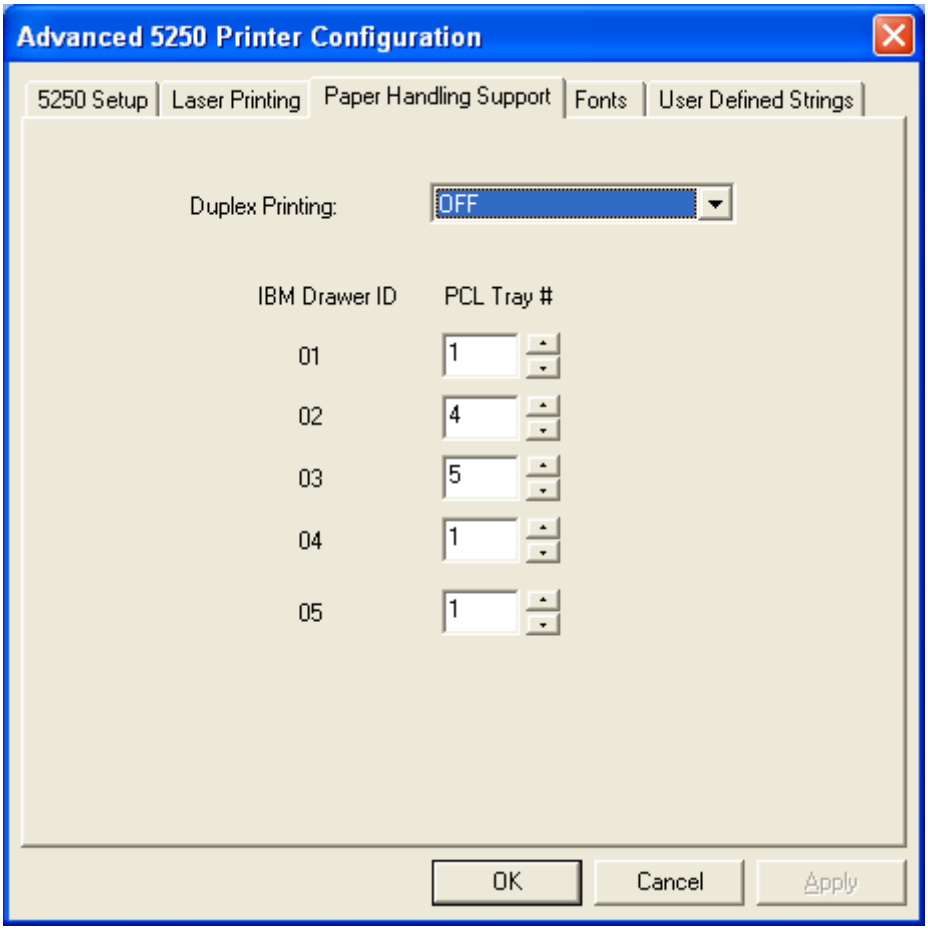
If the host sends one of these paper sizes the session will request that the attached printer load the respective paper. Otherwise it will instruct the printer to load the previously used paper size or, if the host print job

is the first after power up, it will request letter size paper.

A4: With A4 selected the session will always instruct the printer to load A4 size paper.

Printer Selected: If the Printer Selected option is chosen the session will not send any paper requests and the paper size selected through the printer's front panel will be used

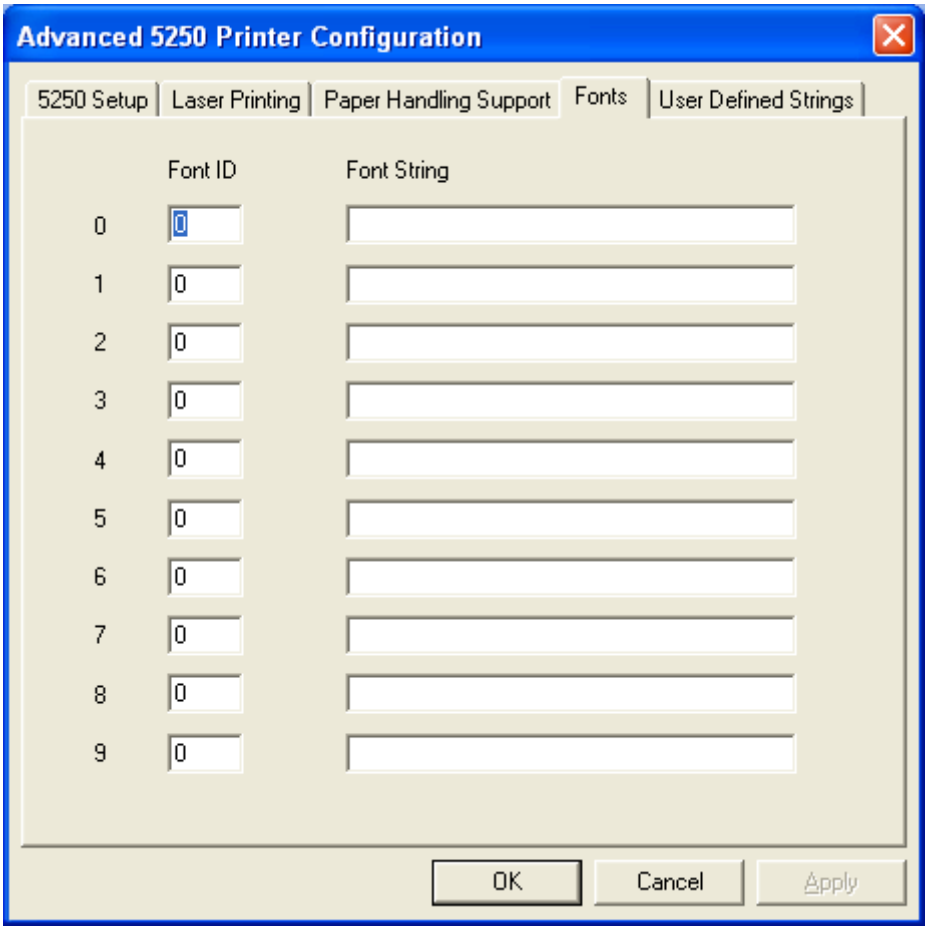
Paper Handling Support



Duplex Printing	Sets the session to duplex mode. This applies only when a printer with duplex capability is attached. For example, selecting Duplex Tumble instructs the session to duplex and tumble all host print jobs.
IBM Drawer ID 01…05	Assigns the host's input or source Paper Drawer 1 through 5 command to a physical paper source on the printer. On available paper sources on the host are called Source Drawer (print file) or Paper Drawer (OfficeVision/400). On the printer the actual paper sources are usually called input trays or bins. Since input tray selections have been implemented differently from printer to printer the session uses the unique numeric value found in the printer's PCL escape code for the particular input tray. For example the 500 sheet Cassette of an HP LaserJet 4 Plus printer can be selected through the PCL escape code: ESC&l5H. By assigning the numeric value 5 to the IBM Drawer 1 command the session would cause paper to be drawn from the 500 sheet Cassette whenever the AS/400 sends the Drawer 1 request. Refer to your printer's User's Guide for information on the PCL codes.

Fonts

In this section, you are able to assign or reassign an IBM font ID to a font resident in the printer



0 … 9	The number assigned to the font string.
Font ID	Enter the IBM Font ID that will be assigned or reassigned.
Font String	Enter the ASCII font string command that will be sent to the printer when the IBM Font ID is received by the session. When entering the front string, use the “<” character to represent the Escape command. For example, if “12345” were entered in the Font ID, and “(<(12U<(s0p12h10v1s3b6T)” were entered into the Font String field, then whenever an IBM Font ID of 12345 is received, the session will send the Escape string of <(12U<(s0p12h10v1s3b6T to the printer. If this string were sent to an HP LaserJet, it would tell the printer to use the following font values: 12U = code page 850 0p = fixed spacing

12h = 12 pitch
10v = 10 point
1s = italic
3b = bold
6T = letter gothic

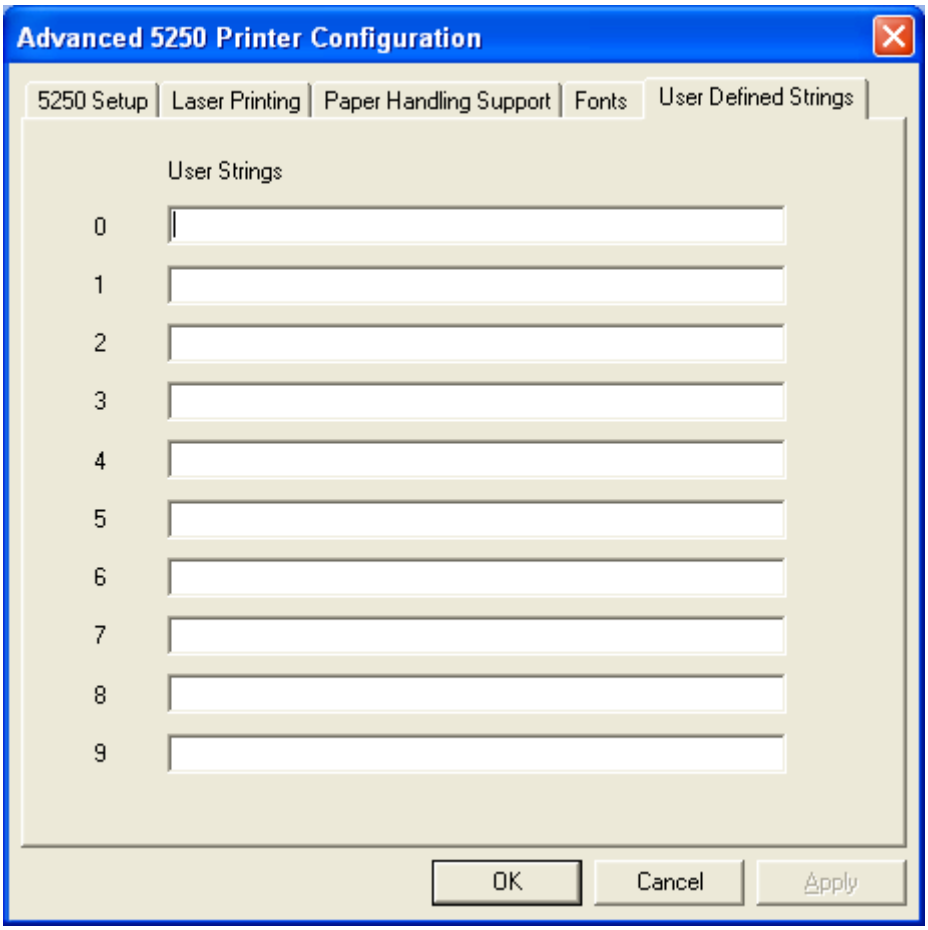
Refer to the printer manual or documentation for a list of available fonts and their respective strings. Also refer to the session user's guide for more detail on font substitutions.

Note: Font IDs assigned through this Font String feature cannot be used with the ^F font change command (see the SCS Reference Manual for more information on font change commands).

User Defined Strings

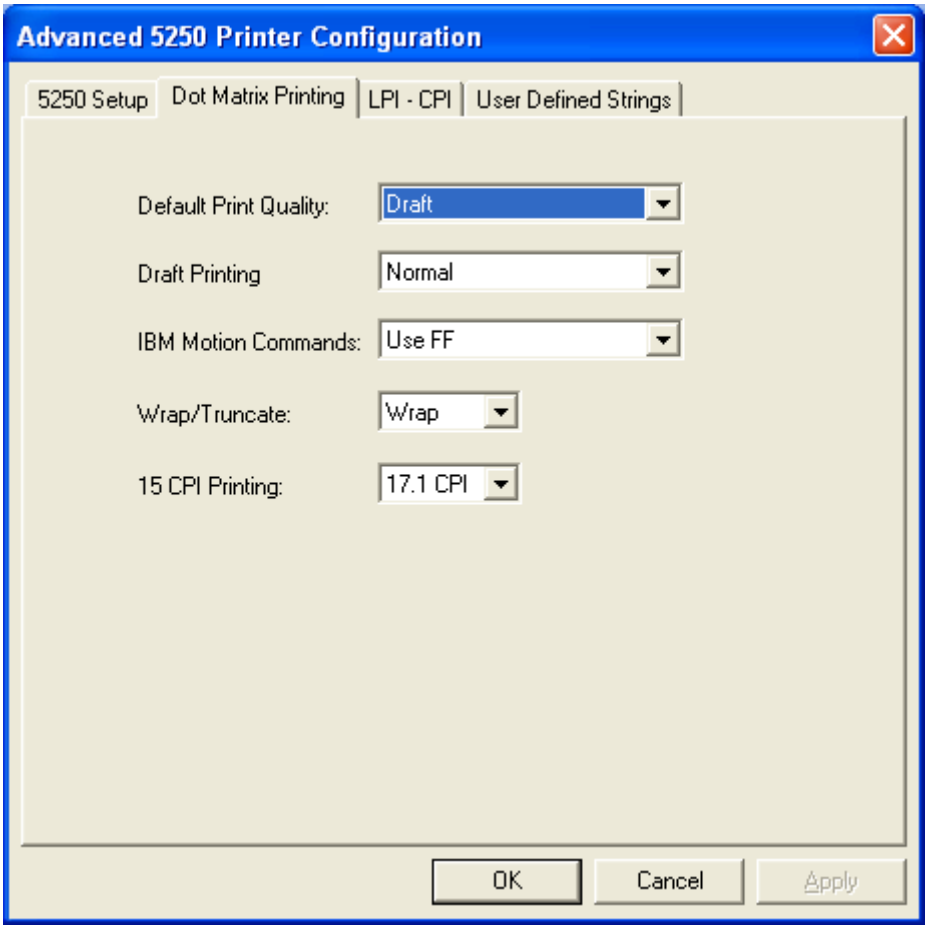
Creates up to ten user-defined strings to send to the printer.

This feature should be used to avoid re-keying of frequently used printer commands (which appear as hex values embedded in Command Pass Thru delimiters). Place the hex codes representing the desired printer command inside the field (up to 25 hex pairs). Spaces between hex pairs are allowed to aid in readability. Consult the printer's user's guide for proper hex codes. The user-defined string is stored in the interface's memory under the selected value number (0 to 9). To activate the command place a "&%UX" in the document (where &% is the active CPT start delimiter, U identifies that this is a user defined string, and X is the ID value).



0 … 9	The number assigned to the user-defined string.
User Strings	Enter the two-digit hex character pairs for each character in the string. For example, for string 4, you have entered 1B 26 64 30 44. This creates a user-defined string for a PCL laser printer to start underlining. The string is represented by the value U4. To use this function later place &%U4 in the document

Dot-Matrix Printing



Default Print Quality	The selection only applies when running the IBM 4214 printer emulation. Defines the print quality when the host sends a command to use the default print quality. The session offers the selections of Draft and NLQ. If the attached printer has the capability, Draft printing can be further defined. Another way to modify the print quality is to set the printer to a certain value through its front panel. Refer to Override Format Commands in the session user's guide for more information.
Draft Printing	This section only applies when running the IBM 4214 printer emulation. Selects the Draft Printing mode when a draft print command comes from the host or from the session. If the attached printer only supports one draft-printing mode this selection is ignored.
IBM Motion Commands	Manipulates the IBM motion command. The Generic printer driver is strongly recommended when using a selection other than the default

(Use LF).

For example, substitute LF for FF. This selection sets the interface to count the lines specified through LPI settings and replace FF with multiple LF.

Wrap/Truncate

This selection only applies when a dot matrix printer is attached.

Selects whether the printer should wrap or truncate text lines longer than 8 inches. For printing on normal or wide paper (14 7/8"), select WRAP. This allows printing to the full extend of the width of the paper. The printer wraps printing beyond the margin to the next line (if the printer is configured for that paper size). When using narrow paper (8.5") you may select TRUNCATE. This ignores any printing beyond 8". Documents must be formatted to fit the narrower paper, since the text beyond the 8" margin will truncate (i.e. not print).

15 CPI Printing

Note: This selection only applies when the IBM Proprinter driver is selected.

Determines how host commands for 15 CPI printing should be executed.

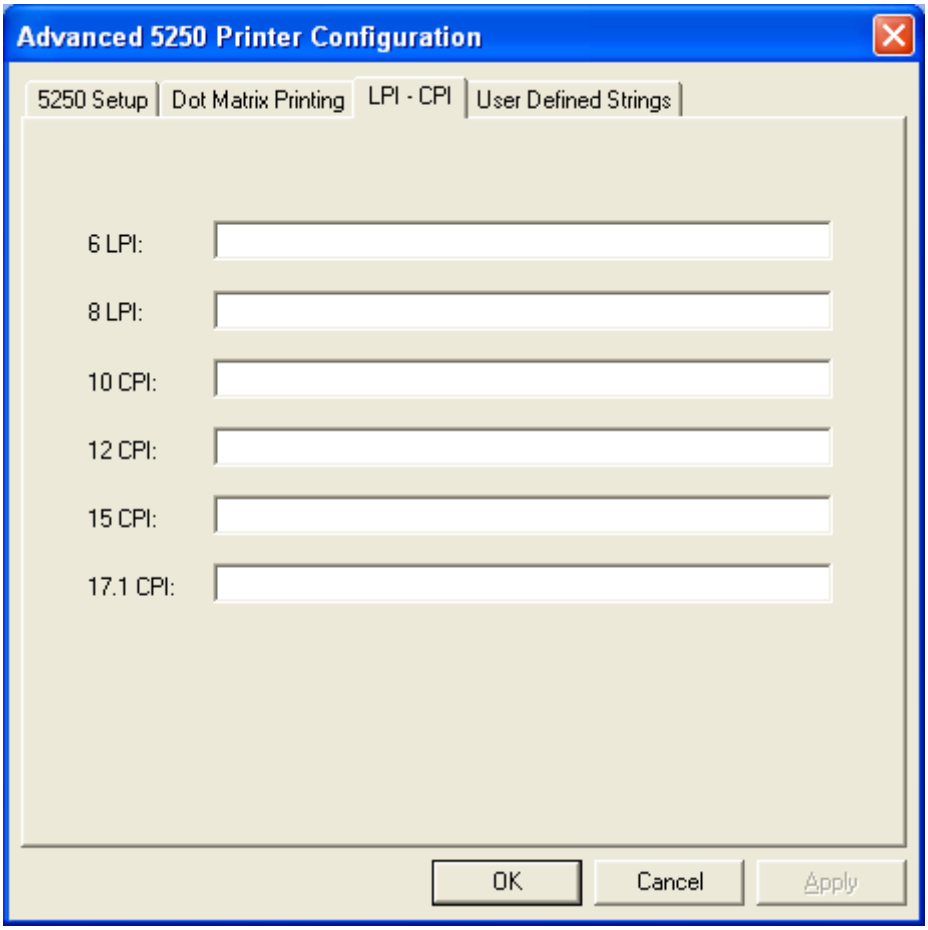
IBM Proprinters cannot print 15 CPI. The session has the ability to artificially print 15 CPI by printing 17.1 CPI and adjusting the spacing through insertion of a space in graphics mode. Although this option allows users to effectively print 15 CPI (e.g. when using preprinted forms) it significantly slows down the printer.

If your printer does support 15 CPI printing you should select the Epson DFX+ printer driver.

For example, selecting 15 sets the printer interface to artificially produce 15 CPI printing using 17.1 characters.

LPI – CPI

This section is used only when the Generic Print Driver has been selected.



6 LPI	This string (max 25 ASCII hex characters) represents the printer specific command to set the printer to 6 LPI. Consult the printer's user's guide for the appropriate ASCII hex value representing the 6 LPI command. Whenever the session receives a 6 LPI command from the host it sends the string specified through this configuration option. For example, entering 1B 32T assigns the 6 LPI command for an Epson LQ2500 printer (hex value 1B 32) in the session's memory. Note: If no 6 LPI string is specified the interface will ignore all 6 LPI requests from the host.
8 LIP	This string (max 25 ASCII hex characters) represents the printer specific command to set the printer to 8 LPI. Consult the printer's user's guide for the appropriate ASCII hex value representing the 8 LPI command. Whenever the session receives an 8LPI command from the host it sends the string specified through this configuration option. For example, entering 1B 30 assigns the 8 LPI command for an Epson LQ2500 printer (hex value 1B 30) in the session's memory.

Note: If no 8 LPI string is specified the interface will ignore all 8 LPI requests from the host.

10 CPI

This string (max 25 ASCII hex characters) represents the printer specific command to set the printer to 10 CPI. Consult the printer's user's guide for the appropriate ASCII hex value representing the 10 CPI command. Whenever the session receives a 10 CPI command from the host it sends the string specified through this configuration option.

For example, entering 1B 50 assigns the 10 CPI command for an Epson LQ2500 printer (hex value 1B 50) in the session's memory.

Note: If no 10 CPI string is specified the interface will ignore all 10 CPI requests from the host.

12 CPI

This string (max 25 ASCII hex characters) represents the printer specific command to set the printer to 12 CPI. Consult the printer's user's guide for the appropriate ASCII hex value representing the 12 CPI command. Whenever the session receives a 12 CPI command from the host it sends the string specified through this configuration option.

For example, entering 1B 4D assigns the 12 CPI command for an Epson LQ2500 printer (hex value 1B 4D) in the session's memory.

Note: If no 12 CPI string is specified the interface will ignore all 12 CPI requests from the host.

15 CPI

This string (max 25 ASCII hex characters) represents the printer specific command to set the printer to 15 CPI. Consult the printer's user's guide for the appropriate ASCII hex value representing the 15 CPI command. Whenever the session receives a 15 CPI command from the host it sends the string specified through this configuration option.

For example, entering 1B 67 assigns the 15 CPI command for an Epson LQ2500 printer (hex value 1B 67) in the session's memory.

Note: If no 15 CPI string is specified the interface will ignore all 15 CPI requests from the host.

17 CPI

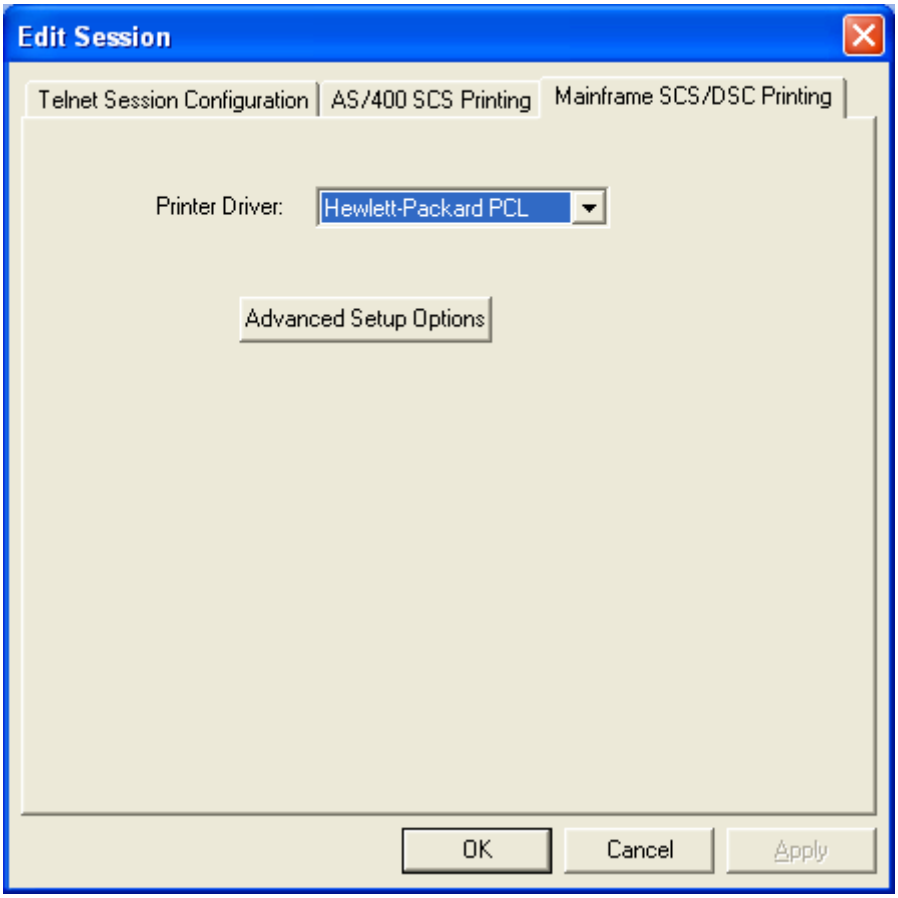
This string (max 25 ASCII hex characters) represents the printer specific command to set the printer to 17.1 CPI. Consult the printer's user's guide for the appropriate ASCII hex value representing the 17.1 CPI command. Whenever the session receives a 17.1 CPI command from the host it sends the string specified through this configuration option.

For example, entering 1B 0F assigns the 17.1 CPI command for an Epson LQ2500 printer (hex value 1B 0F) in the session's memory.

Note: If no 17.1 CPI string is specified the interface will ignore all 17.1 CPI requests from the host.

Mainframe SCS/DSC Printing

Each SCS session is associated with an independent 3270-printer emulation, which can be configured by clicking on the Advanced button listed in each session's configuration box.



Printer Driver: This selection determines which ASCII printer driver is used when converting to ASCII.

The standard driver for attached laser printers is HP PCL. However, since some earlier PCL laser printers, such as the HP LaserJet II and some III series printers, do not support the Printer Job Language (PJL), you may wish to select the PCL (non-PJL) driver.

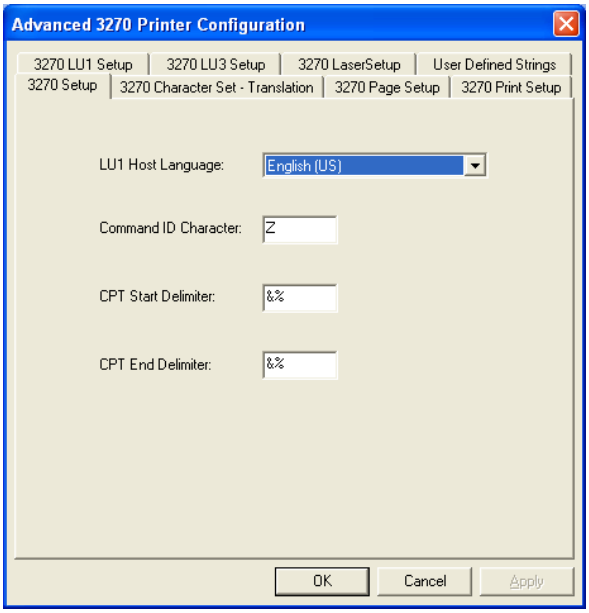
When selecting the printer driver for a dot-matrix printer, choose the one that most closely fits the personality of the attached printer. Select the generic printer driver, if none of the dot-matrix driver's match or if you are printing to a specialty printer such as a bar code label printer or embosser.

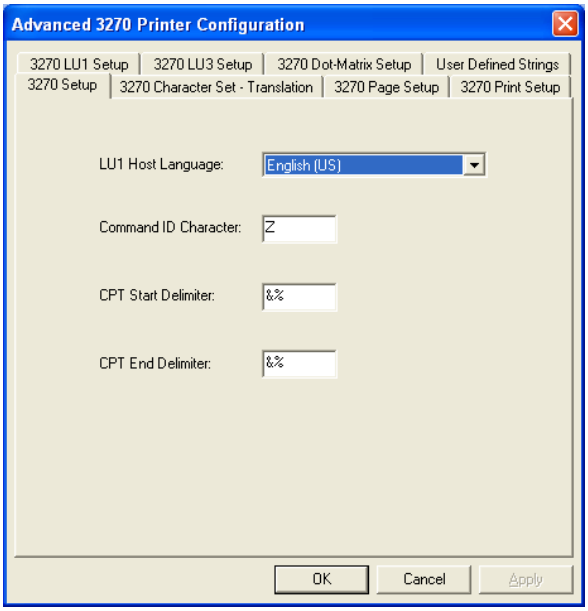
Advanced Button: Click on this button to access the Advanced 3270 Printer Configuration features:

3270 Character Set - Translation
3270 Dot-Matrix Setup

3270 Laser Setup
3270 LU1 Setup
3270 LU3 Setup
3270 Page Setup
3270 Print Setup
3270 Setup
LPI - CPI
User Defined Strings

3270 Setup





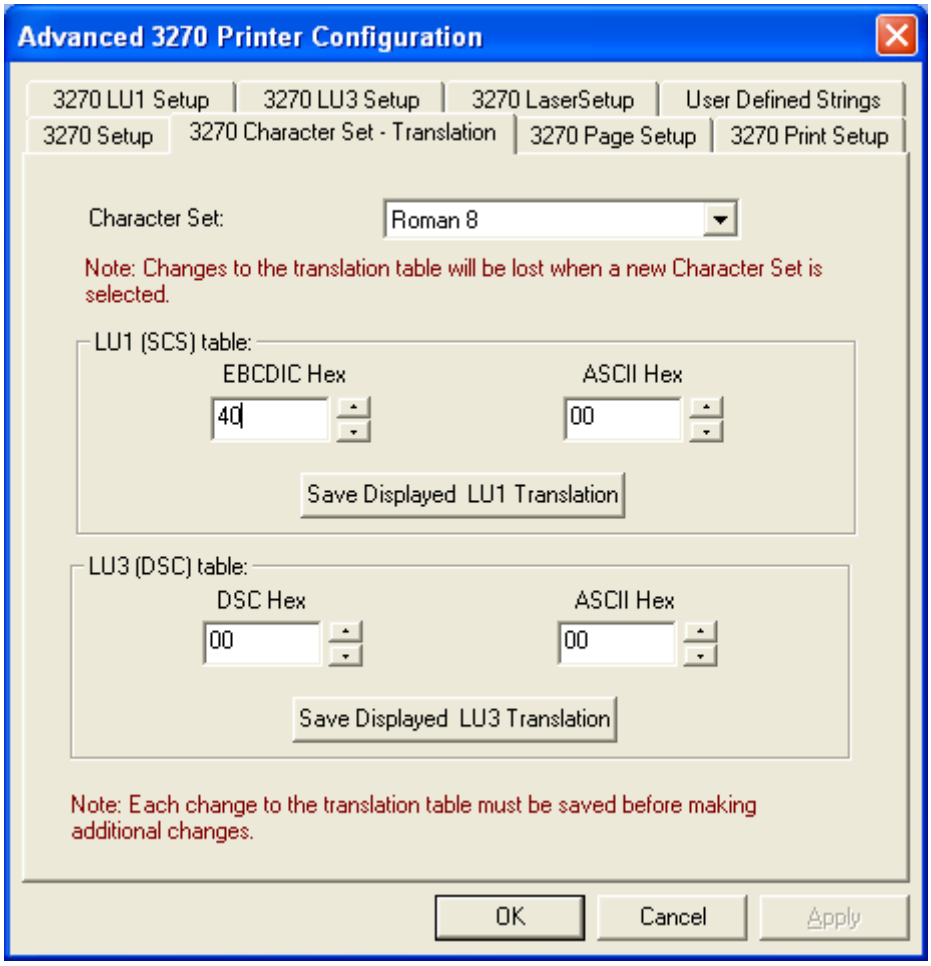
LU1 Host Language	Selects the host language to be used by the 3270 host when the command "Use Default Language" is received.
Command ID Character	Specifies the character to be used as the command identifier when sending Host Download Commands. The default Command ID Character is "Z". Note: The character selected must not be 0 through 9 or A through F or L, P or U.
CPT Start Delimiter	Enter one or two characters that will be used to replace the default Command Pass-Thru™ characters of “&%” that are used at the beginning of a command string. For example, entering an “X?” will change the defaults to X?. This feature is used when entering a printer command string in hexadecimal format. Refer to the LAN session user’s guide for details on the use of this feature.
CPT End Delimiter	Enter one or two characters that will be used to replace the default Command Pass-Thru™ characters of “&%” that are used at the end of a command string. For example, entering an “X?” will change the defaults to X?. This feature is used when entering a printer command string in hexadecimal format. Refer to the LAN session user’s guide for details on the use of this feature.

3270 Character Set – Translation

Custom substitutions to the Translation Tables for a specific character set can be made here.

To make a change to the translation table:

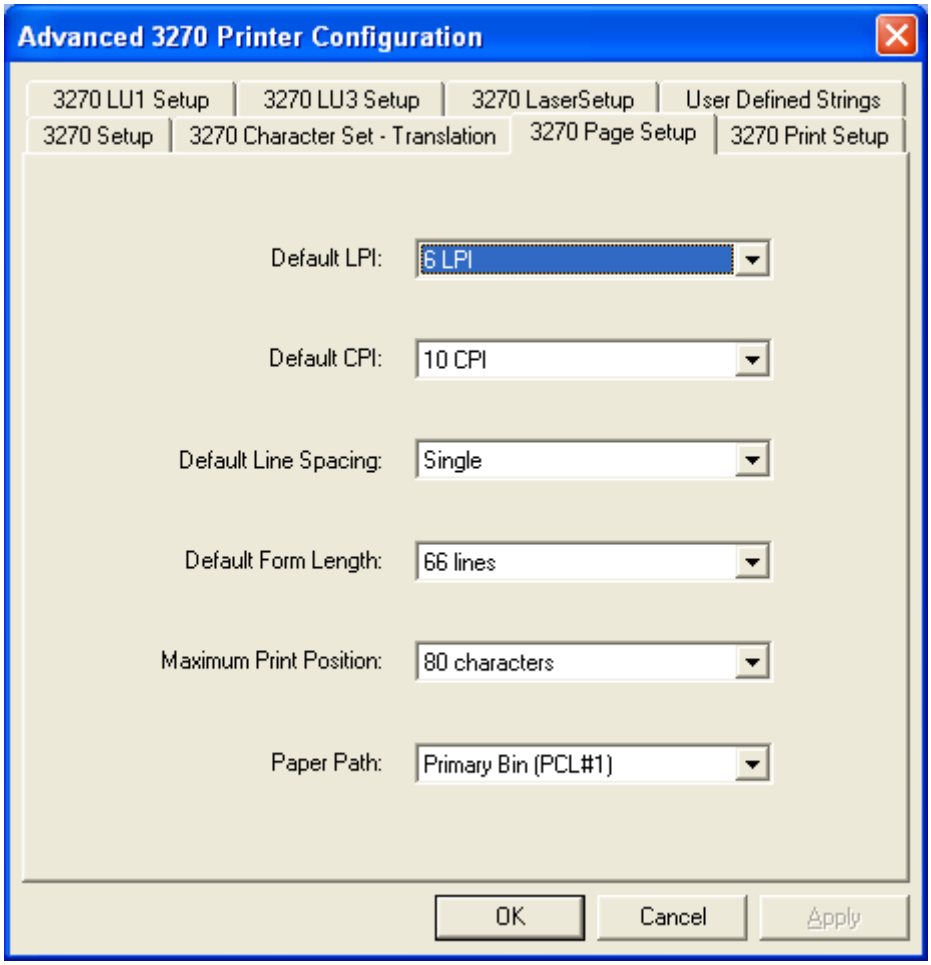
1. Enter the hexadecimal EBCDIC value
2. Change the ASCII hexadecimal value
3. Click on Save Displayed…. button
4. Repeat the above steps for each change desired.



Character Set	Select from the drop down box the character set that is being used by the printer. Note: Changes to the translation table will be lost when a new character is selected.
LU1 (SCS) Table – EBCDIC Hex	Enter in this field the IBM host's EBCDIC Hex value that is to be changed.
LU1 (SCS) Table – ASCII Hex	Enter in this field the printer's ASCII Hex value that is to be printed.

Save Displayed LU1 Translation	Press this button to save the EBCDIC and ASCII values. Note: This button must be pressed once for each set of values entered.
LU3 (DSC) Table – EBCDIC Hex	Enter in this field the IBM host's EBCDIC Hex value that is to be changed.
LU1 (DSC) Table – ASCII Hex	Enter in this field the printer's ASCII Hex value that is to be printed.
Save Displayed LU3 Translation	Press this button to save the EBCDIC and ASCII values. Note: This button must be pressed once for each set of values entered.

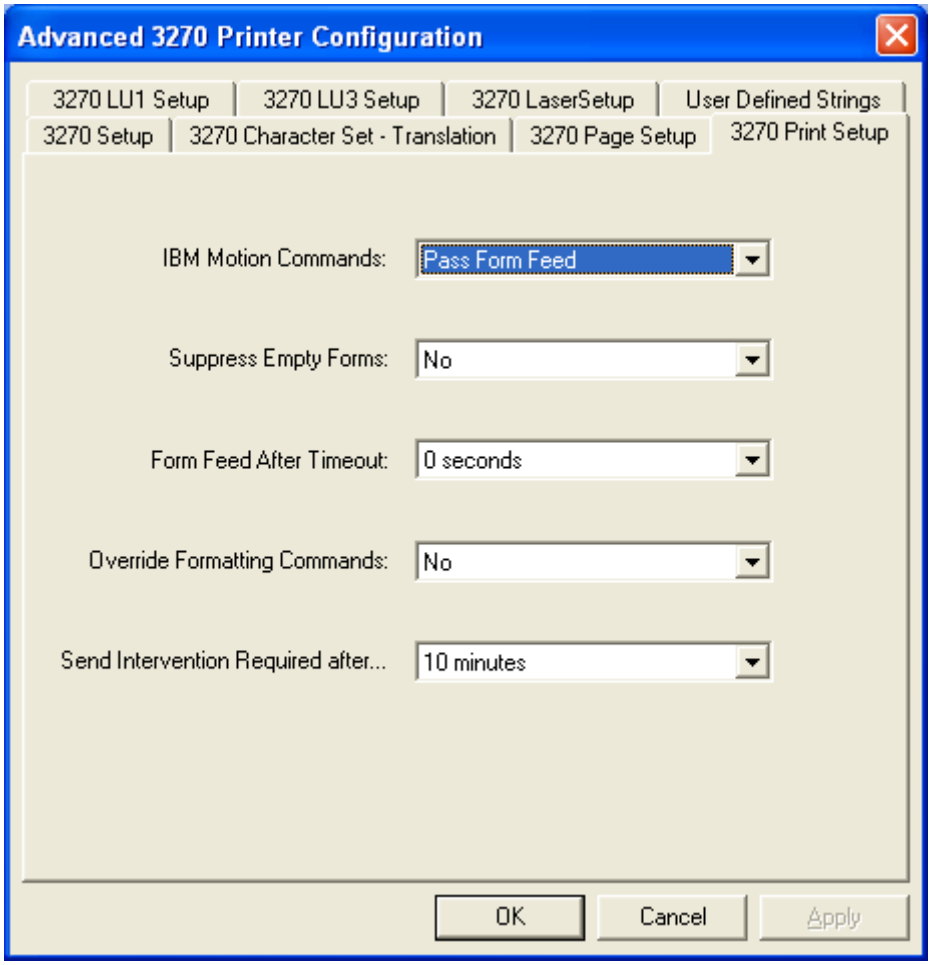
3270 Page Setup



Default LPI	Select the desired default LPI (Lines Per Inch). The default LPI emulates the front panel selection on an IBM printer. The IBM host can control the LPI unless Suppress IBM Control Codes is used to override the host LPI commands.
Default CPI	Select the desired default CPI (Characters Per Inch). The default CPI emulates the front panel selection on an IBM printer. The IBM host can control the CPI unless Suppress IBM Control Codes is used to over ride the host CPI commands.
Default Line Spacing	Select either "single space" or "double space" as the default line spacing.
Default Form Length	Select the default Form Length (MPL = Maximum Print Lines). Selecting "none" enables the front panel selection on the printer to control the form length when IBM Motion Commands is set to "Pass FF".

Maximum Print Position	Selects the default Maximum Print Position, the maximum number of characters that can be printed on each line. Normal values are 80, 132, or 198 characters. This default emulates the front panel selection on an HP printer. MPP and the current position will not be changed by changes in CPI. Selecting "none" will place no limits on the number of characters that can be sent to the printer on a single line.
Paper Path	Select the default Paper Path for the Page Presentation Media (PPM) command. This command defines the default paper source for the Page Presentation Media (PPM) command in SCS (LU1) mode. If the PPM command is received from the host, the interface always sends the paper source to the printer unless "Printer Selected" is selected. If the printer does not have a secondary paper bin or an envelope feeder, it ignores the command. However the command will be used for determining the Paper Tray Orientation. A manual sheet feed command in the SCS PPM causes the printer to wait for the operator to insert paper in the manual feed tray. This command takes effect immediately if placed on the first position of the page (line 1, position 1); otherwise, it takes effect on the next page.

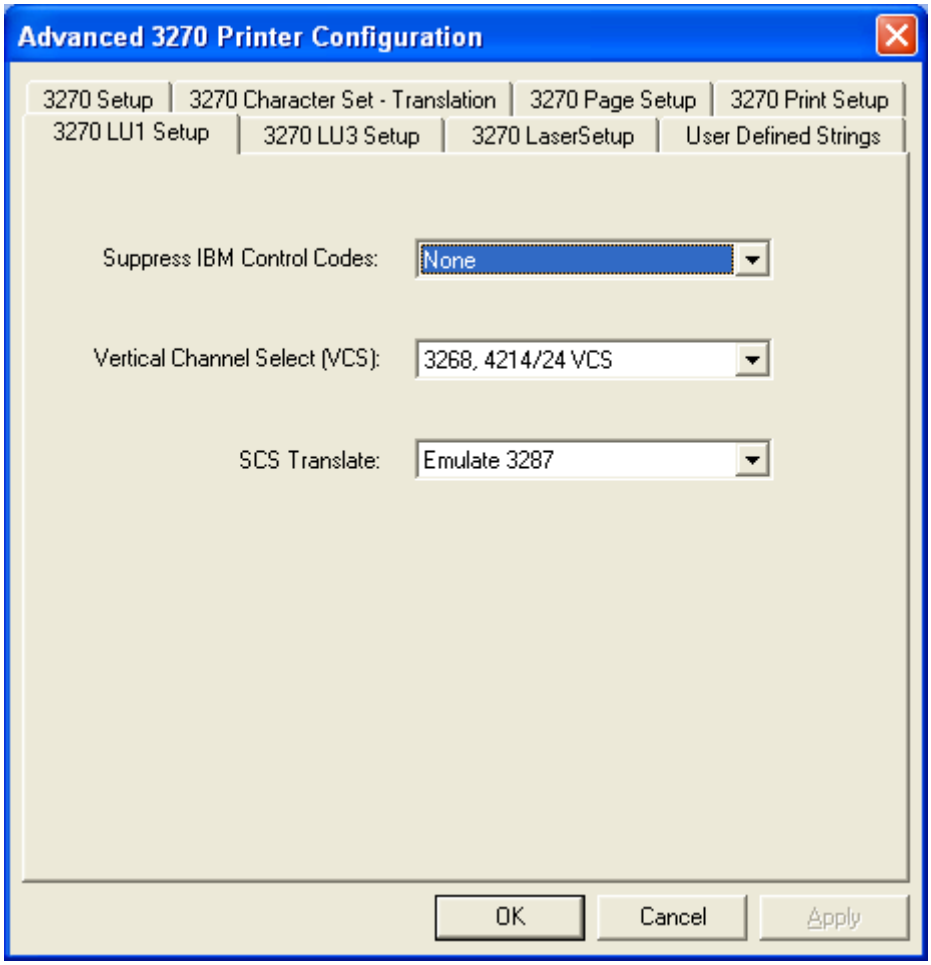
3270 Print Setup



IBM Motion Commands	Select the desired method for handling form feeds sent by the IBM host. Selecting "Pass Form Feed" will cause the session to send a form feed command to the printer when an IBM form feed command is received. Selecting "Send LF's for FF's" will cause the session to send multiple line feeds (based on Default Form Length) to the printer when an IBM form feed command is received. Selecting "Ignore All" will ignore all IBM MOTION commands.
Suppress Empty Forms	Select the desired method for handling form feeds that occur at the top of a form. This command affects printing in both DSC and SCS modes. This differs from the IBM 3287, which suppresses form feed only in DSC mode. If "yes" is selected the Session ignores form feed commands located at the top of form position.
Form Feed After Timeout	The session will send a form feed to the printer after the specified timeout value when unprinted data remains in the print buffer. Setting the value to 0 seconds will disable this option.

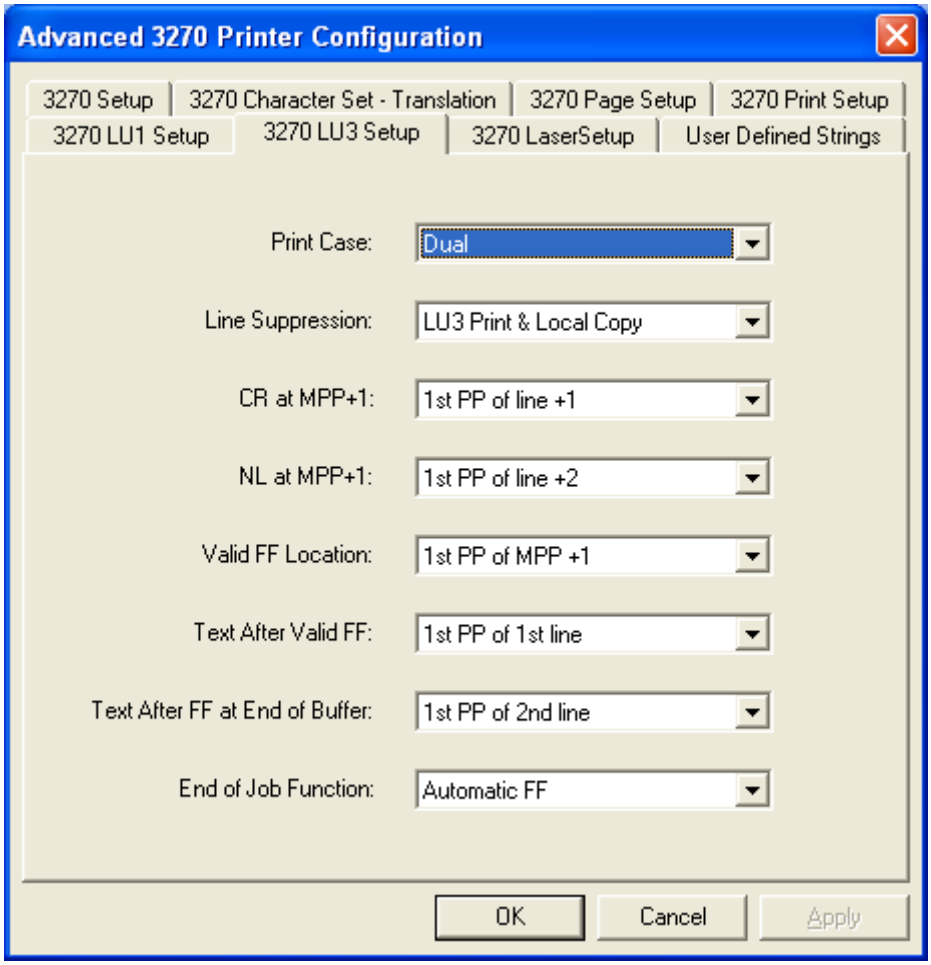
Override Formatting Commands	Selecting "yes" enables the printer's front panel selections to control how a job is printed. This will override the Session's settings for CPI, LPI, font, orientation, bin selection, paper size, COR, and line compression. A reset command is sent to the printer before a coax print job in order to restore the printer's front panel default selections. This setting has no effect on the special features Command PassThru, user strings, initialization strings and coax host RPQs.
Send Intervention Required (IR) Timeout	Set the time interval before an intervention required signal is sent to the host after a printer error occurs.

3270 LU1 Setup



Suppress IBM Control Codes	Select which IBM Control Codes sent from the host that the Session should not send to the printer. For example: LPI, CPI, MPP, MPL will stop the Session from sending commands regarding lines per inch (LPI), characters per inch (CPI), maximum print position (MPP), and maximum page length (MPL).
Vertical Channel Select (VCS)	Specify the Vertical Channel Select (VCS) emulation. Functions similarly to a vertical tab except the 3287 does LF only.
SCS Translate	Specify how the Session should handle transparent data using SCS (LU1) code 35. Selecting "Binary Transparent" causes the 8bit binary codes to be sent directly to the printer just as they are received from the host. Selecting "Emulate 3287" causes valid graphic characters to be printed normally (i.e. converted form EBCDIC to ASCII), while control codes and invalid graphics are printed as hyphens, and normal page formatting is maintained.

3270 LU3 Setup



Print Case	Specify the desired default print case. This default only affects LU3 printing.
Line Suppression	Select what the Session will do with Null Lines: Selecting LU3 Print & Local Copy will suppress Null Lines in local copy and non-SCS print. Selecting LU3 Print Only will suppress Null Lines in non-SCS mode and will print true screen image in local copy. Selecting Local Copy Only will suppress Null Lines in local copy and will print true screen image in non-SCS mode. Selecting True Image of Both will cause true screen image in both non-SCS and local copy.
CR at MPP + 1	Carriage Return (CR) at Maximum Print Position (MPP) + 1 Set the Session in accordance with the RPQ installed in the IBM control unit. Note: IBM 3268 RPQ SC9501

IBM 3287 RPQ S30219
IBM 4214 OPT 15=1
Available only in LU3 (non SCS) operation

NL at MPP + 1

New Line (NL) at Maximum Print Position (MPP) + 1

Set the Session in accordance with the RPQ installed in the IBM control unit.

Note: IBM 3268 RPQ SC9502
IBM 3287 RPQ S30219
IBM 4214 OPT 15=1
Available only in LU3 (non SCS) operation

Valid FF Location

Valid Form Feed (FF) Location

Set the Session in accordance with the RPQ installed in the IBM control unit.

Note: IBM 3268 RPQ SC9506
IBM 3287 RPQ SC3739
IBM 4214 OPT 19=1
Available only in LU3 (non SCS) operation

Text After Valid FF

Text After Valid Form Feed (FF)

Set the Session in accordance with the RPQ installed in the IBM control unit.

Note: IBM 3268 RPQ SC9503
IBM 3287 RPQ N/A
IBM 4214 OPT 16=2
Available only in LU3 (non SCS) operation

Text After FF at End of Buffer

Text After Form Feed (FF) at End of Buffer

Set the Session in accordance with the RPQ installed in the IBM control unit.

Note: IBM 3268 RPQ SC9504
IBM 3287 RPQ SC3749
IBM 4214 OPT 17=2
Available only in LU3 (non SCS) operation

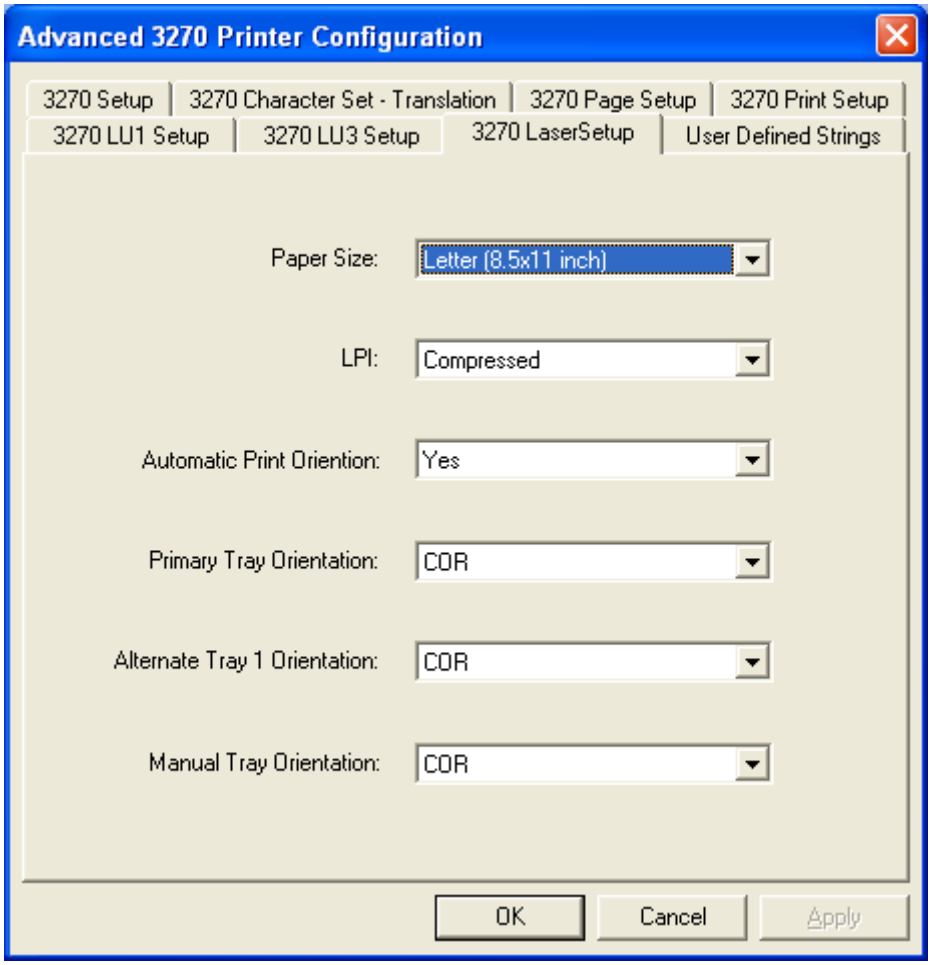
End of Job Function

End Of Job Function

Set the Session in accordance with the RPQ installed in the IBM control unit.

Note: IBM 3268 RPQ SC9507
IBM 3287 RPQ SC3740
IBM 4214 OPT 20=2
Available only in LU3 (non SCS) operation

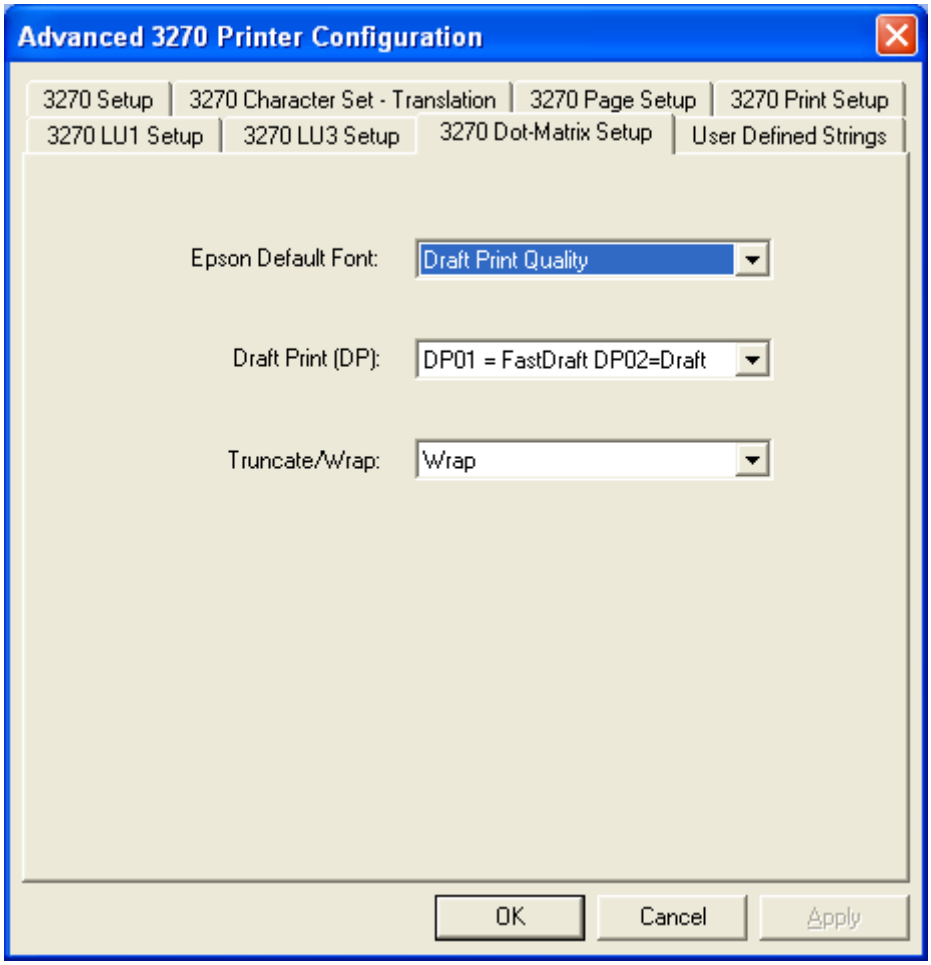
3270 Laser Setup



Paper Size	Specifies the paper size used for printing.
LPI	The default Lines Per Inch (LPI) emulates the front panel selection on an IBM printer. The IBM host can control the LPI unless Suppress IBM Control Codes is used to override the host LPI commands.
Auto Print Orientation	Auto Print Orientation (APO) Select yes to enable the Session to automatically control page orientation (APO). Refer to the page orientation logic chart in the Computer Output Reduction section of the manual. Note: Yes is the recommended selection. A user can manipulate the page dimensions using SCS commands to control the orientation of the printing as long as the page size required is 8 1/2 x11" or smaller.
Primary Tray Orientation	The SCS (LU1) PPM command specifying the source for the paper can have printing orientation assigned to the paper tray that is assigned. Refer to the page orientation logic chart in the Computer Output Reduction section of the

	manual. This command duplicates the IBM 3812 and 4028 printer's feature with the addition of User Defined Mode.
Alternate Tray 1 Orientation	The SCS (LU1) PPM command specifying the source for the paper can have printing orientation assigned to the paper tray that is assigned. Refer to the page orientation logic chart in the Computer Output Reduction section of the manual. This command duplicates the IBM 3812 and 4028 printer's feature with the addition of User Defined Mode. Even if the printer does not have an alternate paper tray, the SCS (LU1) host specifies the alternate tray, and the Session prints the document in accordance with this selection.
Manual Tray Orientation	The SCS (LU1) PPM command specifying the source for the paper can have printing orientation assigned to the paper tray that is assigned. Refer to the page orientation logic chart in the Computer Output Reduction section of the manual. This command duplicates the IBM 3812 and 4028 printer's feature with the addition of User Defined Mode.

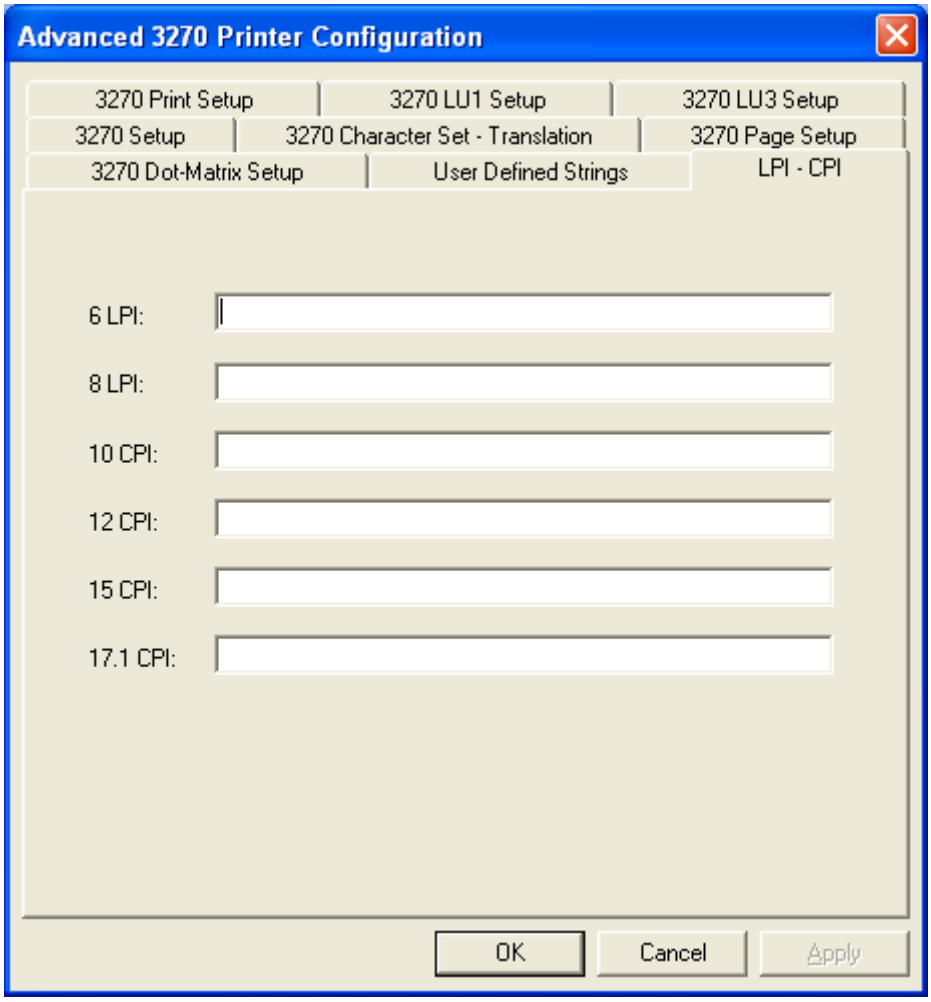
3270 Dot-Matrix Setup



Epson Default Font	Select the desired default font.
Draft Print (DP)	Select the desired default print quality.
Truncate/Wrap	Select whether the Session truncates or wraps the text if the maximum print position is exceeded.

LPI - CPI

This section is used only when the Generic Print Driver has been selected.



6 LPI	This string (max 25 ASCII hex characters) represents the printer specific command to set the printer to 6 LPI. Consult the printer's user's guide for the appropriate ASCII hex value representing the 6 LPI command. Whenever the session receives a 6 LPI command from the host it sends the string specified through this configuration option. For example, entering 1B 32T assigns the 6 LPI command for an Epson LQ2500 printer (hex value 1B 32) in the session's memory. Note: If no 6 LPI string is specified the interface will ignore all 6 LPI requests from the host.
8 LIP	This string (max 25 ASCII hex characters) represents the printer specific command to set the printer to 8 LPI. Consult the printer's user's guide for the appropriate ASCII hex value representing the 8 LPI command. Whenever the session receives an 8LPI command from the host it sends the string specified through this configuration option.

For example, entering 1B 30 assigns the 8 LPI command for an Epson LQ2500 printer (hex value 1B 30) in the session's memory.

Note: If no 8 LPI string is specified the interface will ignore all 8 LPI requests from the host.

10 CPI

This string (max 25 ASCII hex characters) represents the printer specific command to set the printer to 10 CPI. Consult the printer's user's guide for the appropriate ASCII hex value representing the 10 CPI command. Whenever the session receives a 10 CPI command from the host it sends the string specified through this configuration option.

For example, entering 1B 50 assigns the 10 CPI command for an Epson LQ2500 printer (hex value 1B 50) in the session's memory.

Note: If no 10 CPI string is specified the interface will ignore all 10 CPI requests from the host.

12 CPI

This string (max 25 ASCII hex characters) represents the printer specific command to set the printer to 12 CPI. Consult the printer's user's guide for the appropriate ASCII hex value representing the 12 CPI command. Whenever the session receives a 12 CPI command from the host it sends the string specified through this configuration option.

For example, entering 1B 4D assigns the 12 CPI command for an Epson LQ2500 printer (hex value 1B 4D) in the session's memory.

Note: If no 12 CPI string is specified the interface will ignore all 12 CPI requests from the host.

15 CPI

This string (max 25 ASCII hex characters) represents the printer specific command to set the printer to 15 CPI. Consult the printer's user's guide for the appropriate ASCII hex value representing the 15 CPI command. Whenever the session receives a 15 CPI command from the host it sends the string specified through this configuration option.

For example, entering 1B 67 assigns the 15 CPI command for an Epson LQ2500 printer (hex value 1B 67) in the session's memory.

Note: If no 15 CPI string is specified the interface will ignore all 15 CPI requests from the host.

17.1 CPI

This string (max 25 ASCII hex characters) represents the printer specific command to set the printer to 17.1 CPI. Consult the printer's user's guide for the appropriate ASCII hex value representing the 17.1 CPI command. Whenever the session receives a 17.1 CPI command from the host it sends the string specified through this configuration option.

For example, entering 1B 0F assigns the 17.1 CPI command for an Epson LQ2500 printer (hex value 1B 0F) in the session's memory.

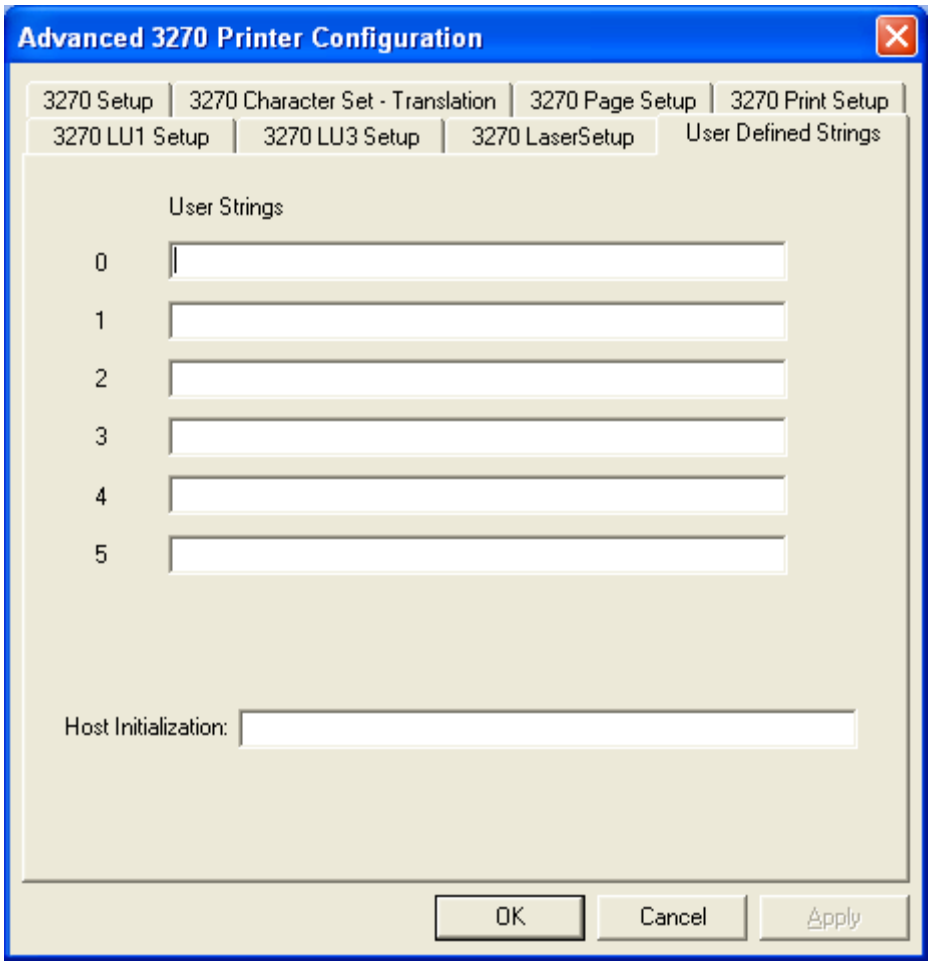
Note: If no 17.1 CPI string is specified the interface will ignore all

17.1 CPI requests from the host.

User Defined Strings

Creates up to ten user-defined strings to send to the printer later.

This feature should be used to avoid re-keying of frequently used printer commands (which appear as hex values embedded in Command Pass Thru delimiters). Place the hex codes representing the desired printer command inside the field (up to 25 hex pairs). Spaces between hex pairs are allowed to aid in readability. Consult the printer's user's guide for proper hex codes. The user-defined string is stored in the interface's memory under the selected value number (0 to 9). To activate the command place a "&%UX" in the document (where &% is the active CPT start delimiter, U identifies that this is a user defined string, and X is the ID value).



0 … 9	The number assigned to the user-defined string.
User Strings	Enter the two-digit hex character pairs for each character in the string. For example, for string 4, you have entered 1B 26 64 30 44. This creates a user-defined string for a PCL laser printer to start underlining. The string is represented by the value U4. To use this function later place &%U4 in the document

Enhanced SCS Printing

The Enhanced SCS printing module converts SCS data streams into professional, graphics-rich documents, without modifying the host applications or data streams. These enhanced SCS documents can contain formatted text, barcodes, logos, images and so on to output checks, invoices, statements, estimates and other graphically oriented business documents. Enhanced SCS documents are printed on PCL 5e compatible laser printers.

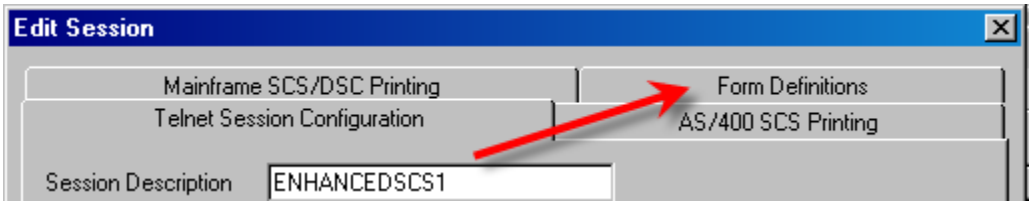
The process of creating enhanced SCS documents requires the following:

- A form template that is installed into the ***adaptio*** installation directory. The template is created by FormPort Designer, a separate software program or as a service provided by the I-O Forms on Demand group. The development of the template requires an ASCII file that is obtained by printing the SCS file to an ***adaptio*** SCS session and using the ***adaptio*** Data Capture function to capture the ASCII output.
- A form definition which identifies a trigger that the Enhanced SCS printing module uses to select the proper template for the SCS data stream being printed. The form definition is described in this section.

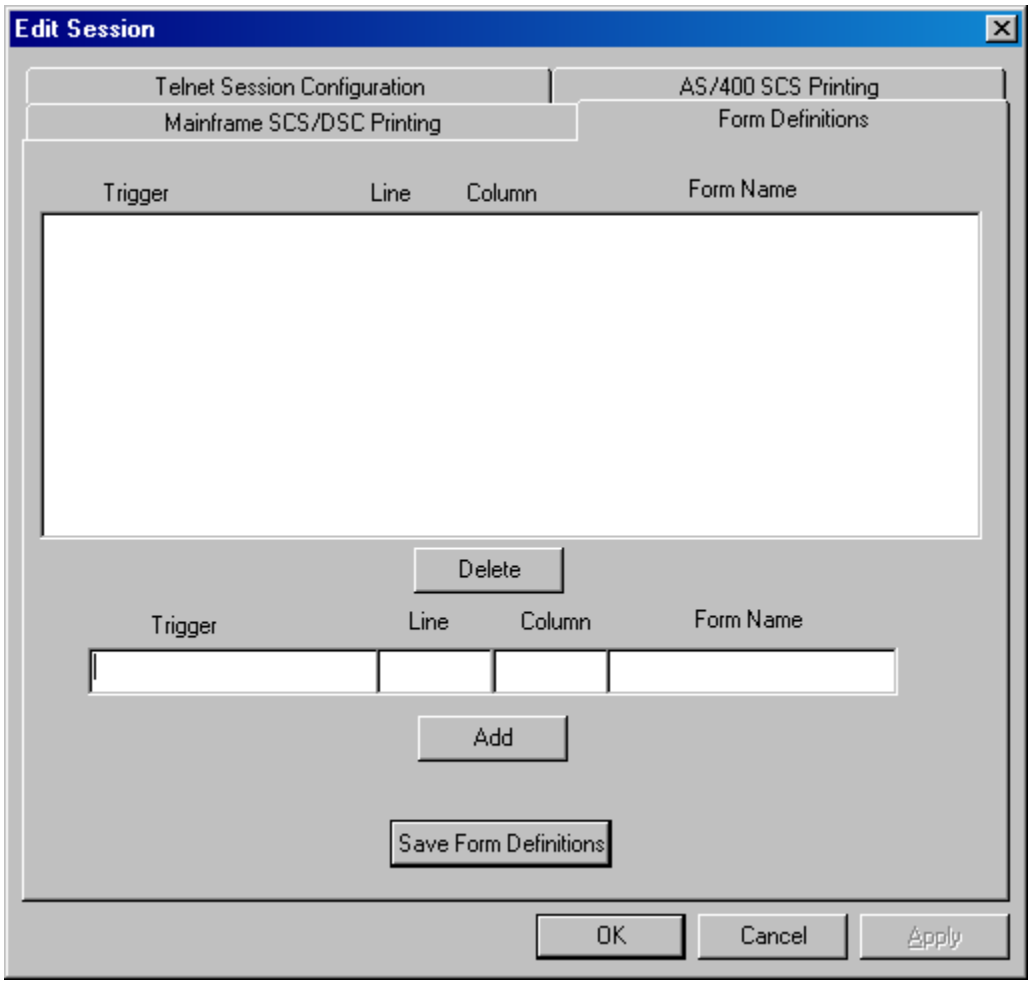
When SCS jobs are sent to an Enhanced SCS printer session, ***adaptio*** will use the trigger information in the form definition to identify the incoming SCS print job, then the form template will be applied to the print job the resulting Enhanced SCS document will be sent to the laser printer.

To create or edit an Enhanced SCS session:

1. Highlight an available session or a previously configured session on the List of Session.
2. Select the OPTIONS | Add Enhanced SCS Session or OPTIONS | Edit Session menu option.
3. The process of setting up an Enhanced SCS session is the same as setting up a SCS session. The following SCS configuration values should be used when setting up an Enhanced SCS printer session:
   - On the Telnet Session Configuration tab:
     - Enter all the appropriate configuration values to setup a Telnet session. Refer to the SCS Printing section in this document for instructions on configuring the basic Telnet values.
   - On the AS/400 SCS Printing tab:
     - Set the Printing Emulation value to “3812”
     - Set the Print Driver value to “HP PCL”
     - No other settings are to be made
   - On the Mainframe SCS/DSC Printing tab:
     - Set the Print Driver value to “Hewlett Packard PCL”
     - No other settings are to be made
4. After entering the appropriate SCS configuration information on the Telnet Session Screen, select the Forms Definition tab.



5. Enter the trigger information in the input fields. Click the Add button
6. Click the Save Form Definitions button to save the new trigger information.
7. To edit a form definition, simply add a new definition and delete the old one.



Trigger	Enter the string that will be used by the Enhanced SCS Printing module to identify the form template.
Line	Enter the line number on which the trigger string is found. Valid values are 1 – 255.
Column	Enter the column number on which the trigger string is found. Valid values are 1 – 512
Form Name	Enter the template name that has been stored in the ***adaptio*** installation directory.
Delete	Highlight a form definition in the list box, and click this button to remove an unwanted form definition.
Add	Adds a new form definition. Click this button after the trigger, line, column and Form Name values have been entered.

Save Form Definitions	Click this button after new form definitions have been added or unwanted definitions have been deleted.