

Card for IPDS and SCS/TNe - SCS/TNe Emulation User's Guide Getting Started

SCS/TNe in a LAN environment

Thank you for purchasing the Card for IPDS and SCS/TNe.

The card provides high quality IBM host connectivity print output. With the appropriate print server and host software, your printer or Multifunction Product (MFP) becomes an IBM host workstation printer capable of printing IPDS or SCS documents from an iSeries, AS/400, or mainframe. For a more detailed product description, see [“Specifications, Requirements, Features” on page 277](#).

SCS data is received in a LAN environment using the Telnet extended protocol. The Card for IPDS and SCS/TNe adds support for the TN3270E and the TN5250E protocols. A correctly configured printer can receive, process, and print SCS print jobs received over TCP/IP.

IMPORTANT: Unless otherwise stated, the term printer in this manual refers to both printers and MFPs.

Documentation Overview

This document deals only with setting up and using the **SCS/TNe emulation** in the Card for IPDS and SCS/TNe. It will help you to understand, use, and change option settings for receiving SNA

Character String (SCS) jobs over the LAN and for formatting the way SCS jobs are printed. Unless otherwise specified, references to the AS/400 host also cover the iSeries host.

If you need information on the **IPDS emulation** provided in the Card, please refer to the separate IPDS Emulation User's Guide.

Information on **how to install the Card** is in separate documentation shipped with your printer.

If you need **basic information on your printer** and how to use it, please refer to the printer's specific documentation.

Equipment Requirements and Specifications

Supported Products

With the appropriate option card installed, the following printers and Multifunction Products (MFPs) are supported:

- Lexmark C734, C736
- Lexmark E460dn, E460dw, E462dtn
- Lexmark T650, T652
- Lexmark T654
- Lexmark T656dne
- Lexmark W850
- Lexmark X463de, X464de

- Lexmark X466dte, X466dtwe
- Lexmark X651de, X652de
- Lexmark X654de, X656de
- Lexmark X658de
- Lexmark X734de, X736de, X738de
- Lexmark X860de, X862de, X864de

IMPORTANT: Unless otherwise stated, the term printer in this manual refers to both printers and MFPs.

Required LAN Connection

To use the SCS/TNe Emulation, the printer must have one of the following LAN connections:

- Standard Network for connection to an Ethernet LAN (also called STD Net).
- MarkNet internal print server (Ethernet).
- Lexmark wireless internal print server.

If you need to update your Standard Network or MarkNet firmware, refer to [“Support” on page 4](#).

For further information on requirements and specifications, see the appendix starting on page [277](#).

Support

Customer Support

If you cannot find answers in this guide about using the SCS/TNe emulation, refer to the web site below.

If you need to update your Standard Network, MarkNet internal print server, or SCS/TNe firmware, go to <http://support.lexmark.com>.

You may also contact your point of purchase or your local Lexmark office.

Important Configuration Basics

Introduction

IMPORTANT: Unless otherwise noted, the term printer refers to printers and MFPs, and the term control panel refers to operator panels and touch screens on these types of products.

SCS/TNe MENU options settings can be changed and saved in three ways:

- Use the **control panel** (“[Understanding the Control Panel](#)” on page 10 - which also contains **all basic information on types of settings**).
- Work with the settings **remotely using a browser** (“[Remote Configuration Using a Browser](#)” on page 24 ff.)
- Work with the settings **remotely using IDB option strings** (see “[IDB Basics](#)” on page 248 ff. and “[Additional TN5250e Printer Commands Using IDB](#)” on page 260 ff). Using IDB in this way is a highly technical process used only in connection with configurations and re-configurations.

Detailed, specialized listings and descriptions of option settings can be found in:

“[Operations Reference - TN3270E SETUP](#)” on page 85 and
“[Operations Reference - TN5250E SETUP](#)” on page 155.

What are “IDB Options”, “IDB events etc.?”

All of these descriptions include the available options and their values.

On many of the descriptions you may notice the use of terms like IDB events, IDB options, IDB values, IDB User Parameters, IDB Language, etc. Refer to [“IDB Basics” on page 248](#) for additional information. Note that in most cases, only technical specialists need to understand and use IDBs.

Setup Options vs. Printer Setup Options

Setup Options

Changes to the option settings under the **SCS/TNe MENU** will only affect the printing of SCS jobs received through a LAN connection. These changes will not affect SCS jobs received through a Coax or Twinax Adapter for SCS, nor will they affect IPDS, PostScript™ or PCL™ jobs.

The SCS/TNe Emulation user default settings remain in effect until you save new settings or restore the factory defaults by using one of the SCSxxxx Defaults options under **MENU/Menus > Option Card Menu > SCS/TNe MENU > TNxxxE STEUP > TEST OPTIONS**.
xxxx stands for 3270 or 5250.

IMPORTANT:

Restoring the factory defaults using the printer menu **Restore Default** option does not affect the **SCS/TNe MENU** settings.

Settings you choose in the SCS print job may override the user default settings displayed in the printer operator panel.

This guide discusses setting up the SCS/TNe Emulation and changing the SCS/TNe Emulation settings.

Printer Setup Options

Changes to printer settings under the various printer menus, such as Paper Menu and Settings, will affect the way PostScript and PCL jobs are printed. Many of these printer settings will also affect SCS/TNe jobs.

Understanding the Control Panel

Introduction

This chapter introduces the **SCS/TNe MENU** options as well as illustrating how the control panel works. Printers and MFPs differ, so both operator panels on printers and touch screens on MFPs are illustrated here.

If you are familiar with the use of the control panel, skip this chapter, but we recommend familiarizing yourself with the contents of [“Remote Configuration Using a Browser” on page 24](#) before proceeding with installation setups.

Descriptions of how to carry out installation setups are found in:

[“Installation Setup for Mainframe Users” on page 28 ff.](#) and

[“Installation Setup for AS/400 and iSeries Users” on page 55 ff.](#)

Detailed, specialized listings and descriptions of option settings are found in:

[“Operations Reference - TN3270E SETUP” on page 85](#) and


[“Operations Reference - TN5250E SETUP” on page 155.](#)

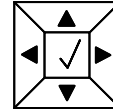
All descriptions include the available options and their values.





Printer operator panel

Accessing the SCS/TNe menu

Access the SCS/TNe Emulation options and settings from the operator panel **SCS/TNe MENU**. To reach the menu:

- 1 From a **Ready** status, press the **MENU** button  on the operator panel. This opens the menu index in the operator panel's screen.



- 2 Use the navigation buttons  or  to scroll through the main menus displayed on the screen.
- 3 Each time you press a navigation button, the on-screen checkmark  moves to indicate the choice that will be active when you select it.
- 4 When the on-screen checkmark is displayed next to the **Option Card Menu**, press the Select button .
- 5 Navigate to **SCS/TNe MENU**, pressing **Select** when the on-screen checkmark is displayed next to it.

The same method is used to scroll through lists of menu groups and options. As you move through the menus, the top line in the screen shows the menu or menu group name to which the displayed items belong.

When you select an option, you will always be allowed to scroll through the list of values presented. Numerical entries can be done either by scrolling or by using the numeric pad.

Several examples of how to use the operator panel to select and store new values are shown below. The section [“Selecting a New Value as a Setting” on page 12](#) shows all details, while the following two sections discuss slight differences.

User-selected default settings remain in effect until you save new settings or restore the factory defaults. All saved options become active on the next host session.

Selecting a New Value as a Setting

To select a new value

- 1 Navigate to the **SCS/TNe MENU** as explained in [“Printer operator panel” on page 11](#).
- 2 Use the navigation buttons ▼ or ▲ to scroll to the desired menu and press **Select**.
- 3 Use the navigation buttons to scroll further to reach the item you need and press the **Select** button. Navigate in the same way to the desired value and press the **Select** button.

In this example, you are going to change the Country Code for TN3270.

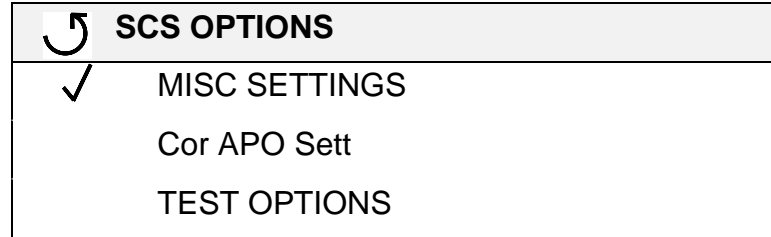
- 1 Navigate to **TN3270E SETUP**. Press the **Select** button.

SCS/TNe MENU	
	COMMON SETUP
✓	TN3270E SETUP
	TN5250E SETUP

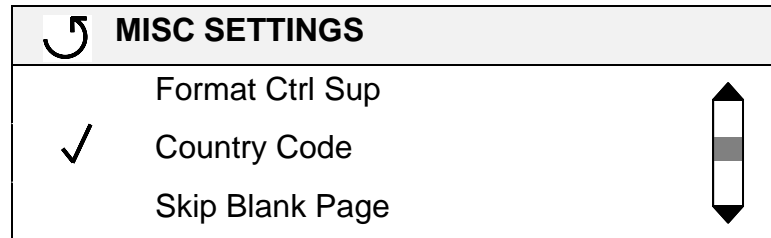
- 2 Navigate to **SCS OPTIONS**. Press the **Select** button.

TN 3270 SETUP	
	NETWORK
✓	SCS OPTIONS
	TEST OPTIONS

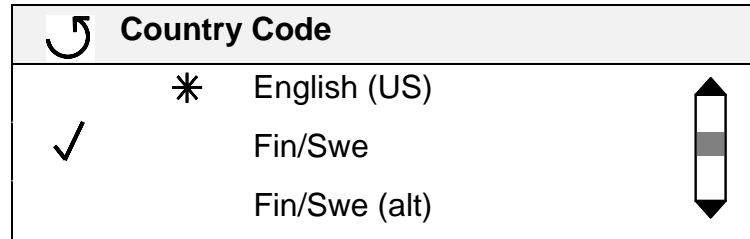
3 Navigate to **MISC SETTINGS**. Press the **Select** button.



4 Navigate to the **Country Code** option. Press the **Select** button.

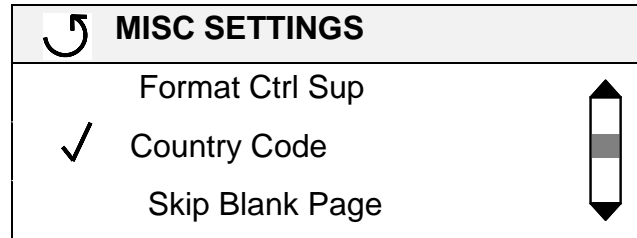


- 5 The displays shows the the currently active setting (in this example English (US)). The currently active setting is marked with an asterisk *, and in this example, it just happens to be factory default. If you want to change the setting, for example to Fin/Swe, use the navigation buttons to move down through the list. When the on-screen checkmark is next to the desired setting. press the **Select** button




- 6 While the printer is saving the setting, it will display **Submitting Selection.**

- 7 When the setting is saved, the display will revert to the previous menu level.



If you want to check the value of a setting, press the **Select** button again. You will see an asterisk * beside **Fin/Swe** to show it is the current active setting.

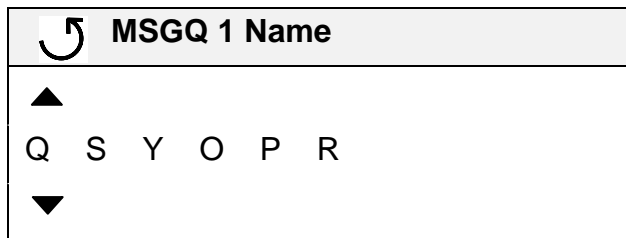
Press the **Back** button  in order to leave the screen without changing the setting.

- 8 If you need to make additional changes within the same menu group - such as **MISC SETTINGS**, scroll through the list. To reach another menu group, press the **Back** button and then use the navigation buttons and press **Select**.
- 9 When you are finished, exit by pressing the **Back** button to return to the **Ready** screen. You may need to press it several times until the screen appears.

Changing a Text String

The method for changing a text string is actually the same as that for selecting a value, because you select the letters from pre-programmed lists. What is special is that the value you select consists of several fields.

For example, if you select **MENU > Option Card Menu > SCS/TNe MENU > TN5250E SETUP > CONNECTION #1 > SERVER 1 INFO > MSGQ 1 Name**, you see the following display:



The currently editable character is marked with ▲ above it and ▼ below it.

Use the navigation buttons ► and ◀ to move between the characters.

To store the new string, press **Select** after entering all the characters.

Changing a Numerical Setting




If you choose a menu item that has a numerical value, you can usually choose between scrolling just as you would to select any value, or using the numerical pad.

If the setting has more than one field, navigate as shown in [“Changing a Text String”](#) on page 17.

MFP Touch Screen

Access the SCS/TNe Emulation options and settings from the operator panel **SCS/TNe MENU**. To reach the menu:

Accessing the SCS/TNe menu

- 1 Make sure that the printer is on and the **Ready** message appears.
- 2 Touch the key icon (**Menus**)  on the operator panel
- 3 Touch  or  to scroll through the main menus displayed on the screen.
- 4 Touch Option Card Menu.
- 5 Now you will see a list of options. Touch SCS/TNe MENU.

The same method is used to scroll through lists of menus and options. As you move through the menus, the top line in the screen shows the navigation path, so that you can always see the name of the group (menu or option) to which the displayed items (options or settings) belong.







When you select an option, you will either scroll through the list of values presented ([“Selecting a New Value as a Setting” on page 20](#)), enter a number ([“Changing a Numerical Setting” on page 22](#)), or enter a text string ([“Changing a Text String” on page 21](#)).






Several examples of how to use the operator panel to select and store new values are shown below. The section [“Selecting a New Value as a Setting” on page 20](#) shows all details, while the following two sections discuss slight differences.

User-selected default settings remain in effect until you save new settings or restore the factory defaults. All saved options become active on the next host session.

Selecting a New Value as a Setting

To select a new value

- 1 Navigate to the SCS/TNe MENU as explained in [“MFP Touch Screen” on page 19](#).
- 2 For this example, touch **SCS/TNe MENU**.
- 3 Now you will see a list of menus. Touch  or  to scroll to the desired item. In this example locate and touch **TN3270E SETUP**.
- 4 Now you will see a list of menus. Touch  or  to scroll to the desired item. In this example locate and touch **SCS OPTIONS**.
- 5 Now you will see a list of menus. Touch  or  to scroll to the desired item. In this example locate and touch **MISC SETTINGS**.

- 6 Now you will see a list of options. Touch  or  to scroll to the desired item. In this example locate and touch **Country Code**.
- 7 The currently active setting, in this example **English (US)**, is always presented first. Touch  or  to scroll through the settings until you see the item you need.
- 8 Touch  (**Submit**) to save changes.

NOTE: If you just want to check the active setting of an option without making changes, touch




(**Back**) and no changes will be saved.

- 9 While the printer is saving the setting, **Submitting Selection** will be displayed.

Changing a Text String

Here is an example.

- 1 Select **Menus > Option Card Menu > SCS/TNe Menu > TN3270e Setup > Network Setup > Server Info**.
- 2 Touch the **Keyboard** symbol by **LU Name**. A keyboard similar to a typewriter keyboard is displayed.


- 3 Select the "**abc 123**" tab above the keyboard. If you select any other tab, the **LU Name** will not be recognized by the host.
- 4 Use the **Keyboard** to enter the **LU Name**.
- 5 Touch **Enter** (on some MFPs touch **Submit**) when you have completed the name. The screen returns to the previous menu level.
- 6 Touch  (**Submit**) to save changes.

Changing a Numerical Setting

Example: If you select **Menus > Option Card Menu > SCS/TNE Menu > TN3270e Setup > Network Setup > Server Info > Keep Alive Time**, you will see the following on screen



Touch  to decrease the value or  to increase the value.

Touch  (**Submit**) to save the desired value.

When the setting is saved, the screen will return to the previous menu level.

Some numerical values contain more than one field. For example, **Menus > SCS/TNE Menu > TN3270e Setup > Network Setup > Server Info > IP Address**. For these, use the Keyboard as described in [“Changing a Text String” on page 21](#).

Remote Configuration Using a Browser

Introduction

The Card for IPDS and SCS/TNe includes an http user interface. You can use a browser, such as Microsoft Internet Explorer or Netscape, to remotely configure most SCS/TNe settings. The only requirement is that the printers are attached to a LAN using a Standard Network port or MarkNet internal print server.

Remote configuration is especially useful during printer installation to set all of the SCS/TNe options to the values recommended by your system administrator. At a later time, any necessary changes can be made on each printer, either from a browser or via the operator panel.

All option values which may be changed remotely will be displayed in the browser interface. Simply change the option value settings desired and select **Submit**. This sends the new option value settings to the printer.

IMPORTANT: Unless otherwise stated, the term printer in this manual refers to both printers and MFPs.

How Remote Configuration Works

These new option value settings are saved in the printer and will become active when the next SCS/TNe session is started. If new option value settings are submitted during an SCS/TNe session, the new option value settings will not be used until the current SCS/TNe session ends and a new SCS/TNe session is established.

How to Use the Browser Interface

To access and change SCS/TNe option settings through your browser:

- 1 Access the printer web page by typing the IP address of its print server as the URL.
- 2 Select **Settings**.
- 3 Select **SCS/TNE Settings**.
- 4 Select the **TNe Common** menu
- 5 Disconnect all sessions by clicking on the **Execute** button next to the **Disconnect Ses** item.
- 6 The browser display returns to **SCS/TNe Settings**.
- 7 Check to be sure that all sessions have been disconnected. Click on each **TNxxxx Connection Status** menu item to check the status of each session.

If a session has not been disconnected, check to see if jobs are being received on this session. Wait for the jobs to finish printing or end the session from the host. If no jobs are printing, you may need to end and reset the session at the host.

- 8** Return to **SCS/TNe Settings**.
- 9** Select one of the **TN3270E** or **TN5250E menus**.
- 10** All option values which may be changed remotely will be displayed. Change option settings as desired.
- 11** Select the **Submit** button at the bottom of the page. The **Submit** button sends the new values to the printer. These values are saved in the printer and will become active when the next session is started.
- 12** The browser will then display a confirmation that settings have been submitted.
- 13** Repeat with the other **TN3270E** or **TN5250E menus** as desired.
- 14** Select the **TNe Common** menu.
- 15** Reset all sessions by clicking on the **Execute** button next to the **Reset TN Sess** item.

16 The SCS/TNe emulation will attempt to reconnect to the host.

17 Check to be sure that all sessions have been reconnected.

Click on each **TNxxxx Connection Status** menu item to check the status of each session.

If all configured sessions have not been established within 90 seconds, you may need to end and reset the sessions at the host and repeat steps 14 - 16.

On each TN menu, you will see a **Reset Form** button at the bottom of the page, next to the **Submit** button. If you have entered values in the page without submitting, and decide to start all over again, click **Reset Form**. The page will then display the values that were current when you opened the particular TN page.

Installation Setup for Mainframe Users

Introduction

This chapter applies to LAN-attached Mainframe users printing directly or via an SNA Server. (AS/400 and iSeries users refer to [“Installation Setup for AS/400 and iSeries Users”](#) on page 55.)

Tasks numbered #A are unique for printing directly from a Mainframe. Tasks numbered #B are unique for printing via a SNA Server.

Before beginning the installation tasks, it is recommended that you obtain the latest version of the MarkNet internal print server firmware as well as the latest SCS/TNe publications and Card for IPDS and SCS/TNe code from the internet sites listed in [“Support”](#) on page 4.

IMPORTANT:

Tasks may be completed in any order but all tasks must be completed to begin printing.

Mainframe Direct Users	SNA Server Users
Task 1A - Configuring the Host	Task 1B - Configuring the Host for Printing via a SNA Server
Task 2A - Configuring a Host For TN3270e Printing	Task 2B - Configuring an SNA Server For TN3270e Printing
Task 3 -Configuring a Print Server	Task 3 -Configuring a Print Server
Task 4 - Configuring the SCS Settings	Task 4 - Configuring the SCS Settings
Task 5 - Configuring the SCS/TNe Emulation	Task 5 - Configuring the SCS/TNe Emulation

Mainframe Direct Users	SNA Server Users
Task 6A - Verifying the Mainframe Connection	Task 6B - Verifying the Mainframe/SNA Server Connection

Task 1A - Configuring the Host

The Mainframe software must support TCP/IP and extended Telnet protocols to print SCS jobs to a LAN attached printer. “[Mainframe Software](#)” on page 279 lists versions which support these protocols.

TIP:

How to define an LU-1 printer in VTAM is described in IBM's VTAM documentation.

The printer with the SCS/TNe Emulation is defined to the host like a normal LU-1 (SCS) printer. Three sample configurations follow.

Sample Configuration number 1: Remote Device - Line definition In VTAM NCP

```
* LNACC=SDLC
*oooooooooooooooooooooooooooooooooooooooooooooooooooooooooooo
*SDLC SWLINE GROUP
*oooooooooooooooooooooooooooooooooooooooooooooooooooooooooooo
G14SD4  GROUP LNCTL=SDLC ,TYPE=NCP ,OWNER=PCCU1 ,
        NRZI=NO ,REPLYTO=2 , DIAL=YES
S14535  LINE ADDRESS=( 2535 ,Half ) ,SPEED=9600 ,
        TRANSFR=20 , DUPLEX=FULL ,NEWSYNC=NO ,
        CLOCKNG=EXT , NPACOLL=YES , LSPRI=NO ,
        RETRIES=( 1 , 1 , 3 ) , ISTATUS=ACTIVE ,MAXPU=1 ,
        OWNER=PCCU1 ,TYPE=NCP ,CALL=IN ,ANSWER=ON
*CU=    NR=1    ACT=13    TRM=YES
P1453500PU PUTYPE=(1,2) , NPACOLL=YES
```

Sample Configuration number 2: PU/LU definitions in VTAM

```
          VBUILD TYPE=SWNET
PSWPG9  PU  ADDR=C9 ,MAXDATA=1033 ,MAXOUT=7 ,
          PACING=( 1 , 1 ) ,IDBLK=061 ,SSCPFM=USSSCS ,
          ISTATUS=ACTIVE ,IRETRY=YES ,IDNUM=B0008 ,
          PASSLIM=7 ,PUTYPE=2 ,DISCNT=NO ,VPACING=0
LCPG90  LU  LOCADDR=2 ,MODETAB=MT3274P ,USSTAB=USB3274B ,
          DLOGMOD=T3274M2 ,ISTATUS=ACTIVE
LCPG91  LU  LOACADDR=3 ,MODETAB=MTP3816 ,
          DLOGMOD=SCS1 ,ISTATUS=ACTIVE
LCPG92  LU  LOACADDR=4 ,MODETAB=MTP3816 ,
          DLOGMOD=SCS1 ,ISTATUS=ACTIVE
LCPG93  LU  LOACADDR=5 ,MODETAB=MTPRINT ,
          DLOGMOD=SCS ,ISTATUS=ACTIVE
```

Sample Configuration Number 3: Local Device - Using VTAM LOCAL LU nodes

First create a major node in VTAM to define the VTAM LU's (printer or terminal devices) for telnet sessions as follows:

```
TCP      VBUILD TYPE=APPL
SC0TCP01APPL AUTH=NVPACE,
        EAS=1,
        PARSESS=NO,
        MODETAB=ISTINCLM,
        SESSLIM=YES

IMLU1    APPL AUTH=NVPACE,EAS=1,PARSESS=NO,
        MODETAB=MODETAB2,SESSLIM=YES,DLOGMOD=SCS

DHW3270  APPL AUTH=NVPACE,EAS=1,PARSESS=NO,
        MODETAB=MODETAB2,SESSLIM=YES,DLOGMOD=SCS

EJ3270   APPL AUTH=NVPACE,EAS=1,PARSESS=NO,
        MODETAB=MODETAB2,SESSLIM=YES,DLOGMOD=SCS
```

NOTE: IMLU1; DHW3270; and EJ3270; are the printer devices.
SC0TCP01 is a terminal device, and is not needed for printer definitions in this node.

Second, define the VTAM printer member (i.e. IMLU1 listed above) to the host print software being used.

The following is an **example** of a TN printer definition defined in VPS print software:

```
DEST=VPSIMLU1 ,  
LUNAME=IMLU1 ,  
*LUNAME=SNA047 ,  
QBUFSIZE=23476  
*ALOGMODE=VPSLU1 ,  
*ALOGMODE=VPSCOL ,  
*SEPINFO=HPL
```

The asterisk (*) denotes fields that are not required, and therefore have been commented out.

Task 1B - Configuring the Host for Printing via a SNA Server

The printer with the SCS/TNe Emulation is defined to the host like a normal LU-1 (SCS) printer.

Two sample configurations are shown below.

TIP:

How to define an LU-1 printer in VTAM is described in IBM's VTAM documentation.

Sample Configuration number 1 Remote Device - Line definition In VTAM NCP

```
* LNACC=SDLC
*oooooooooooooooooooooooooooooooooooooooooooooooooooooooooooo
*SDLC SWLINE GROUP
*oooooooooooooooooooooooooooooooooooooooooooooooooooooooooooo
G14SD4  GROUP LNCTL=SDLC ,TYPE=NCP ,OWNER=PCCU1 ,
        NRZI=NO ,REPLYTO=2 , DIAL=YES
S14535  LINE ADDRESS=( 2535 ,Half ) ,SPEED=9600 ,
        TRANSFR=20 , DUPLEX=FULL ,NEWSYNC=NO ,
        CLOCKNG=EXT , NPACOLL=YES , LSPRI=NO ,
        RETRIES=( 1 , 1 , 3 ) , ISTATUS=ACTIVE , MAXPU=1 ,
        OWNER=PCCU1 , TYPE=NCP , CALL=IN , ANSWER=ON
*CU=    NR=1    ACT=13    TRM=YES
P1453500PU PUTYPE=(1,2) , NPACOLL=YES
```


Sample Configuration number 2 - PU/LU definitions in VTAM

```
          VBUILD TYPE=SWNET
PSWPG9  PU  ADDR=C9 ,MAXDATA=1033 ,MAXOUT=7 ,
          PACING=( 1 , 1 ) ,IDBLK=061 ,SSCPFM=USSSCS ,
          ISTATUS=ACTIVE ,IRETRY=YES ,IDNUM=B0008 ,
          PASSLIM=7 ,PUTYPE=2 ,DISCNT=NO ,VPACING=0
LCPG90  LU  LOCADDR=2 ,MODETAB=MT3274P ,USSTAB=USB3274B ,
          DLOGMOD=T3274M2 ,ISTATUS=ACTIVE
LCPG91  LU  LOACADDR=3 ,MODETAB=MTP3816 ,
          DLOGMOD=SCS1 ,ISTATUS=ACTIVE
LCPG92  LU  LOACADDR=4 ,MODETAB=MTP3816 ,
          DLOGMOD=SCS1 ,ISTATUS=ACTIVE
LCPG93  LU  LOACADDR=5 ,MODETAB=MTPRINT ,
          DLOGMOD=SCS ,ISTATUS=ACTIVE
```

Task 2A - Configuring a Host For TN3270e Printing

The printer with the SCS/TNe Emulation is defined to the Telnet server in much the same way as a display LU.

Instead of the LUGROUP and LUMAP commands, the PRTGROUP and PRTMAP commands are used.

It is important to observe the one-to-one mapping of display LUs to printer LUs. This means that a single display LU is mapped to a single printer LU or a display LU group is mapped to a printer LU group. Each group must have the same number of LUs.

The **example** below shows how the VTAM section of the TCP/IP PROFILE data-set can be defined.

TIP:

Refer to your system documentation for further details.

Refer also to IBM books such as the IBM book *OS/390 eNetwork Communications Server V2R5, TCP/IP Implementation Guide, Volume 1: Configuration and Routing* (document no. SG24-5227-00).

```

BEGINVTAM
;
;
PRTGROUP PRINTERS
        RA3ATPR1..RA3ATPR5 ; printers for specific
                                ; mapping and printer to LU
                                ; association

ENDPRTGROUP
PRTGROUP PRINTERS
        RA3ATPR6..RA3ATPR9 ; generic printers

ENDPRTGROUP
IPGROUP SPECIP
157.184.116.36
ENDIPGROUP
PRTMAP PRINTERG SPECIP
LUMAP SPECLX SPECIP SPECIFIC PRINTERS; specials
;
;
ENDVTAM

```

NOTE: If you have **multiple printers** defined in printmap, you can add multiple IP addresses to the IPGROUP and map the

printer group to the IP group as shown above (PRTMAP
PRINTERG SPECIP).

NOTE: You may also direct a printer device name to the printer IP
address using PRTMAP statement as follows:

```
PRTMAP PRT1 xxx.xxx.xxx.xxx
```

(where PRT1 = printer and xxx = printer IP address)

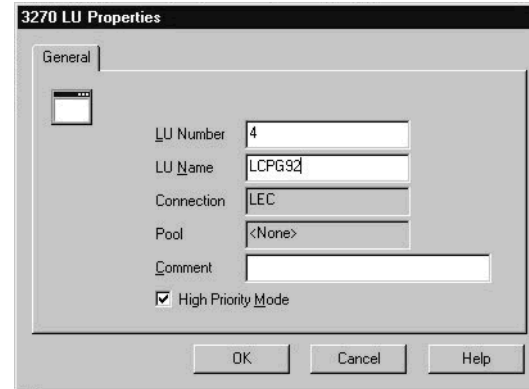
Task 2B - Configuring an SNA Server For TN3270e Printing

A number of different vendors provide SNA gateways and routers. The procedure in this section shows how to set up a Microsoft SNA Server. It does therefore not apply to all SNA gateways or routers. However, the parameters that are configured should be easy to recognize.

In the procedure below it is assumed that Microsoft SNA Server 3.0 Manager is running and that a connection has been selected.

To set up a LU printer connection

- 1 Choose Insert > 3270 > Application LU (LUA). This opens the 3270 LU Properties box.

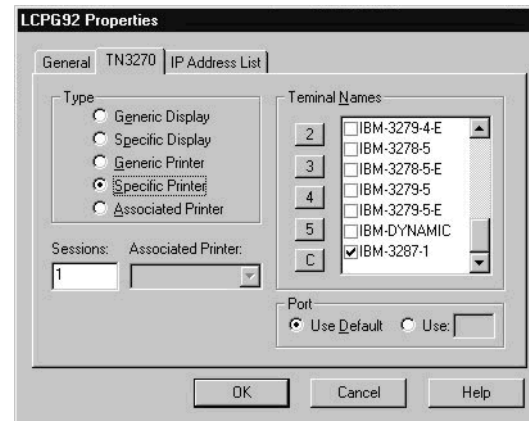


The screenshot shows the '3270 LU Properties' dialog box with the 'General' tab selected. The dialog contains the following fields and options:

- LU Number: 4
- LU Name: LCPG92
- Connection: LEC
- Pool: <None>
- Comment: (empty text box)
- High Priority Mode

At the bottom of the dialog are three buttons: OK, Cancel, and Help.

- 2 Fill in the *LU Number* and the *LU Name*. The *LU Number* must match that on the host. If you do not know the *LU Number*, ask your system administrator. Finish by pressing the |OK| button.
- 3 Right-click the connection created in the previous step. Choose Assign To > TN3270 Service on > Name-of-SNA-Server to assign the connection to the SNA server. Right-click the new connection again and choose Properties.



- 4 Left-click the *TN3270* tab. Mark *Specific Printer* and the *IBM-3287-1* terminal name.
- 5 Click the |OK| button to finish.

Task 3 - Configuring a Print Server

SCS/TNe Emulation printing requires a MarkNet internal print server or a Standard Network port on the printer.

IMPORTANT:

The SCS/TNe Emulation can only receive jobs through a single printer server. Moving the selected print server or inserting a new print server may cause a loss of SCS/TNe print capability.

A. To check the installed print server firmware version

- 1** From a **Ready** state touch **Menus**.
- 2** Touch **Reports**.
- 3** Scroll until one or more of the following appears. If none of these appear, then you do not have a Standard Network or internal print server installed.
 - a** If **Network Setup Page** appears, touch it. This prints the **Standard Network Card** menu settings page.
 - b** If **Network # Setup Page** appears, touch it. This prints a settings page for the internal print server in slot #, where # is a number representing the slot in which the print server is installed.

B. Configuring the Print Server

To enable SCS printing, several print server settings may need to be changed. You can make these changes from the printer operator panel.

- 1 Set **NPA Mode** to **Auto**. Select **Menus > Network/Ports**. Select the print server to be used for SCS printing, for example Standard Network. Locate **NPA Mode** and scroll to the **Auto** setting. Touch **Submit** to save. This setting will ensure that the printer's LAN connection will detect the Card.

- 2 Set the **Job Timeout**. This timeout is used by all print servers. Select **Menus > Network/Ports**. Select the print server to be used for SCS printing, for example Standard Network. Select **Standard Network > Std Network Setup > Network Card > Job Timeout**. Scroll down to 0. Touch **Submit** to save.

Option	Value	Description
Network Job Timeout	0	This is the recommended setting and corresponds to “disabled”. Other settings may cause communication problems. A setting of "0" allows the host or SNA server timeout values to control when print jobs from another protocol, interface, server, or host can be started.

- 3 Set the **TCP/IP** option values shown in the table below. Select **Menus > Network/Ports > Standard Network > Std Network Setup > TCP/IP**. You will need to contact your network administrator for several of the values.

TCP/IP Option	Value	Description
Address		Address available from your network administrator.
Netmask		Netmask for your network. Contact your network administrator.
Gateway		Address of the IP gateway. Contact your network administrator.
Enable DHCP	On or Off	On, if you use a DHCP server. Off, if you set the IP address another way.
Enable RARP	On or Off	On, if you use a RARP server. Off, if you set the IP address another way.
Enable BOOTP	On or Off	On, if you use a BOOTP server. Off, if you set the IP address another way.
Enable Auto IP	On or Off	Default is On. This is the recommended setting
WINS Server Address		Address of your WINS Server
DNS Server Address		Address of your DNS Server

Task 4 - Configuring the SCS Settings

Several SCS option values may need to be changed to properly format and print SCS jobs that do not contain formatting commands in the job. The following three settings are usually the most important, but there are many other possibilities.

TIP:

Refer to [Operations Reference - TN3270E SETUP: SCS3270 Defaults](#), page 153 to see the differences in these settings.

A. To select Non-US SCS3270 Defaults

Factory defaults are US. To change or restore:

- 1 Select **Menus > Option Card Menu > SCS/TNe MENU > TN3270E SETUP > TEST OPTIONS > SCS3270 Defaults**.

TEST OPTIONS Option	Default Value	Recommended Value	Comments
SCS3270 Defaults	Do Not Restore	Your preferred defaults	Choose between Do Not Restore *, US-Default , or Non-US-Default

- 2 Scroll to the desired value. Touch **Submit** to save one of the factory defaults.
- 3 Exit the menu by touching **Home**.

B. To select a different SCS country code

- 1 Select **Menus > Option Card Menu > SCS/TNe MENU > TN3270E SETUP > SCS OPTIONS > MISC SETTINGS > Country Code.**

MISC SETTINGS Option	Default Value	Recommended Value	Comments
Country Code (IDB Option 2)	English (US)	Your preferred country	

- 2 Scroll to the desired value. Touch **SelectSubmit** to save one of the factory defaults.
- 3 Exit the menu by pressing touching **Home**.

C. To enable Euro support

- 1 Select **Menus > Option Card Menu > SCS/TNe MENU > TN3270E SETUP > SCS OPTIONS > MISC SETTINGS > Euro Support.**

MISC SETTINGS Option	Default Value	Recommended Value	Comments
Euro Support (IDB Event 191)	No	Your preference.	Enable with Yes.

- 2 Scroll to **Yes**. Touch **Submit** button to save the setting.

Task 5 - Configuring the SCS/TNe Emulation

IMPORTANT:

Powering the printer Off and On does not end TCP/IP and Telnet sessions in an orderly manner. To power the printer Off properly, select **Menus > Option Card Menu > SCS/TNe MENU > COMMON SETUP > Disconnect Ses > Disconnect Ses.**

See: [Disconnect Ses](#), page 80.

- 3 Exit the menu by touching **Home**.

SCS jobs are printed from a LAN connected Mainframe using TCP/IP and the telnet extended (TN3270e) protocol. A single TN3270e print session can be established with a host.

To configure a TN3270e print session

- 1 Select **Menus > Option Card Menu > SCS/TNe MENU > TN3270E SETUP > NETWORK SETUP > SERVER INFO.**
- 2 Configure the **SERVER INFO** options. Enter or scroll to new values and touch **Submit** to save your settings. The menu will return to the **SERVER INFO** menu group within which you scroll to the next desired option. When you are finished with all options within **SERVER INFO**, touch **Home** to exit.

The table below shows the factory default settings and recommended settings. The option setting values found in the table are described in section “[NETWORK SETUP> SERVER INFO Menu: Options Overview](#)” on page 95.

SERVER INFO Option	Default Value	Recommended Value	Comments
Name / IP Address	Use IP Address		Check with your system administrator whether you need to specify the specific IP address or the name of the host which the printer will contact to receive SCS jobs.
IP Address	0.0.0.0	The TNe Server's IP address	In order to make a connection to the mainframe host, an IP address must be entered or a hostname defined. If you selected Use IP Address in the Name / IP Address option, enter the appropriate IP Address here. (This option is not used if you selected Use Hostname).
Hostname	[undefined]	A hostname to look up on a DNS server: (up to 16 characters)	In order to make a connection to the mainframe host, an IP address must be entered or a hostname defined. If you selected Use Hostname in the Name / IP Address option, enter the appropriate hostname here. (This option is not used if you selected Use IP Address .)
TN Server Port	23	23	Check with your system administrator to determine whether another TCP port number is defined for the Telnet service.

SERVER INFO Option	Default Value	Recommended Value	Comments
LU Name	[undefined]	Your LU name (up to 10 characters)	Check with your system administrator for the correct name. This name must be defined on the host or SNA Server. Please note! Some hosts and servers only recognize upper-case LU Names.
Device Type	Specific	Specific	Check with your system administrator for the correct setting. The device type must be defined on the host.
Keep Alive Type	Telnet NOP	Telnet NOP or None	Set this to a signal type recognized by the host. Check with your system administrator. If the host sends signals to keep the session active, then the setting of this option is unimportant. It is recommended to set it to None (= disabled).
Keep Alive Time	45 seconds	45 seconds (1-3200 seconds)	Set this to a value smaller than the session's inactivity timeout value defined on the host. The host parameter name is KEEPALIVE OPTIONS. It resides in the host IP profile dataset: SYS1.TCPPARMS(PROFILE). This setting is not used if the Keep Alive Type is set to None .

- 3 Set **Print Active** to **Yes**. Select **Menus > Option Card Menu > SCS/TNe MENU > TN3270E SETUP > NETWORK SETUP > Print Active**. Scroll to **Yes** and touch **Submit** to save.
- 4 Exit the menu by touching **Home**.

- 5 To activate the new settings, select **Menus > Option Card Menu > SCS/TNe MENU > COMMON SETUP > Reset TN Session**. Scroll to **Reset TN Ses** and touch **Submit**. Touch **Home** to exit the menus.

Wait approximately one minute. If all values are set correctly, this should allow enough time for the SCS/TNe Emulation and host to communicate and change the **Connect Status** from **Print Inactive** to another status (there are examples of **Connect Status** messages on page [92](#)).

Mainframe users should continue with Task 6A.

SNA Server users should continue with Task 6B.

Task 6A - Verifying the Mainframe Connection

Send a job to the printer for which you want to verify the connection. If the jobs fails to print correctly, the most common problems can be found through one or more of the following actions:

- 1 Check the **TN3270E Connection Status** (see page [92](#))

From the Operator Panel: Display the TN3270E Connect Status by selecting **Menus > Option Card Menu >SCS/TNe MENU > TN3270E SETUP > NETWORK SETUP > Connect Status**.

Through the http (browser) user interface: Connect to the print server by entering the print server address as the URL. When the print server display appears, click **Settings** and then **SCS/TNe Settings**. Choose **TN3270E Connection Status**.

- 2 Check the print menu page to be sure all **option values** are set as defined by your system administrator.

From the Operator Panel: Print a menu page by selecting **Menus > Reports > Menu Settings Page**

Through the http (browser) user interface: Connect to the print server by entering the print server address as the URL. When the print server display appears, click **Reports** and then **Device Settings**.

IMPORTANT:

Powering the printer Off and On does not end TCP/IP and Telnet sessions in an orderly manner. To power the printer Off properly, select **Menus > Option Card Menu > SCS/TNe MENU > COMMON SETUP > Disconnect Ses > Disconnect Ses.**

See: [Disconnect Ses](#), page 80.

3 From the main frame host give the following TCP/IP display command:

D TCPIP,TCPIPNAME,TELNET,CONNECTION,PORT = ALL

to see all active LU definitions to verify that the relevant LU definition is active on the host.

Task 6B - Verifying the Mainframe/SNA Server Connection

Send a job to the printer for which you want to verify the connection. If the jobs fails to print correctly, the most common problems can be found through one or more of the following actions:

- 1 Check the **TN3270E Connection Status** (see page [92](#))

From the Operator Panel: Display the TN3270E Connect Status by selecting **Menus > Option Card Menu > SCS/TNe MENU > TN3270E SETUP > NETWORK SETUP > Connect Status**.

Through the http (browser) user interface: Connect to the print server by entering the print server address as the URL. When the print server display appears, click **Settings** and then **SCS/TNe Settings**. Select **TNTN3270E Connection Status**.

- 2 Check the print menu page to be sure all **option values** are set as defined by your system administrator.

From the Operator Panel: Print a menu page by selecting **Menus > Reports > Menu Settings Page**.

IMPORTANT:

Powering the printer Off and On does not end TCP/IP and Telnet sessions in an orderly manner. To power the printer Off properly, select **Menus > Option Card Menu > SCS/TNe MENU > COMMON SETUP > Disconnect Ses > Disconnect Ses.**
See: [Disconnect Ses](#), page 80.

Through the http (browser) user interface: Connect to the print server by entering the print server address as the URL. When the print server display appears, click **Reports** and then **Device Settings**.

- 3 From the main frame host give the following TCP/IP display command:
D TCPIP,TCPIPNAME,TELNET,CONNECTION,PORT = ALL
to see all active LU definitions to verify that the relevant LU definition is active on the host.
- 4 Check to be sure that the printer in question has been defined—and activated—as a client on the SNA server. Consult your SNA manual.

Installation Setup for AS/400 and iSeries Users

Introduction

This chapter applies to AS/400 and iSeries users. (Mainframe users refer to [“Installation Setup for Mainframe Users”](#) on page 28.)

The tasks presented describe how to set up the host and the SCS/TNe Emulation for AS/400 or iSeries printing.

Before beginning the installation, it is recommended that you obtain the latest version of the SCS/TNe firmware, Standard Network or MarkNet internal print server firmware from the internet sites listed in [“Support”](#) on page 4

IMPORTANT:

Tasks may be completed in any order but all tasks must be completed to begin printing.

AS/400 and iSeries users

[Task 1 - Configuring the Host](#)

[Task 2 - Configuring a Print Server](#)

[Task 3 - Configuring the SCS Settings](#)

[Task 4 - Configuring the SCS/TNe Emulation](#)

[Task 5 - Verifying the Host Connection](#)

Task 1 - Configuring the Host

The host operating system must support TCP/IP and extended Telnet protocols to print SCS jobs to a LAN attached printer.

Section “[AS/400 and iSeries Software](#)” on page 279 lists host software which supports these protocols.

To configure the host check and set the following three system values.

System Value	Required Value
QAUTOCFG	Controls the automatic configuration of devices. Must be set to '1' Sample commands: DSPSYSVAL SYSVAL(QAUTOCFG) CHGSYSVAL SYSVAL(QAUTOCFG) VALUE('1')
QAUTORMT	Controls the automatic configuration of remote controllers. Must be set to '1' Sample commands: DSPSYSVAL SYSVAL(QAUTORMT) CHGSYSVAL SYSVAL(QAUTORMT) VALUE('1')

System Value	Required Value
QAUTOVRT	Controls the automatic configuration of virtual devices. Must be set to an adequate number of devices Sample commands: DSPSYSVAL QAUTOVRT CHGSYSVAL QAUTOVRT ### Where ### is the number of devices.

When these values are properly configured, the host will auto configure devices and writers with the information received from the SCS/TNe Emulation.

Task 2 - Configuring a Print Server

SCS/TNe emulation printing requires a MarkNet internal print server or a Standard Network port on the printer.

A. To check the installed print server firmware version

- 1 From a **Ready** state touch **Menus**.
- 2 Touch **Reports**.
- 3 Scroll until one or more of the following appears. If none of these appear, then you do not have a Standard Network or internal print server installed.
 - a If **Network Setup Page** appears, touch it. This prints the **Standard Network Card** menu settings page.
 - b If **Network # Setup Page** appears, touch it. This prints a settings page for the internal print server in slot #, where # is a number representing the slot in which the print server is installed.

IMPORTANT: The SCS/TNe Emulation can only receive jobs through a single printer server. Moving the selected print server or inserting a new print server may cause a loss of SCS/TNe print capability.

B. Configuring the Print Server

To enable SCS printing, several print server settings may need to be changed. You can make these changes from the printer operator panel.

- 1 Set **NPA Mode** to **Auto**. Select **Menus > Network/Ports**. Select the print server to be used for SCS printing, for example Standard Network. Locate **NPA Mode** and scroll to the **Auto** setting. Touch **Submit** to save. This setting will ensure that the printer's LAN connection will detect the Card.

- 2 Set the **Job Timeout**. This timeout is used by all print servers. Select **Menus > Network/Ports**. Select the print server to be used for SCS printing, for example Standard Network. Select **Standard Network > Std Network Setup > Network Card > Job Timeout**. Scroll down to 0. Touch **Submit** to save.

Option	Value	Description
Network Job Timeout	" 0 "	This is the recommended setting and corresponds to "disabled". Other settings may cause communication problems. A setting of "0" allows the host SNA server, or SCS/TNe emulation timeout values to control when print jobs from another protocol, interface, server, or host can be started.

- 3 Set the **TCP/IP** option values shown in the table below. Select **Menus > Network/Ports > Standard Network > Std Network Setup > TCP/IP**. You will need to contact your network administrator for several of the values. You will need to contact your network administrator for several of the values.

TCP/IP Option	Value	Description
Address		Address available from your network administrator.
Netmask		Netmask for your network. Contact your network administrator.
Gateway		Address of the IP gateway. Contact your network administrator.
Enable DHCP	On or Off	On, if you use a DHCP server. Off, if you set the IP address another way.
Enable RARP	On or Off	On, if you use a RARP server. Off, if you set the IP address another way.
Enable BOOTP	On or Off	On, if you use a BOOTP server. Off, if you set the IP address another way.
Enable Auto IP	On or Off	Default is On. This is the recommended setting
WINS Server Address		Address of your WINS Server
DNS Server Address		Address of your DNS Server

Task 3 - Configuring the SCS Settings

Several SCS option values may need to be changed to properly format and print SCS jobs which do not contain formatting commands in the job.

The SCS/TNe Emulation comes with European (A4 paper size) factory default settings.

The following five settings are usually the most important, but there are many other possibilities.

A. To select settings for your specific country

- 1 Select **Menus > Option Card Menu > SCS/TNe MENU > TN5250E SETUP > SCS OPTIONS > MISC SETTINGS > Country Code**. Scroll to your preferred country and touch **Submit**.

IMPORTANT:

One set of TN5250e **SCS OPTIONS** menu values is saved. All four TN5250e connections use the same set of **SCS OPTIONS** values.

Option	Default Value	Recommended Value	Comments
Country Code (IDB Option 2)	International	Your preferred country code	

- 2 Still within **MISC SETTINGS**, locate **Codepage**. Scroll to your preferred code page and touch **Submit** to save it.

Option	Default Value	Recommended Value	Comments
Codepage (IDB Options 240 and 241)	Multi 500	Your preferred code page	

- 3 Still within **MISC SETTINGS**, locate **Lines Per Page**. Scroll to the desired Number and touch **Submit** to save it.

Option	Default Value	Recommended Value	Comments
Lines Per Page (IDB Option 107)	68 (for A4)	64 (for Letter). 82 (for Legal).	Recommended values for users in the USA

- 4 (Select other settings within **MISC SETTINGS**)
- 5 Exit the **MISC SETTINGS** menu by touching **Home**.

- 6 Select **Menus > Option Card Menu > SCS/TNe MENU > TN5250E SETUP > SCS OPTIONS > PAPER SETTINGS > Page Length**. Scroll to the desired value and touch **Submit** to save it.

Option	Default Value	Recommended Value	Comments
Page Length (IDB Opt. 82 & 83)	16848 (for A4)	15840 (for Letter). 20160 (for Legal).	Recommended values for users in the USA

- 7 Still within **PAPER SETTINGS**, locate **Page Width**. Scroll to the desired value and touch **Submit** to save it.

Option	Default Value	Recommended Value	Comments
Page Width (IDB Opt.84 & 85)	11908 (for A4)	12240 (for Letter). (same for Legal).	Recommended value for users in the USA

- 8 Exit the **PAPER SETTINGS** menu by touching **Back**.
- 9 Change other settings as desired.
- 10 Exit the menu by touching **Home**.

B. To enable Euro support

- 1 Select **Menus > Option Card Menu > SCS/TNe MENU > TN5250E SETUP > SCS OPTIONS > Euro Support.**

Option	Default Value	Recommended Value	Comments
Euro Support (IDB Option 139)	No		

- 2 Scroll to **Yes**. Touch **Submit** to save the setting.
- 3 Exit the menu by by touching **Home**.

Task 4 - Configuring the SCS/TNe Emulation

SCS jobs are printed from a LAN connected AS/400 or iSeries host using TCP/IP and the telnet extended (TN5250e) protocol. Up to four TN5250e print sessions can be established with a single or multiple hosts.

To configure the SCS/TNe Emulation

IMPORTANT:

Powering the printer Off and On does not end TCP/IP and Telnet sessions in an orderly manner. To power the printer Off properly, select **Menus > Option Card Menu > SCS/TNe MENU > COMMON SETUP > Disconnect Ses > Disconnect Ses.**

See: [Disconnect Ses](#), page 80.

- 1** Select **Menus > Option Card Menu > SCS/TNe MENU > TN5250E SETUP.**
- 2** Select **CONNECTION #1, CONNECTION #2, CONNECTION #3, or CONNECTION #4**
- 3** Select **SERVER # INFO.**
- 4** Configure the **SERVER # INFO** options.
- 5** Locate and touch each option. Enter or scroll to new values and touch **Submit** to save your settings. The menu will return to the **SERVER # INFO** menu group within which you scroll to the next desired option. When you are finished with all options within **SERVER # INFO**, touch **Home** to exit.

You will need to check with your system administrator. The option setting values found in the table are described in section “[CONNECTION # > SERVER # INFO Menu: Options Overview](#)” on page 165.

Option	Default Value	Recommended Value	Comments
Name / IPaddress #	Use IP# Address		Check with your system administrator whether you need to specify the specific IP address or the name of the host which the printer will contact to receive SCS jobs.
IP # Address	0.0.0.0	The host's IP address	In order to make a connection to the host, an IP address must be entered or a hostname defined. If you selected Use IP# Address in the Name / IPaddress # option, enter the appropriate IP Address here. (This option is not used if you selected Use Hostname #.)
Hostname #	[undefined]	Host name on DNS server (up to 16 characters)	In order to make a connection to the host, an IP address must be entered or a hostname defined. If you selected Use Hostname # in the Name / IPaddress # option, enter the appropriate hostname here. (This option is not used if you selected Use IP# Address.)
Server # TN Port	23	23	Check with your system administrator. Another TCP port number may be defined for the Telnet service.

Option	Default Value	Recommended Value	Comments
Device # Name	[undefined]	Your device name (up to 10 characters)	The host will autoconfigure a device and writer with this name if it does not exist.
Keep Alive Type	None	None or own preference	Leave this at the factory default if the host is configured to send a keep alive signal. Choose a different setting to have the SCS/TNe Emulation send a keep alive signal.
Keep Alive Time	45 seconds	Your own preference (1-3200 seconds)	This setting is not used if the Keep Alive Type option value is set to None (= disabled). If you have chosen to enable a Keep Alive Type set this value to a value smaller than the <code>INACTTIMO</code> defined on the host.
MSGQ # Name	QSYSOPR	Your preferred queue name (up to 10 characters)	Specifies the message queue name to which IR replies are reported. This name must already exist on the host. It will not be auto configured. Contact your system administrator if you do not know the message queue name.
MSGQ # Lib	*LIBL	The library name of the message queue (up to 10 characters)	Specifies the library of the message queue name set with the MSGQ # Name option. This library must already exist on the host It will not be auto configured. Contact your system administrator if you do not know the library name.
IR # Reply	Normal	Normal	Leave this option at its default value to have printer intervention required conditions reported to the host.

Option	Default Value	Recommended Value	Comments
Auto Sense # END	No	Yes - but only if the host ends the writer unexpectedly in the middle of a job.	<p>Enable this option to allow the TN5250e emulation to automatically sense if the host has ended the writer unexpectedly. When a writer end is sensed by the TN5250e emulation, it will begin session negotiation to restart the writer.</p> <p>The TN5250e emulation can only sense the writer has ended after the first SCS job has started to print. If the writer ends before sending an SCS job to the printer, the TN5250e emulation will not be able to sense the writer has ended.</p>

- 6 Set **Print # Active** to **Yes** for each connection you wish to activate. Select **Menus > Option Card Menu > SCS/TNe MENU > TN5250E SETUP > CONNECTION # > Print # Active**. Scroll to **Yes** and touch **Submit** to save.
- 7 Exit the menu by touching **Home**.
- 8 To activate the new settings, select **Menus > Option Card Menu > SCS/TNe MENU > COMMON SETUP > Reset TN Session**. Scroll to **Reset TN Ses** and touch **Submit**. Touch **Home** to exit the menus.

Wait approximately one minute. If all values are set correctly, this should allow enough time for the SCS/TNe Emulation and host to communicate and change the **Connect # Status** from **Print Inactive** to another status (there are examples of **Connect # Status** messages on page [92](#)).

Task 5 - Verifying the Host Connection

Send a job to the printer for which you want to verify the connection. If the jobs fails to print correctly, the most common problems can be found through one or more of the following actions:

- 1 Check the **TN5250E Connection Status** (see page [162](#)).

From the Operator Panel: Display the TN5250E Connect Status by selecting **Menus > Option Card Menu > SCS/TNe MENU > TN5250 SETUP > CONNECTION # SETUP > Connect # Status**.

Through the http (browser) user interface: Connect to the print server by entering the print server address as the URL. When the print server display appears, click **Settings** and then **SCS/TNe Settings**. Choose **TN5250E Connections Status**.

- 2 Check the print menu page to be sure all **option values** are set as defined by your system administrator.

From the Operator Panel: Print a menu page by selecting **Menus > Reports > Menu Settings Page**.

IMPORTANT:

Powering the printer Off and On does not end TCP/IP and Telnet sessions in an orderly manner.

To power the printer Off properly, select **Menus > Option Card Menu > SCS/TNe MENU > COMMON SETUP > Disconnect Ses > Disconnect Ses.**

See: [Disconnect Ses](#), page 80.

Through the http (browser) user interface: Connect to the print server by entering the print server address as the URL. When the print server display appears, click **Reports** and then **Device Settings**.

- 3 Check the host auto configure settings. See [“Task 1 - Configuring the Host” on page 56](#).

SCS/TNe Cancel

About Cancel Job

SCS jobs may be canceled at the printer or MFP.

Cancel Job only displays when the printer or MFP is processing a print job.

Selecting a specific job to cancel is difficult when several small jobs are queued to print from the host. The job being printed may not be the job which is canceled.

The procedures for cancelling a job differ for printers and MFPs, as shown below.

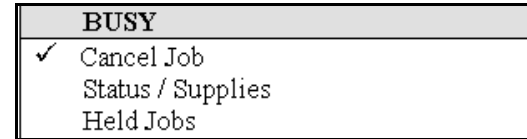
Important!

When a job is cancelled, the SCS/TNe Emulation stops processing data received from the host.

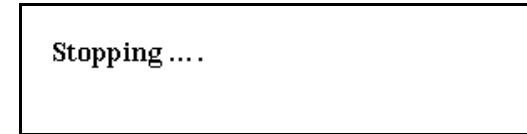
All job data received after the cancel is discarded. The host will remove the job from its queue after all data has been sent to the SCS/TNe Emulation.

Printer Cancel Job

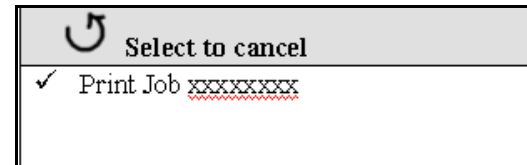
- 1 Press the **Select** button on the operator panel while your job is printing



- 2 The printer will clear the paper path and display a "Stopping" message.



- 3 In the next menu, press the **Select** button when the on-screen checkmark is beside the job you want to cancel. There may be only one Print Job shown, as in the example below.



To continue printing without canceling the job, press the **Back** button.

- 4 The printer will keep you posted on its progress and automatically return to its normal state, which will be **BUSY** if it is in the process of printing other jobs.

Cancelling Print Job xxxxxxx

MFP Cancel Job

- 1 While any job is printing, the **Cancel Job** icon will be displayed on the printer panel. Touch the icon.
- 2 In the "Print" column, select the job you want to cancel by touching the print job icon.
- 3 Touch the **Delete Selected Job** icon.
- 4 The screen will display a message to indicate that the job is being deleted.
- 5 The screen will return to the **Home** display.

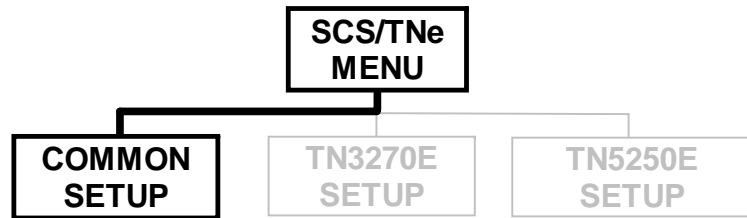
Operations Reference - Common Setup

Introduction

As indicated in the tree diagram below, the SCS/TNe MENU is divided into three branches.

This section describes the **COMMON SETUP** menu structure and options for the SCS/TNe Emulation

From a **Ready** status, touch **Menus**. Locate and touch the **Option Card Menu**. Locate and touch **SCS/TNe Menu**. Locate and touch **COMMON SETUP**.



There are four options in the **COMMON SETUP** menu structure:

- Disconnect Ses
- Reset TN Session
- SCS Debug Trace

How to access the Menu Settings Page

- Reset ALL Def

You will always be able to see the selected value for each option on the **Menu Settings** page.

- From the Operator Panel:
Select **Menus > Reports > Menu Settings Page**.
- Through the http (browser) user interface:
Connect to the print server by entering the print server address as the URL. When the print server display appears, click **Reports** and choose **Device Settings**.

In the following reference tables, an asterisk (*) indicates the default factory value.

Menu Options Overview

Option name	Values
Disconnect Ses	Do Not Disconn., Disconnect Ses.
Reset TN Session	Do Not Reset, Reset TN Ses.
SCS Debug Trace	Disable *, PAR Std. Output, PAR Slot# Output, USB Std. Output, USB Slot# Output
Reset ALL Def	Do Not Reset, Reset All

A description of the **COMMON SETUP** menu items follows.

Disconnect Ses

This option disconnects all active TNe sessions on TCP/IP level. The SCS/TNe Emulation will attempt to reconnect when the printer is powered Off and On or when a **Reset TN Ses.** is performed. See the [Reset TN Session](#) option below.

A **Disconnect Ses.** should be performed before powering Off the printer.

Operator panel text	Comments
Do Not Disconn.	Do not disconnect any sessions. This performs the same action as if Back had been pressed in the operator panel.
Disconnect Ses.	Disconnect ALL active TNe sessions. The printer must be powered Off and On or a Reset TN Ses. must be performed before the SCS/TNe Emulation will attempt to contact the host.

Reset TN Session

IMPORTANT:

Powering the printer Off and On does not end TCP/IP and Telnet sessions in an orderly manner. To power the printer Off properly, select **Menus > Option Card Menu > SCS/TNe MENU > COMMON SETUP=> Disconnect Ses > Disconnect Ses.**

See: [Disconnect Ses](#), page 80.

This option disconnects **ALL** active TNe sessions on TCP/IP level, restarts the SCS/TNe emulation and reconnects. Use this option whenever changes have been made to the Network or Server Info settings to disconnect and reconnect using the new settings.

Operator panel text	Comments
Do Not Reset	Do not reset any settings. This performs the same action as if Back had been pressed in the operator panel.
Reset TN Ses.	Disconnect ALL active TNe sessions on TCP/IP level, restart, and reconnect.

SCS Debug Trace

The trace function traces all input (EBCDIC) and output (ASCII) data.

The trace menu option allows you to enable tracing and choose where the trace data should be sent.

Because tracing will decrease printing performance, it should only be enabled when needed by service personnel for troubleshooting and service.

IMPORTANT:

Unless you have a computer running a capture program attached to the selected port to receive the trace data, the printer will remain **Ready** and may not complete establishing a session with the host.

NOTE: If the SCS/TNe Emulation is set to make an IDB dump when this option is enabled (&%IDB_PRINT or &%IDB_PRINT_FULL command), then the IDB dump is ignored and NOT produced. The trace function also overrides the [SCS3270 Hex Dump](#) and [SCS5250 Hex Dump](#) options.

NOTE: If the [Download Font \(IDB Option 244\)](#) option is **Enabled** on a TN5250e session, the fonts will be output in the trace data before the job is processed. This decreases trace performance significantly. It is recommended to set the [Download Font \(IDB Option 244\)](#) option to **Disabled** when performing a trace.

Operator panel text	Comments
Disable *	Disable trace.
PAR Std. Out	Enable the standard parallel port for trace data output.
PAR Slot # Out	Enable the optional parallel port in slot # for trace data output. # is a number representing the slot in which the optional parallel port card is installed.
USB Std. Out	Enable the standard USB port for trace data output.
USB Slot # Out	Enable the optional USB port in slot # for trace data output. # is a number representing the slot in which the optional USB card is installed.

NOTE: Only the interfaces installed in the printer will be displayed. Optional cards may be added to provide additional ports for output of the debug trace data.

Reset ALL Def

This option restores **ALL** SCS/TNe emulation option settings to factory defaults.

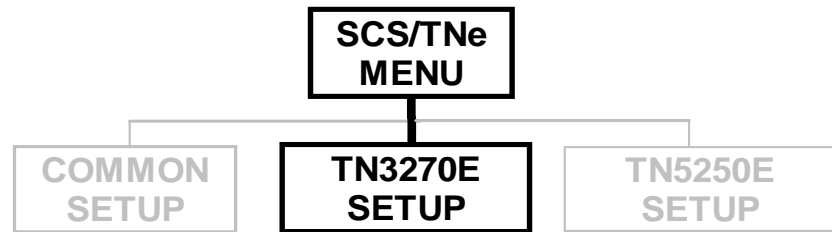
Operator panel text	Comments
Do Not Reset	Do not restore any settings. This performs the same action as if Back had been pressed in the operator panel.
Reset ALL	Restore ALL SCS/TNe emulation option settings to factory defaults. All sessions will be disconnected. All TNe sessions will have to be reconfigured. Other printer emulation settings (PCL, PS, IPDS, etc.) are not reset when this option is selected.

Operations Reference - TN3270E SETUP

Introduction

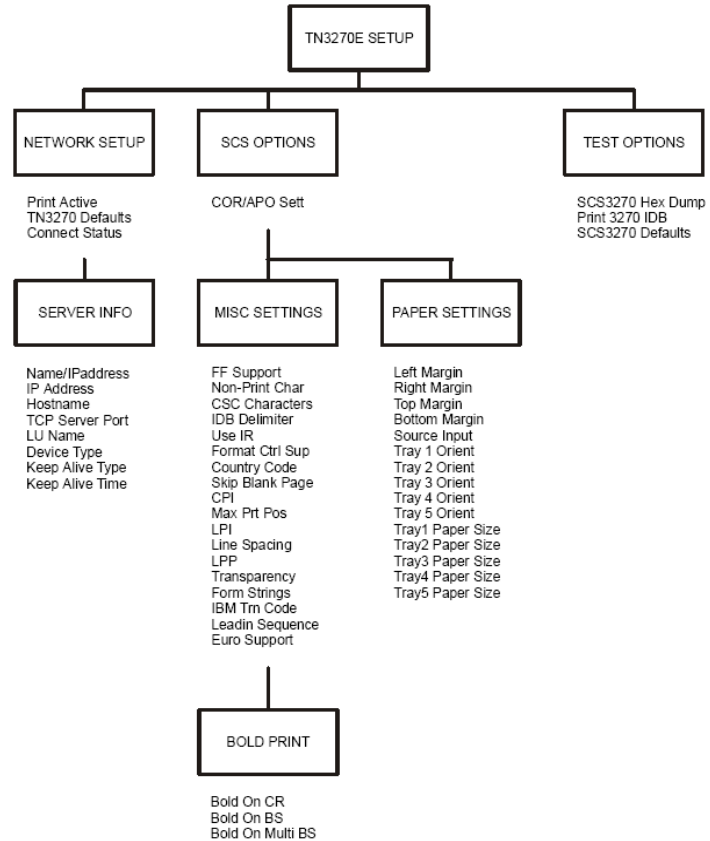
This section describes the SCS/TNe Emulation **TN3270E SETUP** menu structure and options. Settings under this menu are used when printing from a Mainframe host.

From a **Ready** status, touch **Menus**. Locate and touch the **Option Card Menu**. Locate and touch **SCS/TNe Menu**. Locate and touch **TNE3270E SETUP**.



Settings are displayed under the sub-menus accessed from the **TN3270E SETUP** menu.

Tree diagram of the TN3270E SETUP menu structure.



The SCS/TNe Emulation has default settings for most SCS commands found in an SCS job. If one or more SCS settings are missing from a job, the SCS/TNe Emulation uses the value specified in the **SCS OPTIONS** menu for the option. Settings specified in an SCS job override the SCS/TNe Emulation default settings.

An asterisk (*) next to a value setting indicates that the setting is currently active. The current setting for each option is listed on the **Menu Settings** page ([“How to access the Menu Settings Page” on page 78](#)).

Options using text strings as settings which have not been configured display the text string "[undefined]" and show "[undefined]" on the **Menu Settings** page.

Options using values as settings which are set outside their ranges do not have an asterisk in the operator panel to indicate the current setting. The **Menu Settings** page shows the text string "[invalid]" for options set outside their ranges. Invalid will print for installed features which were selected as the option value but have been uninstalled. Select one of the currently installed features. Setting options to values outside the ranges shown in the operator panel is possible via remote configuration and should be avoided.

An **Advanced IDB language** command line is shown at the end of menu options which may be set by remote configuration. This shows how to remotely set the menu option to the factory default using the **Advanced IDB language** (cf. [“IDB Basics” on page 248 ff.](#))

NETWORK SETUP Menu: Options Overview

The **NETWORK SETUP** menu is a sub-menu directly under the **TN3270E SETUP** menu.

The following table lists menu options found under the **NETWORK SETUP** menu.

NETWORK SETUP Option name	Values
Print Active	No *, Yes
TN3270 Defaults	Do Not Restore *, Restore Defaults
Connect Status	Shows Primary Status Messages and Last Response Messages. Refer to Connect Status (page 92) for a description of each message.
SERVER INFO	Sub-menu. See NETWORK SETUP> SERVER INFO Menu: Options Overview (page 95) and Name / IP Address (page 96).

A description of each **NETWORK SETUP** menu option follows.

Print Active

This **Network Setup** option controls the activation of the SCS/TNe Emulation for TN3270e communication and printing.

Option Value	Comments
No *	SCS printing is disabled for this connection. The printer will not attempt to establish a host connection.
Yes	SCS printing is enabled for this connection. The printer will attempt to establish a host connection.

TN3270 Defaults

This **Network Setup** option restores the TN3270e **NETWORK SETUP** factory default settings and resets all sessions.

Option Value	Comments
Do Not Restore *	Do not restore to factory default settings. This performs the same action as if Back had been pressed in the operator panel.
Restore Defaults	Restore the TN3270e NETWORK SETUP menu options to factory default settings. All TN sessions will be disconnected. All TN sessions will be reconnected except for the TN3270e session.

Connect Status

This **Network Setup** option displays the connection status with the host. The option cannot be changed by the user.

Normally only the primary status is shown. If problems occur, a last response message is appended to the primary status message. The complete status message text may not be displayed. Refer to the tables below.

Connect Status: Primary status messages	Comments
Connected to server. LU name: [LU NAME]	A Telnet connection is established and the SCS/TNe Emulation is ready to receive print jobs. The LU name displayed is the name negotiated with the Telnet server. Refer to the LU Name and Device Type options.
Negotiating with TN server	The SCS/TNe Emulation has successfully established a TCP/IP connection and is negotiating the Telnet device configuration.
Not Configured	The IP Address , Hostname , or LU Name in the TN3270E SERVER INFO menu has not been configured.
Print Inactive *	One of the following conditions exists and is preventing a session from being established. <ol style="list-style-type: none">1 Print Active = No. Solution: Set to Yes. (Path: Menus > Option Card Menu > SCS/TNe MENU > TN3270E SETUP > NETWORK SETUP).2 NPA Mode = Off. Solution: Set to Auto. (Path: Menus > Network/Ports > print server to be used for SCS printing > NPA Mode).3 Cable is not plugged into print server. Plug in cable.4 Network is down. Check network.

Connect Status: Primary status messages	Comments
Reconnecting session	The Telnet session was disconnected. The SCS/TNe Emulation is attempting to reconnect.
Session Disconnected and Halted	All active Telnet sessions have been disconnected. Power the printer Off and On or select Menus > Option Card Menu > SCS/TNe MENU > COMMON SETUP > Reset TN Session > Reset TN Ses. to reconnect.
Trying to connect	The SCS/TNe Emulation is contacting the host or SNA Server to establish a TCP/IP connection.

Connect Status: Last response messages	Comments
Lst Rsp:No support for that device-type	The Telnet server does NOT support the device type requested by the SCS/TNe Emulation. Select another device type with the Device Type option.
Lst Rsp:Name unknown to server	The LU Name requested by the SCS/TNe Emulation is unknown to the server or not correctly configured. Check the configuration of the host and of the SCS/TNe Emulation.
Lst Rsp:The requested device is in use	The device requested by the SCS/TNe Emulation is used by another device. Check the configuration of the host and of the SCS/TNe Emulation.
Lst Rsp:Terminal/Printer name mismatch	The device name or resource name requested by the SCS/TNe Emulation is incompatible with the requested device type. Change the device name or device type on the host or check the configuration of the host and of the SCS/TNe Emulation.

Connect Status: Last response messages	Comments
Lst Rsp:The server cannot satisfy the request	The TN server cannot satisfy the request sent by the SCS/TNe Emulation. It could be a request was made for a specific terminal or printer which is not in any of the TN server's pools of device names. Alternatively, the ASSOCIATE command was used but no partner printers are defined to the TN server.
Lst Rsp:Invalid association	The SCS/TNe Emulation used the ASSOCIATE command. The device type is not a printer or the device name is not a terminal.
Lst Rsp:The device is a partner to some terminal	The SCS/TNe Emulation used the CONNECT command in its request for a specific printer. The device name requested is the partner to some terminal.
Lst Rsp>Error occurred	An unknown error when processing the device type or name has occurred.

NETWORK SETUP> SERVER INFO Menu: Options Overview

The **SERVER INFO** menu is a sub-menu under the **NETWORK SETUP** menu. The following table lists menu options found under the **SERVER INFO** menu.

NETWORK SETUP > SERVER INFO Option name	Values
Name / IP Address	Use IP Address *, Use Hostname
IP Address	0.0.0.0 *, IP address of host to contact
Hostname	[undefined] *, ASCII name with up to 16 characters
TN Server Port	23 *, range: 0 - 65000
LU Name	[undefined] *, ASCII name with up to 10 characters
Device Type	Specific *, Associated, Generic
Keep Alive Type	Telnet NOP *, None, Timing Mark
Keep Alive Time	45 *, range: 1 - 32000 [seconds]

A description of each **SERVER INFO** menu option follows.

Name / IP Address

This **Network Setup > Server Info** option specifies the kind of address the SCS/TNe Emulation uses to contact the host or Telnet server.

Option Value	Comments
Use IP Address *	Use the IP address specified with the IP Address option.
Use Hostname	Use the hostname specified with the Hostname option.

IP Address

This **Network Setup > Server Info** option specifies the specific IP address of the host to be contacted by the SCS/TNe Emulation.

Option Value	Comments
0.0.0.0 *	Contact your network administrator for the IP address to use.

Hostname

This **Network Setup > Server Info** option specifies the name used to identify the host to be contacted by the SCS/TNe Emulation.

Option Value	Comments
[undefined] *	Any ASCII text string up to 16 characters. Contact your system administrator for information on the hostname to use.

TN Server Port

This **Network Setup > Server Info** option specifies the TCP Telnet server port defined on the host. Check with your system administrator for the correct Telnet server port to use.

Option Value	Comments
23 *	This is the default port number for Telnet sessions according to RFC 1700. The RFC can be found on the Internet.
[0..65000]	Any number within this range can be selected. While a large range of port numbers can be selected, due to security reasons not all port numbers are available on the printer. If a value other than the default is selected, a value between 1024 and 65000 is recommended.

LU Name

This **Network Setup > Server Info** option specifies the LU name assigned to the SCS/TNe Emulation on the host or SNA gateway.

Remember also to check the setting of the [Device Type](#) option. If a specific LU name is requested, then the name must be defined and available on the host.

After a connection is active, the LU name can be viewed with the [Connect Status](#) option or on the **Menu Settings** page ([“How to access the Menu Settings Page” on page 78](#)).

Check with your system administrator for the correct LU name to use.

Option Value	Comments
[undefined] *	Any ASCII text string up to 10 characters.

IMPORTANT:

An LU name must be specified in order for the SCS/TNe Emulation to connect to the host or SNA gateway.

Device Type

This **Network Setup > Server Info** option specifies the device type for the **LU Name** requested from the host or the SNA gateway by the SCS/TNe Emulation. Check with your system administrator for the correct device type to use.

Option Value	Comments
Specific *	Request a specific LU name. Make sure this has been defined and is available on the host or SNA server.
Associated	Request an associated printer which is paired with the terminal LU named in the request.
Generic	Request a generic printer. The LU name is received from the pool of LU names.

Keep Alive Type

This **Network Setup > Server Info** option specifies the type of keep alive signal sent to the host or SNA gateway server. This signal is sent to the host by the SCS/TNe Emulation to keep the Telnet session active. The [Keep Alive Time](#) setting determines how often this signal is sent.

Check with your system administrator to determine the type of signal to select.

IMPORTANT:

If the Mainframe has difficulty detecting the selected signal type, try changing to another type. Check with your system administrator to determine the type of signal to select.

Option Value	Comments
None	Do not send keep alive signals. When this setting is selected, the host should be configured to send a keep alive signal. The SCS/TNe Emulation can receive and respond to a Telnet NOP or a Timing Mark keep alive signal.
Telnet NOP *	Send a Telnet No Operation as the keep alive signal.
Timing Mark	Send a Telnet timing mark as the keep alive signal.

Keep Alive Time

This **Network Setup > Server Info** option specifies the time in seconds that expires between each keep alive signal sent to the host or SNA gateway server. The **Keep Alive Type** setting specifies the type of signal sent to the host.

Set this option to a value smaller than the session's inactivity timeout value defined on the host. The host parameter name is **KEEPALIVE OPTIONS**. It resides in the host IP profile dataset:

```
SYS1.TCPPARMS( PROFILE ).
```

This setting is not used if the **Keep Alive Type** is set to **None**.

Option Value	Comments
45 * [1..32000]	The range is 1 to 32000 seconds.

SCS OPTIONS Menu: Options Overview

The **SCS OPTIONS** menu is a sub-menu directly under the **TN3270E SETUP** menu.

The following table lists menu options and sub-menus found under the **SCS OPTIONS** menu.

SCS OPTIONS Option name	Values
COR/APO Sett (IDB Option 122)	Yes *, No
MISC SETTINGS	Sub-menu. See SCS Options > MISC SETTINGS Menu: Options Overview (page 106) and FF Support (IDB Option 5) (page 108).
PAPER SETTINGS	Sub-menu. See SCS Options > PAPER SETTINGS Menu: Options Overview (page 133) and Left Margin (IDB Option 103) (page 135).

A description of each of the **SCS OPTIONS** menu item follows.

COR/APO Sett (IDB Option 122)

This **SCS Options** option controls whether or not Automatic Print Orientation (APO) is used.

APO automatically controls page orientation. When APO is enabled the SCS/TNe Emulation calculates the print area required for printing the document. This is based on page formatting commands received from the host. If the document does not fit on a page in portrait orientation, the orientation is changed to landscape.

Option Value	IDB Value
No	1
Yes *	2

Advanced IDB language to set factory default:

```
&%IDB_EDIT: OPTION 122:2:EXIT
```

SCS Options > MISC SETTINGS Menu: Options Overview

The **MISC SETTINGS** menu is a sub-menu under the **SCS OPTIONS** menu.

The following table lists menu options and sub-menus found under the **MISC SETTINGS** menu.

SCS OPTIONS >MISC SETTINGS Option name	Values
FF Support (IDB Option 5)	Always FF *, Always LF, LF & FF
Non-Print Char (IDB Option 3)	ASCII Value 45 *, any single ASCII character in the decimal range: 0 - 255
CSC Characters (IDB Options 8 & 9)	&% * (ASCII character 38 [ampersand] and 37 [percent]), decimal ASCII range: 33 - 126
IDB Delimiter (IDB Option 7)	: * (ASCII character 58 [colon]), decimal ASCII range: 32 - 126
Use IR (IDB Option 21)	Off *, On
Format Ctrl Sup (IDB Option 177)	Normal *, No AutoNL, No AutoNL', No Codes, Normal', No Codes', Normal''
Country Code (IDB Option 2)	English (US) *, English (UK), Aus/Ger, Aus/Ger (alt), Belgian, Brazilian, Can Bilin, Can French, Dan/Nor, Dan/Nor (alt), Fin/Swe, Fin/Swe (alt), Fre/Azerty, Ger/Fre (Swiss), International, Italian, Jap/Eng, Portugal, Portugal (alt), Spanish, Spanish Speak., Spanish (alt), Spa/Text proc.
Skip Blank Page (IDB Option 32)	Do Not Skip *, Skip
CPI (IDB Option 100)	10 CPI *, 12 CPI, 15 CPI, 16.7 CPI

SCS OPTIONS >MISC SETTINGS Option name	Values
Max Prt Pos (IDB Option 102)	132 *, range: 1 - 255
LPI (IDB Option 105)	6 *, range: 1 - 255
Line Spacing (IDB Option 106)	Single *, Double
LPP (IDB Option 107)	64 *, range: 1 - 255
Transparency (IDB Option 167)	Intermate *, Axis, Enable MPI feat
Form Strings (IDB Option 168)	ASCII Value 0 * [Disabled], or any single ASCII character in the decimal range: 1 - 255
IBM Trn Code (IDB Option 169 bit 1)	Normal *, No Translation
Leadin Sequence (IDB Option 169 bit2)	Normal *, Without '&%'
Euro Support (IDB Event 191)	No *, Yes
BOLD PRINT	Sub-menu. See SCS Options> MISC SETTINGS > BOLD PRINT Menu - Options Overview (page 129) and Bold On CR (IDB Option 22 bit 1) (page 130).

A description of each **MISC SETTINGS** menu item follows.

FF Support (IDB Option 5)

This **SCS Options > MISC Settings** option defines if a form feed and/or a line feed is generated when the MPL (Maximum Page Length) or BM (Bottom Margin) is reached in the data stream.

Option Value	IDB Value
Always FF *	0
Always LF	1
LF & FF	2

Advanced IDB language to set factory default:

```
&%IDB_EDIT: OPTION 5:0:EXIT
```

Non-Print Char (IDB Option 3)

This **SCS Options > MISC Settings** option defines the replacement character to substitute for an unprintable character found in the data stream. Refer to “[Appendix B - ASCII Character Table](#)” on page 282 for a complete list of *printable* characters and their values.

Option Value	IDB Value
ASCII Value 45 *	45
ASCII Value [0..255]	0 - 255

Advanced IDB language to set factory default:

```
&%IDB_EDIT: OPTION 3:45:EXIT
```

CSC Characters (IDB Options 8 & 9)

This **SCS Options > MISC Settings** option defines the Command String Characters (CSC). The CSC is a unique two-character sequence, which opens the internal IDB editor in the SCS/TNe Emulation. It must be used every time IDB commands are sent to the SCS/TNe Emulation. The CSC is also used in front of the Lead-in characters defined with option 171 and 172. Last of all the CSC is also used for passing single hex values to the printer, e.g. `&%1B = <esc>`.

The IDB option values are ASCII characters in the decimal range 33 - 126. Refer to [“Appendix B - ASCII Character Table” on page 282](#) for a complete list of characters and their values.

Option Value	IDB Values
<code>&% *</code>	38 [ampersand (&)] 37 [percent (%)]

TIP:

Several options are set at the same time in the IDB command line to the right. This is done by writing the number of the first option and separating the values for the preceding options with commas.

Advanced IDB language to set factory default:

```
&%IDB_EDIT: OPTION 8:38,37:EXIT
```

IDB Delimiter (IDB Option 7)

This **SCS Options > MISC Settings** option defines the delimiter used in the Advanced IDB command language to separate programming commands.

The IDB option value is an ASCII character in the decimal range 32 - 126. Refer to [“Appendix B - ASCII Character Table” on page 282](#) for a complete list of characters and their values.

Option Value	IDB Value
: *	58 [colon (:)]

Advanced IDB language to set factory default:

```
&%IDB_EDIT: OPTION 7:58:EXIT
```

Use IR (IDB Option 21)

This **SCS Options > MISC Settings** option controls Intervention Required (IR) reporting to the host. If the option is enabled, IR signals are sent when the printer reports a Paper Out, Paper Jam, goes Off-line etc.

Option Value	Value Description	IDB Value
Off *	No IR signals are sent	0
On	IR signals are sent	1

Advanced IDB language to set factory default:

```
&%IDB_EDIT: OPTION 21:0:EXIT
```

Format Ctrl Sup (IDB Option 177)

This **SCS Options > MISC Settings** option defines the suppression of control codes after Power On.

Option Value	IDB Value	Comments
Normal *	0	Standard handling of control codes after Power On. It can be disabled with the <CSC>+M command.
No AutoNL	1	Is disabled after Power On in Host direct print and Local Copy print. It can be enabled with the <CSC>-M command. All host generated codes are still sent.
No AutoNL'	2	Is disabled after Power On in Host direct print. It can be enabled with the <CSC>-M command. All host generated codes are still sent.
No Codes	3	CR, LF, NL and FF codes from the host are suppressed and the auto-NL function is disabled. It can be enabled with the <CSC>-M command. Note: Because control codes are suppressed, horizontal/vertical tab and other commands which depend on correct page format will not work correctly.

Option Value	IDB Value	Comments
Normal'	4	Standard handling of control codes after Power On. If the <CSC>+M command is used, CR, LF, NL and FF codes from the host are suppressed and the auto-NL function is disabled.
No Codes'	5	CR, LF, NL and FF codes from the host are suppressed. It can be enabled with the <CSC>-M command. The auto-NL is still enabled.
Normal''	6	Standard handling of control codes after Power On. If the <CSC>+M command is used, CR, LF, NL and FF codes from the host are suppressed. The auto-NL function is still enabled.

NOTE: <CSC> = &% is factory default.

<CSC> + M [m]:

If Option 177 = 0, 1 or 2:

After this command the auto-NL function is disabled. All host generated control codes are still sent to the printer.

If Option 177 = 3 or 4:

All host generated CR, LF, NL and FF control codes are suppressed and the auto-NL function is disabled.

Control codes can only be sent to the printer with one of the transparent commands.

NOTE: The effect of the <CSC>+M command is reset per job.

<CSC> - M [m]:

After this command, all Host generated control codes are processed and the auto-NL function operates as normal.

Refer to [“Appendix C - Special TN3270e IDB Commands”](#) on [page 284](#) for more commands.

Advanced IDB language to set factory default:

```
&%IDB_EDIT: OPTION 177:0:EXIT
```

Country Code (IDB Option 2)

This **SCS Options > MISC Settings** option defines the character set.

Option Value	IDB Value	Comments
Aus/Ger	2	Austrian/German
Aus/Ger (alt)	3	Austrian/German Alternate
Belgian	4	Belgian
Brazilian	5	Brazilian
Can Bilin	6	Canadian bilingual
Can French	7	Canadian French
Dan/Nor	8	Danish/Norwegian
Dan/Nor (alt)	9	Danish/Norwegian Alternate
English (UK)	10	English, U.K.
English (US) *	1	English, U.S. See note.
Fin/Swe	11	Finnish/Swedish
Fin/Swe (alt)	12	Finnish/Swedish Alternate
Fre/Azerty	13	French/Azerty 105
International	14	International
Italian	15	Italian

Option Value	IDB Value	Comments
Portugal	16	Portuguese
Portugal (alt)	17	Portuguese Alternate
Spanish	18	Spanish
Spanish Speak.	19	Spanish speaking
Spanish (alt)	20	Spanish Alternate
Ger/Fre (Swiss)	21	Swiss German/Swiss French
Jap/Eng	22	Japanese/English
Spa/Text proc.	23	Spanish data/text processing

NOTE: If the SCS options are restored to non-US factory defaults, the default value of this option changes to **English (UK)**. See the [SCS3270 Defaults](#) option.

Advanced IDB language to set factory default:

```
&%IDB_EDIT: OPTION 2:1:EXIT
```

Skip Blank Page (IDB Option 32)

This **SCS Options > MISC Settings** option controls whether or not blank pages are printed. With this option enabled, pages containing only a CR, NL, LF or FF are skipped.

Option Value	IDB Value
Do Not Skip *	0
Skip	1

Advanced IDB language to set factory default:

```
&%IDB_EDIT: OPTION 32:0:EXIT
```

CPI (IDB Option 100)

This **SCS Options > MISC Settings** option defines the number of characters per inch.

Option Value	IDB Value
10 CPI *	10
12 CPI	12
15 CPI	15
16.7 CPI	16

Advanced IDB language to set factory default:

```
&%IDB_EDIT: OPTION 100:10:EXIT
```

Max Prt Pos (IDB Option 102)

This **SCS Options > MISC Settings** option defines the maximum number of characters per line.

Option Value	IDB Value
132 * [1..255]	132

Advanced IDB language to set factory default:

```
&%IDB_EDIT: OPTION 102:132:EXIT
```

LPI (IDB Option 105)

This **SCS Options > MISC Settings** option defines the number of lines per inch.

Option Value	IDB Value
6 * [1..255]	6

Advanced IDB language to set factory default:

```
&%IDB_EDIT: OPTION 105:6:EXIT
```

Line Spacing (IDB Option 106)

This **SCS Options > MISC Settings** option defines the line spacing.

Option Value	IDB Value
Single *	0
Double	1

Advanced IDB language to set factory default:

```
&%IDB_EDIT: OPTION 106:0:EXIT
```


LPP (IDB Option 107)

This **SCS Options > MISC Settings** option defines the number of lines per page.

NOTE: If the SCS options are restored to non-US factory defaults, the default value of this option changes to **66**. See the [SCS3270 Defaults](#) option.

Option Value	IDB Value
64 * [1..255]	64

Advanced IDB language to set factory default:

```
&%IDB_EDIT: OPTION 107:64:EXIT
```

Transparency (IDB Option 167)

This **SCS Options > MISC Settings** option selects the transparency mode.

Option Value	IDB Value
Intermate *	0
Axis	1
Enable MPI feat	2

Advanced IDB language to set factory default:

```
&%IDB_EDIT: OPTION 167:0:EXIT
```

Form Strings (IDB Option 168)

IMPORTANT:

Avoid using a character between 0 - 9 (ASCII 49 - 57), A - F (ASCII 65 - 70). Also, avoid using one of the characters used as lead in for one of the other CSC commands.

This **SCS Options > MISC Settings** option defines the lead in character for the Formatted String Utility.

The lead in character is an ASCII character in the decimal range 0 - 255. Refer to [“Appendix B - ASCII Character Table” on page 282](#) for a complete list of *printable* characters and their values.

Option Value	IDB Value	Comments
ASCII Value 0 *	0	Disable the Formatted String Utility.
ASCII Value [1..255]	1 - 255	

Advanced IDB language to set factory default:

```
&%IDB_EDIT: OPTION 168:0:EXIT
```

IBM Trn Code (IDB Option 169 bit 1)

This **SCS Options > MISC Settings** option defines how transparent data is translated.

Option Value	IDB bit option value	Comments
Normal *	0	Transparent data is translated from EBCDIC to ASCII. Data outside the range 40H - FEH is printed as a hyphen. See the Non-Print Char (IDB Option 3) option.
No Translation	1	Data within a transparent data stream (LU-1 (SCS) control code 35H) is printed as received. No translation from EBCDIC to ASCII is performed. All transparent data is printed, even invalid data, ie data in the range 40H - FEH.

Advanced IDB language to set factory default:

```
&%IDB_EDIT: OPTION 169:0:EXIT
```

Leadin Sequence (IDB Option 169 bit2)

This **SCS Options > MISC Settings** option defines the kind of lead in sequence used.

Option Value	IDB bit option value	Comments
Normal *	0	Normal user defined transparent handling.
Without '&%'	1	User defined transparent lead in characters are used without the pass through sequence. See the CSC Characters (IDB Options 8 & 9) option.

Advanced IDB language to set factory default:

```
&%IDB_EDIT: OPTION 169:0:EXIT
```

Euro Support (IDB Event 191)

This **SCS Options > MISC Settings** option controls Euro character print support.

Option Value	Comments
No *	Disable Euro Support.
Yes	Enable Euro Support. The ASCII character 186d (0xBAh) is converted to the Euro ASCII character 213d (0xD5h) in symbol set 13U.

SCS Options> MISC SETTINGS > BOLD PRINT Menu - Options Overview

The **BOLD PRINT** menu is a sub-menu under the **MISC SETTINGS** menu.

The following table lists menu options found under the **BOLD PRINT** menu.

SCS OPTIONS > MISC SETTINGS> BOLD PRINT Option name	Values
Bold On CR (IDB Option 22 bit 1)	Yes *, No
Bold On BS (IDB Option 22 bit 2)	Yes *, No
Bold On Multi BS (IDB Opt. 22 bit 3)	Yes *, No

A description of each **BOLD PRINT** menu option follows.

Bold On CR (IDB Option 22 bit 1)

This **SCS Options > MISC Settings > BOLD PRINT** option defines whether or not bold printing is enabled on a carriage return (CR).

Option Value	IDB bit option value
No	0
Yes *	1

Advanced IDB language to set factory default:

```
&%IDB_EDIT: OPTION 22:7:EXIT
```


Bold On BS (IDB Option 22 bit 2)

This **SCS Options > MISC Settings > BOLD PRINT** option defines whether or not bold printing is enabled on a backspace (BS).

Option Value	IDB bit option value
No	0
Yes *	1

Advanced IDB language to set factory default:

```
&%IDB_EDIT: OPTION 22:7:EXIT
```

Bold On Multi BS (IDB Opt. 22 bit 3)

This **SCS Options > MISC Settings > BOLD PRINT** option defines whether or not bold printing is enabled on multiple backspaces.

Option Value	IDB bit option value
No	0
Yes *	1

Advanced IDB language to set factory default:

```
&%IDB_EDIT: OPTION 22:7:EXIT
```

SCS Options > PAPER SETTINGS Menu: Options Overview

The **PAPER SETTINGS** menu is a sub-menu under the **SCS OPTIONS** menu. The following table lists menu options found under the **PAPER SETTINGS** menu.

Option name	Values
Left Margin (IDB Option 103)	1 *, range: 1 - 255
Right Margin (IDB Option 104)	132 *, range: 1 - 255
Top Margin (IDB Option 108)	1 *, range: 1 - 255
Bottom Margin (IDB Option 109)	64 *, range: 1 - 255
Source Input (IDB Option 113)	Tray 1 *, Prtr Setting, Tray 2, Tray 3, Tray 4, Tray 5
Tray 1 Orient (IDB Option 123)	COR *, Portrait, Landscape
Tray 2 Orient (IDB Option 124)	COR *, Portrait, Landscape
Tray 3 Orient (IDB Option 125)	Portrait *, Landscape, COR
Tray 4 Orient (IDB Option 126)	Portrait *, Landscape, COR
Tray 5 Orient (IDB Option 127)	Portrait *, Landscape, COR
Tray1 Paper Size (IDB Option 90)	Letter *, A4 , B5, Legal
Tray2 Paper Size (IDB Option 91)	Letter *, A4 , B5, Legal
Tray3 Paper Size (IDB Option 92)	Letter *, A4 , B5, Legal
Tray4 Paper Size (IDB Option 93)	Letter *, A4 , B5, Legal
Tray5 Paper Size (IDB Option 94)	Letter *, A4 , B5, Legal

A description of each **PAPER SETTINGS** menu option follows.

Left Margin (IDB Option 103)

This **SCS Options > Paper Settings** option defines the left margin position in characters. The character width depends on the setting of the **CPI (IDB Option 100)** option.

Option Value	IDB Value
1 * [1..255]	1

Advanced IDB language to set factory default:

```
&%IDB_EDIT: OPTION 103:1:EXIT
```

Right Margin (IDB Option 104)

This **SCS Options > Paper Settings** option defines the right margin position in characters. The character width depends on the setting of the **CPI (IDB Option 100)** option.

Option Value	IDB Value
132 * [1..255]	132

Advanced IDB language to set factory default:

```
&%IDB_EDIT: OPTION 104:132:EXIT
```

Top Margin (IDB Option 108)

This **SCS Options > Paper Settings** option defines line number position of the top margin. The line height depends on the setting of the [LPI \(IDB Option 105\)](#) option.

Option Value	IDB Value
1 * [1..255]	1

Advanced IDB language to set factory default:

```
&%IDB_EDIT: OPTION 108:1:EXIT
```

Bottom Margin (IDB Option 109)

This **SCS Options > Paper Settings** option defines the line number position of the bottom margin. The line height depends on the setting of the [LPI \(IDB Option 105\)](#) option.

NOTE: If the SCS options are restored to non-US factory defaults, the default value of this option changes to **66**. See the [SCS3270 Defaults](#) option.

Option Value	IDB Value
64 * [1..255]	64

Advanced IDB language to set factory default:

```
&%IDB_EDIT: OPTION 109:64:EXIT
```


Source Input (IDB Option 113)

This **SCS Options > Paper Settings** option selects the input source.

Option Value	IDB Value	Comments
Prtr Setting	0	Feed paper from the paper source selected in the printer PAPER MENU Paper Source menu.
Tray 1 *	1	Paper is fed from Tray 1
Tray 2	2	Paper is fed from Tray 2
Tray 3	3	Paper is fed from Tray 3
Tray 4	4	Paper is fed from Tray 4
Tray 5	5	Paper is fed from Tray 5

Advanced IDB language to set factory default:

```
&%IDB_EDIT: OPTION 113:1:EXIT
```

Tray 1 Orient (IDB Option 123)

This **SCS Options > Paper Settings** option selects the page orientation for source input tray 1.

Option Value	IDB Value
Portrait	0
Landscape	1
COR *	2

Advanced IDB language to set factory default:

```
&%IDB_EDIT: OPTION 123:2:EXIT
```

Tray 2 Orient (IDB Option 124)

This **SCS Options > Paper Settings** option selects the page orientation for source input tray 2.

Option Value	IDB Value
Portrait	0
Landscape	1
COR *	2

Advanced IDB language to set factory default:

```
&%IDB_EDIT: OPTION 124:2:EXIT
```

Tray 3 Orient (IDB Option 125)

This **SCS Options > Paper Settings** option selects the page orientation for source input tray 3.

Option Value	IDB Value
Portrait *	0
Landscape	1
COR	2

Advanced IDB language to set factory default:

```
&%IDB_EDIT: OPTION 125:0:EXIT
```

Tray 4 Orient (IDB Option 126)

This **SCS Options > Paper Settings** option selects the page orientation for source input tray 4.

Option Value	IDB Value
Portrait *	0
Landscape	1
COR	2

Advanced IDB language to set factory default:

```
&%IDB_EDIT: OPTION 126:0:EXIT
```

Tray 5 Orient (IDB Option 127)

This **SCS Options > Paper Settings** option selects the page orientation for source input tray 5.

Option Value	IDB Value
Portrait *	0
Landscape	1
COR	2

Advanced IDB language to set factory default:

```
&%IDB_EDIT: OPTION 127:0:EXIT
```

Tray1 Paper Size (IDB Option 90)

This **SCS Options > Paper Settings** option specifies the paper size to be used when [Source Input \(IDB Option 113\) Tray 1](#) is selected and the APO/COR function has been activated. This paper size is used to determine the print area for rotations of job text. See the [COR/APO Sett \(IDB Option 122\)](#) option.

Option Value	IDB Value
A4	0
B5	1
Letter *	2 See note below.
Legal	3

NOTE: If the SCS options are restored to non-US factory defaults, the default value of this option changes to **A4**. See the [SCS3270 Defaults](#) option.

Advanced IDB language to set factory default:

```
&%IDB_EDIT: OPTION 90:2:EXIT
```

Tray2 Paper Size (IDB Option 91)

This **SCS Options > Paper Settings** option specifies the paper size to be used when [Source Input \(IDB Option 113\) Tray 2](#) is selected and the APO/COR function has been activated. This paper size is used to determine the print area for rotations of job text. See the [COR/APO Sett \(IDB Option 122\)](#) option.

Option Value	IDB Value
A4	0
B5	1
Letter *	2 See note below.
Legal	3

NOTE: If the SCS options are restored to non-US factory defaults, the default value of this option changes to **A4**. See the [SCS3270 Defaults](#) option.

Advanced IDB language to set factory default:

```
&%IDB_EDIT: OPTION 91:2:EXIT
```


Tray3 Paper Size (IDB Option 92)

This **SCS Options > Paper Settings** option specifies the paper size to be used when [Source Input \(IDB Option 113\) Tray 3](#) is selected and the APO/COR function has been activated. This paper size is used to determine the print area for rotations of job text. See the [COR/APO Sett \(IDB Option 122\)](#) option.

Option Value	IDB Value
A4	0
B5	1
Letter *	2 See note below.
Legal	3

NOTE: If the SCS options are restored to non-US factory defaults, the default value of this option changes to **A4**. See the [SCS3270 Defaults](#) option.

Advanced IDB language to set factory default:

```
&%IDB_EDIT: OPTION 92:2:EXIT
```

Tray4 Paper Size (IDB Option 93)

This **SCS Options > Paper Settings** option specifies the paper size to be used when [Source Input \(IDB Option 113\) Tray 4](#) is selected and the APO/COR function has been activated. This paper size is used to determine the print area for rotations of job text. See the [COR/APO Sett \(IDB Option 122\)](#) option.

Option Value	IDB Value
A4	0
B5	1
Letter *	2 See note below.
Legal	3

NOTE: If the SCS options are restored to non-US factory defaults, the default value of this option changes to **A4**. See the [SCS3270 Defaults](#) option.

Advanced IDB language to set factory default:

```
&%IDB_EDIT: OPTION 93:2:EXIT
```

Tray5 Paper Size (IDB Option 94)

This **SCS Options > Paper Settings** option specifies the paper size to be used when [Source Input \(IDB Option 113\) Tray 5](#) is selected and the APO/COR function has been activated. This paper size is used to determine the print area for rotations of job text. See the [COR/APO Sett \(IDB Option 122\)](#) option.

Option Value	IDB Value
A4	0
B5	1
Letter *	2 See note below.
Legal	3

NOTE: If the SCS options are restored to non-US factory defaults, the default value of this option changes to **A4**. See the [SCS3270 Defaults](#) option.

Advanced IDB language to set factory default:

```
&%IDB_EDIT: OPTION 94:2:EXIT
```

TEST OPTIONS Menu: Options Overview

The **TEST OPTIONS** menu is a sub-menu directly under the **TN3270E SETUP** menu.

The following table lists menu options found under the **TEST OPTIONS** menu.

Option name	Values
SCS3270 Hex Dump	Normal Mode *, Hex Dump-Mode
Print 3270 IDB	Do Not Print *, Print
SCS3270 Defaults	Do Not Restore *, US-Default, Non-US-Default

A description of each **TEST OPTIONS** menu item follows.

SCS3270 Hex Dump

This **Test** option enables hex tracing for diagnosing print job problems. When hex dump mode is selected, all data sent to the printer is printed in hexadecimal and character representation. Control codes are not executed.

The [SCS Debug Trace](#) option overrides this option. This means that a hex dump is not produced even though this option is set to **Hex Dump-Mode**.

Option Value	Comments
Normal Mode *	Normal printer operation.
Hex Dump-Mode	Print job as hex characters without executing control codes.

Print 3270 IDB

This **Test** option prints a tabular report of the current IDB settings using option numbers. Print this report when asked by technical support representatives.

Option Value	Comments
Do Not Print *	Do not print the IDB settings. This performs the same action as if Back had been pressed in the operator panel.
Print	Print the IDB settings.

Advanced IDB language:

```
&%IDB_PRINT_FULL:EXIT
```

SCS3270 Defaults

This **Test** option restores the TN3270e **SCS OPTIONS** setting to their factory default settings. Other printer emulation defaults are unchanged.

The restored settings become active on the next SCS job.

Option Value	Comments
Do Not Restore *	Do not restore any settings. This performs the same action as if Back had been pressed in the operator panel.
US-Default	Restore the factory default TN3270e SCS settings to US default settings.
Non-US-Default	Restore the factory default TN3270e SCS settings to non-US factory default settings.

The table below summarizes the differences between the US and the Non-US factory default settings.

Affected option	US-Default	Non-US-Default
Country Code (IDB Option 2)	English (US)	English (UK)
Bottom Margin (IDB Option 109)	64	66
LPP (IDB Option 107)	64	66
Tray1 Paper Size (IDB Option 90)	Letter	A4

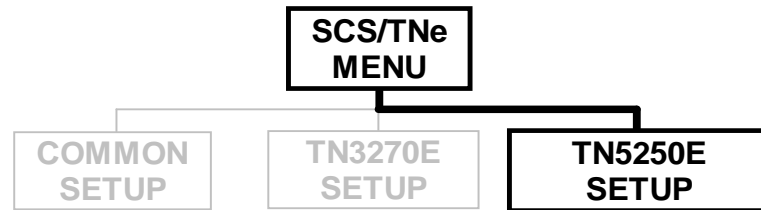
Affected option	US-Default	Non-US-Default
Tray2 Paper Size (IDB Option 91)	Letter	A4
Tray3 Paper Size (IDB Option 92)	Letter	A4
Tray4 Paper Size (IDB Option 93)	Letter	A4
Tray5 Paper Size (IDB Option 94)	Letter	A4
FF Support (IDB Option 5)	Always FF	Always FF
COR/APO Sett (IDB Option 122)	Yes	Yes

Operations Reference - TN5250E SETUP

Introduction

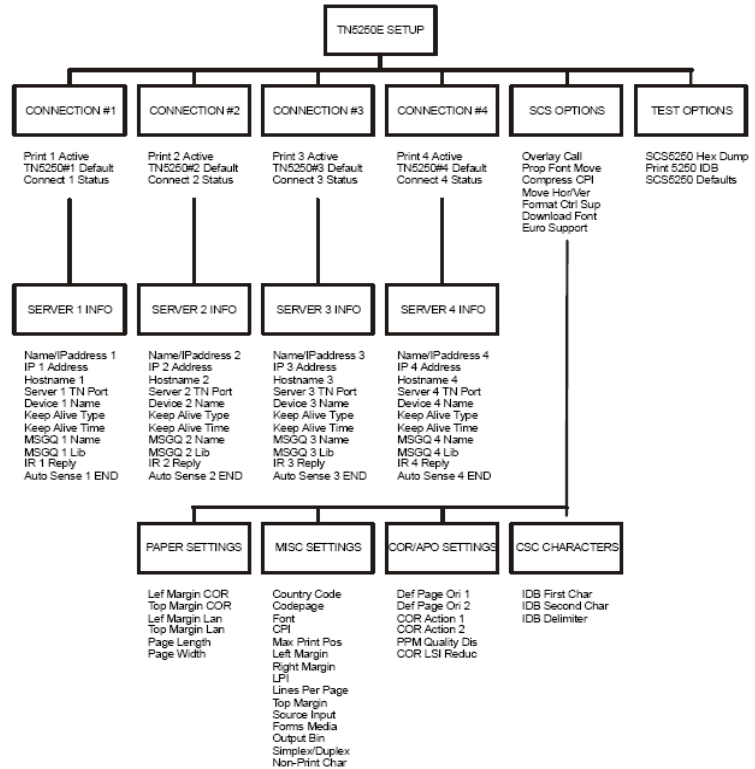
This section describes the SCS/TNe Emulation **TN5250E SETUP** menu structure and options. Settings under this menu are used when printing from an AS/400 or iSeries host.

From a **Ready** status, touch **Menus**. Locate and touch the **Option Card Menu**. Locate and touch **SCS/TNe Menu**. Locate and touch **TN5250E SETUP**.



Settings are displayed under the sub-menus accessed from the **TN5250E SETUP** menu.

Tree diagram of the TN5250E SETUP menu structure.



The SCS/TNe Emulation has default settings for most SCS commands found in an SCS job. If one or more SCS settings are missing from a job, the SCS/TNe Emulation uses the value specified in the **SCS OPTIONS** menu for the option. Settings specified in an SCS job override the SCS/TNe Emulation default settings.

An asterisk (*) next to a value setting indicates that the setting is currently active. The current setting for each option is listed on the **Menu Settings** page. ([“How to access the Menu Settings Page” on page 78](#))

Options using text strings as settings which have not been configured display the text string "[undefined]" and show "[undefined]" on the **Menu Settings** page.

Options using values as settings which are set outside their ranges do not have an asterisk in the operator panel to indicate the current setting. The **Menu Settings** page shows the text string "[invalid]" for options set outside their ranges. Invalid will print for installed features which were selected as the option value but have been uninstalled. Select one of the currently installed features. Setting options to values outside the ranges shown in the operator panel is possible via remote configuration and should be avoided.

A **User IDB command** is shown at the end of menu options which may be set by remote configuration. Following this are two command lines, one for the **User IDB language** and another for the **Advanced IDB language**. These show how to remotely set the menu option to the factory default or how to perform the described action (cf. [“IDB Basics” on page 248 ff.](#) - and see [“Additional TN5250e Printer Commands Using IDB” on page 260 ff.](#))

CONNECTION # Menu: Options Overview

The SCS/TNe Emulation supports four concurrent TN5250E sessions. Each session has its own unique set of network settings. These are located in the **CONNECTION#1 - CONNECTION#4** menus.

The **SCS OPTIONS** (pp.177 ff) menu settings are common to all four sessions. This means that changes made under the **SCS OPTIONS** menu settings affect the way all TN5250E jobs are printed.

The following table lists menu options found under the **CONNECTION#1 - CONNECTION#4** menus.

Option name	Values
Print # Active	No *, Yes
TN5250## Default	Do Not Restore *, Restore Defaults
Connect # Status	Shows Primary Status Messages and Last Response Messages. Refer to Connect # Status (page 162) for a description of each message.
SERVER # INFO	Sub-menu. See CONNECTION # > SERVER # INFO Menu: Options Overview (page 165) and Name / IPaddress # (page 166).

A description of each **CONNECTION##** menu option follows.

Print # Active

This **Connection#** option controls the activation of the SCS/TNe Emulation for TN5250E communication and printing.

Option Value	Comments
No *	SCS printing is disabled for this connection. The printer will not attempt to establish a host connection.
Yes	SCS printing is enabled for this connection. The printer will attempt to establish a host connection.

TN5250## Default

This **Connection#** option restores the TN5250E **CONNECTION #1**, **#2**, **#3**, or **#4** factory default settings and resets all sessions.

Option Value	Comments
Do Not Restore *	Do not restore to factory default settings. This performs the same action as if Back had been pressed in the operator panel.
Restore Defaults	Restore the TN5250 CONNECTION ## menu options for the current connection to factory default settings. All TN sessions will be disconnected. All TN sessions will be reconnected except for the session with restored factory defaults.

Connect # Status

This **Connection#** option displays the connection status with the host. The option cannot be changed by the user.

The first part of the line shows the primary status message of the connection followed by a last response message received from the host. The complete status message text may not be displayed. Refer to the tables below.

Connect # Status: Primary status messages	Comments
Negotiating with TN server	The SCS/TNe Emulation has contacted the host successfully and is negotiating the Telnet communications parameters.
Not Configured	The IP # Address , Hostname # , Device # Name , MSGQ # Name , or MSGQ # Lib in the TN5250E SERVER # INFO menu has not been configured.
Print Inactive *	<p>One of the following conditions exists and is preventing a session from being established.</p> <ol style="list-style-type: none"> 1 Print Active = No. Solution: Set to Yes. (Path: Menus > Option Card Menu > SCS/TNe MENU > TN5250E SETUP > CONNECTION #). 2 NPA Mode = Off. Solution: Set to Auto. (Path: Menus > Network/Ports > print server to be used for SCS printing > NPA Mode). 3 Cable is not plugged into print server. Plug in cable. 4 Network is down. Check network.
Reconnecting session	The Telnet session was disconnected. The SCS/TNe Emulation is attempting to reconnect.

Connect # Status: Primary status messages	Comments
Session Disconnected and Halted	All active Telnet sessions have been disconnected. Power the printer Off and On or select Menus > Option Card Menu > SCS/TNe MENU > COMMON SETUP > Reset TN Session > Reset TN Ses. to reconnect.
Session established on system [SYSTEM NAME]	A Telnet connection is established and the SCS/TNe Emulation is ready to receive print jobs. The [SYSTEM NAME] is the name of the host to which the SCS/TNe Emulation is connected.

Connect # Status: Last response messages	Comments
Trying to connect	The SCS/TNe Emulation is contacting the host to establish a TCP/IP connection.
Lst Rsp:l901:Less func. than source device	The SCS/TNe Emulation has received a successful Startup Response Record. There is a mismatch between the device description created on the host and the actual virtual device.
Lst Rsp:l902:Session succesfully started	The SCS/TNe Emulation has received a successful Startup Response Record. A TN5250E session has been established.
Lst Rsp:l906:Auto sign-on not allowed	The SCS/TNe Emulation could not establish a session.
Lst Rsp:2702:Device description not found	Check with system operator.
Lst Rsp:2703:Controller desc. not found	Check with system operator.
Lst Rsp:2777:Damaged device description	Check with system operator.
Lst Rsp:8901:Device not varied on	The SCS/TNe Emulation device is not varied ON. Vary it on on the host.

Connect # Status: Last response messages	Comments
Lst Rsp:8902:Device not available	The requested device is not available on the system. It has probably been assigned to another Telnet session.
Lst Rsp:8903:Device not valid for session	Check with system operator.
Lst Rsp:8906:Session initiation failed	Check with system operator.
Lst Rsp:8907:Session failure	Check with system operator.
Lst Rsp:8910:Controller not valid	Check with system operator.
Lst Rsp:8916:No matching device found	An existing device configuration was not found and the auto-configuration of virtual devices did not allow any new device descriptions to be created.
Lst Rsp:8917:Not authorized to object	Check with system operator.
Lst Rsp:8918:Job canceled	Check with system operator.
Lst Rsp:8920:Object partially damaged	The device description object on the host has been damaged.
Lst Rsp:8921:Communication error	Check with system operator.
Lst Rsp:8922:Negative response received	The SCS/TNe Emulation was not able to establish a Telnet session. It will try again automatically.
Lst Rsp:8923:Start-up record incorrectly	Check with system operator.
Lst Rsp:8925:Creation of device failed	The SCS/TNe Emulation device was not created successfully.
Lst Rsp:8928:Change of device failed	Check with system operator.
Lst Rsp:8929:Vary on or vary off failed	Check with system operator.
Lst Rsp:8930:Message queue does not exist	Check with system operator.

Connect # Status: Last response messages	Comments
Lst Rsp:8935:Session rejected	Check with system operator.
Lst Rsp:8936:Security failure on session	Check with system operator.
Lst Rsp:8937:Automatic sign-on rejected	Check with system operator.
Lst Rsp:8940:Automatic config. failed	Check with system operator.
Lst Rsp:l904:Source at incompatible release	Check with system operator.

CONNECTION # > SERVER # INFO Menu: Options Overview

Each **SERVER # INFO** menu is a sub-menu under the corresponding **CONNECTION #** menu. The following table lists menu options found under the **SERVER # INFO** menu.

Connection# > SERVER # INFO Option name	Values
Name / IPaddress #	Use IP# Address*, Use Hostname #
IP # Address	0.0.0.0 *, IP address of host to contact
Hostname #	[undefined] *, ASCII name with up to 16 characters
Server # TN Port	23 * or within the range 0 - 65000
Device # Name	[undefined] *, ASCII name with up to 10 characters
Keep Alive Type	None *, Telnet NOP, Timing Mark

Connection# > SERVER # INFO Option name	Values
Keep Alive Time	45 *, range: 1 - 32000 [seconds]
MSGQ # Name	QSYSOPR *, ASCII name with up to 10 characters.
MSGQ # Lib	*LIBL *, ASCII name with up to 10 characters.
IR # Reply	Normal *, Offline, No Reply
Auto Sense # END	No *, Yes

A description of each **SERVER # INFO** menu option follows.

Name / IPaddress

This **Connection# > Server# Info** option specifies the kind of address the SCS/TNe Emulation uses to contact the host.

Option Value	Comments
Use IP# Address*	Use the IP address specified with the IP # Address option.
Use Hostname #	Use the hostname specified with the Hostname # option.

IP # Address

This **Connection# > Server# Info** option specifies the specific IP address of the host to be contacted by the SCS/TNe Emulation.

Option Value	Comments
0.0.0.0 *	Contact your network administrator for the IP address to use.

Hostname

This **Connection# > Server# Info** option specifies the name used to identify the host to be contacted by the SCS/TNe Emulation.

Option Value	Comments
[undefined] *	Any ASCII text string up to 16 characters. Contact your system administrator for information on the hostname to use.

Server # TN Port

This **Connection# > Server# Info** option specifies the TCP Telnet server port defined on the host. Check with your system administrator for the correct Telnet server port to use.

Option Value	Comments
23 *	This is the default port number for Telnet sessions according to RFC 1700. The RFC can be found on the Internet.
[0..65000]	Any number within this range can be selected. While a large range of port numbers can be selected, due to security reasons not all port numbers are available on the printer. If a value other than the default is selected, a value between 1024 and 65000 is recommended.

Device # Name

This **Connection# > Server# Info** option specifies the device and writer name associated with the SCS/TNe Emulation on the host. A device and writer will be auto configured with this name if it does not already exist.

Option Value	Comments
[undefined] *	Any ASCII text string up to 10 characters.

Keep Alive Type

This **Connection# > Server# Info** option specifies the type of keep alive signal sent to the host. This signal is sent by the SCS/TNe Emulation to keep the Telnet session active. The option is normally left at its default setting.

The **Keep Alive Time** setting determines how often this signal is sent. Check the host parameters `TIMMRKTIMO` and `INACTTIMO` to help determine the **Keep Alive Type** signal to be used and the **Keep Alive Time** value to set.

IMPORTANT:

If the host has difficulty detecting the selected signal type, try changing to another type. Check with your system administrator to determine the type of signal to select.

Option Value	Comments
None *	Do not send keep alive signals. When this setting is selected, the host should be configured to send a keep alive signal. The SCS/TNe Emulation can receive and respond to a Telnet NOP or a Timing Mark keep alive signal.
Telnet NOP	Send a Telnet No Operation as the keep alive signal.
Timing Mark	Send a Telnet timing mark as the keep alive signal.

Keep Alive Time

This **Connection# > Server# Info** option specifies the time in seconds that expires between each keep alive signal sent to the host. The **Keep Alive Type** setting specifies the type of signal sent to the host.

If the **Keep Alive Type** signal setting is set to **None**, this option value setting is ignored. If **Telnet NOP** or **Timing Mark** was selected, set this option value to a value less than the `INACTTIMO` value on the host.

TIP:

Set this option to as big a value as possible. Be sure it is smaller than the session's inactivity timeout value defined on the host. This will help minimize network traffic.

Option Value	Comments
45 * [1..32000]	The range is 1 to 32000 seconds.

MSGQ # Name

This **Connection# > Server# Info** option specifies the message queue name on the host to which Intervention Required conditions are reported. The message queue name must already exist on the host. It will not be auto created. The [MSGQ # Lib](#) option may be used to set the message queue library.

Leave this option at the default if you do not know the message queue name.

Option Value	Comments
QSYSOPR *	Any ASCII text string with up to 10 characters.

MSGQ # Lib

This **Connection# > Server# Info** option specifies the message queue library for the message queue specified in the **MSGQ # Name** option. The message queue library must already exist on the host. It will not be auto created.

Leave this option at the default if you do not know the library name.

Option Value	Comments
*LIBL *	Any ASCII text string with up to 10 characters.

IR # Reply

This **Connection# > Server# Info** option controls the reporting of Intervention Required Replies to the host.

Option Value	Comments
Normal *	Use normal IR replies, i.e. send paper jam as paper jam, paper out as paper out etc.
Offline	Only send IR replies as offline messages without specifying what kind of IR has occurred.
No Reply	Disable the use of IR replies.

Auto Sense # END

This **Connection# > Server# Info** option controls whether or not the SCS/TNe Emulation senses automatically if the host has ended the Writer. This may be necessary due to the host's management of the print queue when more than one job is in the same queue.

Option Value	Comments
No *	Do not sense if writer ends.
Yes	Sense if writer ends, reconnect, and reconfigure automatically.

SCS OPTIONS Menu: Options Overview

The **SCS OPTIONS** menu is a sub-menu directly under the **TN5250E SETUP** menu.

One set of TN5250E **SCS OPTIONS** menu values are saved.

All four TN5250E connections use the same **SCS OPTIONS** values.

The following table lists menu options and sub-menus found under the **SCS OPTIONS** menu.

SCS OPTIONS Option name	Values
Overlay Call (IDB Option 28)	Disable *, Enable
Prop Font Move (IDB Option 118)	Do Not Use *, Use
Compress CPI (IDB Option 128)	Off *, On
Move Hor/Ver (IDB Option 158)	Use Escape *, Use Line feed, Space + Escape, Linefeed + Esc
Format Ctrl Sup (IDB Option 177)	Enabled *, Disabled
Download Font (IDB Option 244)	Enabled *, Disabled
Euro Support (IDB Option 139)	No *, Yes

SCS OPTIONS Option name	Values
CSC CHARACTERS	Sub-menu. See SCS OPTIONS > CSC CHARACTERS Menu: Options Overview (page 192) and SCS OPTIONS > CSC CHARACTERS Menu: Options Overview (page 192) .
COR/APO SETTINGS	Sub-menu. See SCS OPTIONS > COR/APO SETTINGS Menu: Options Overview (page 198) and Def Page Ori 1 (IDB Option 121) (page 199) .
MISC SETTINGS	Sub-menu. See SCS OPTIONS > MISC SETTINGS Menu: Options Overview (page 208) and Country Code (IDB Option 2) (page 210) .
PAPER SETTINGS	Sub-menu. See SCS OPTIONS > PAPER SETTINGS Menu: Options Overview (page 231) and Left Margin COR (IDB Opt. 78 & 79) (page 232) .

A description of each **SCS OPTIONS** menu item follows.

Overlay Call (IDB Option 28)

This **SCS Options** option defines if an overlay call (predefined string) is printed on the top of each page. The overlay may contain a call to an electronic form, a macro, or the string stated by the `OVLDRW` command itself. It has a maximum of 255 characters. A string for paper tray 1 and paper tray 2 can be defined.

When the overlay call is enabled, either `OVLDRW` command 1 or 2 will be executed at the top of each page. `OVLDRW` command 1 will be executed if paper tray 1 has been selected and `OVLDRW` command 2 will be executed if paper tray 2 has been selected.

Option Value	IDB Value	User IDB parameter
Disable *	0	OFF
Enable	1	ON

User IDB command:

```
OVLCAL <parameter>:
```

Parameter:

```
OFF, ON
```

User IDB language to set factory default:

```
&%IDB_EDIT: OVLCAL OFF:EXIT
```

Advanced IDB language to set factory default:

```
&%IDB_EDIT: OPTION 28:0:EXIT
```

Prop Font Move (IDB Option 118)

This **SCS Options** option controls whether or not the SCS/TNe Emulation uses proportional font handling.

The individual character width values of the printer's native fonts must correspond to the width value which the host expects the characters to have. The SCS/TNe Emulation adjusts each character to obtain the correct width value. This is necessary in order to use bold text, underscored text, and to align the right margin.

Setting this option to **Use** enables Proportional Font Move on all fonts. If you need to enable the function for only a single font, it is recommended to use the `P` value for the `<spacing>` parameter in the `PRGFNT` command.

Option Value	IDB Value	User IDB parameter
Do Not Use *	0	OFF
Use	1	ON

User IDB command:

```
PRPFNTMOV <parameter>:
```

Parameter:

OFF, ON

User IDB language to set factory default:

```
&%IDB_EDIT: PRPFNTMOV OFF:EXIT
```

Advanced IDB language to set factory default:

```
&%IDB_EDIT: OPTION 118:0:EXIT
```

Compress CPI (IDB Option 128)

This **SCS Options** option defines the compression of the horizontal character spacing. The command is used to compensate for the reduced printable area of the printer. The option makes it possible to print 80 characters on a line using 10 CPI, 96 characters on a line using 12 CPI and 120 characters on a line using 15 CPI.

If the option is set to **On**, the CPI is compressed as shown.

10 CPI => 10.2 CPI

12 CPI => 12.2 CPI

15 CPI => 15.3 CPI

Formula for calculating other values:

$$\text{Compress CPI} = \frac{\text{CPI} \times 50}{49}$$

Option Value	IDB Value	User IDB parameter
Off *	0	OFF
On	1	ON

User IDB command:

COMCPI <parameter>:

Parameter:

OFF, ON

User IDB language to set factory default:

&%IDB_EDIT: COMCPI OFF:EXIT

Advanced IDB language to set factory default:

&%IDB_EDIT: OPTION 128:0:EXIT

Move Hor/Ver (IDB Option 158)

This **SCS Options** option determines how horizontal and vertical moves are performed. Refer to the IDB options 211 - 213 if *escape sequences* (ESC) are used for horizontal movement and to option 238 if *spaces* (SP) are used.

Option Value	IDB Value	User IDB parameter
Use Line feed	0	HORMOV SP: VERMOV LF
Use Escape *	1	HORMOV ESC: VERMOV ESC
Space + Escape	2	HORMOV SP: VERMOV ESC
Linefeed + Esc	3	HORMOV ESC: VERMOV LF

User IDB command:

```
HORMOV / VERMOV <parameter>:
```

Parameter:

For HORMOV ESC uses escape sequences; SP uses spaces

For VERMOV ESC uses escape sequences; LF uses line feeds

User IDB language to set factory default:

```
&%IDB_EDIT: HORMOV ESC: VERMOV ESC:EXIT
```

Advanced IDB language to set factory default:

```
&%IDB_EDIT: OPTION 158:1:EXIT
```


Format Ctrl Sup (IDB Option 177)

This **SCS Options** option is used for enabling and disabling the "Auto newline" feature of the SCS/TNe Emulation. If the printout is incorrectly double spaced, disabling it will in most cases solve the problem.

Option Value	IDB Value	User IDB parameter
Enabled *	0	ON
Disabled	1	OFF

User IDB command:

```
CTLCODSUP <parameter>:
```

Parameter:

```
OFF, ON
```

User IDB language to set factory default:

```
&%IDB_EDIT: CTLCODSUP ON:EXIT
```

Advanced IDB language to set factory default:

```
&%IDB_EDIT: OPTION 177:0:EXIT
```

Download Font (IDB Option 244)

This **SCS Options** option extends the fonts available to the SCS/ TNe Emulation by loading additional fonts into the printer memory. Enabled means that these fonts will be downloaded to the printer's memory at Power On.

The additional fonts are listed in the table below. The fonts marked with a + contain the Euro character.

Option Value	IDB Value	User IDB parameter
Disabled	0	Not supported
Enabled *	1	Not supported

Font	IBM font no.	PCL font no.
OCR-B	003 +	10003
Boldface	155	10155
Boldface italic	159 +	10159
Essay	160 +	10160
Essay Bold	163 +	10163
Document	175 +	10175

Additional information is found in [“Appendix F - Managing the SCS TN5250e Font Table”](#) on page 296.

User IDB command:

Not supported

Parameter:

Not supported

User IDB language to set factory default:

Not supported

Advanced IDB language to set factory default:

&%IDB_EDIT: OPTION 244:0:EXIT

Euro Support (IDB Option 139)

This **SCS Options** option controls Euro character printing. If the option is set to **Yes**, the normal code pages are re-mapped to code pages containing the Euro character. This means that the international currency symbol is replaced with the Euro character in the EBCDIC code pages.

Country	Normal code pages	Re-mapped code pages
USA/Canada	037	1140
Austria/Germany	273	1141
Denmark/Sweden	277	1142
Finland/Sweden	278	1143
Italy	280	1144
Spain	284	1145
UK	285	1146
France	297	1147
Multinational	500	1148
Iceland	871	1149

In order to be able to print the Euro character a font supporting the character also has to be selected and available in the printer. See the [Download Font \(IDB Option 244\)](#) option on page 188 and the [Font \(IDB Options 242 and 243\)](#) option on page 215.

Option Value	IDB Value	User IDB parameter
No *	0	OFF
Yes	1	ON

User IDB command:

```
EURSUP <parameter>:
```

Parameter:

```
OFF, ON
```

User IDB language to set factory default:

```
&%IDB_EDIT: EURSUP OFF:EXIT
```

Advanced IDB language to set factory default:

```
&%IDB_EDIT: OPTION 139:0:EXIT
```

SCS OPTIONS > CSC CHARACTERS Menu: Options Overview

The **CSC CHARACTERS** menu is a sub-menu directly under the **SCS OPTIONS** menu.

The following table lists menu options found under the **CSC CHARACTERS** menu.

SCS OPTIONS > CSC Characters Option name	Values
IDB First Char (IDB Option 8)	& * (ASCII character 38 [ampersand]), any single ASCII character in the decimal range: 33 - 126
IDB Second Char (IDB Option 9)	% * (ASCII character 37 [percent]), any single ASCII character in the decimal range: 33 - 126
IDB Delimiter (IDB Option 7)	: * (ASCII character 58 [colon]), any single ASCII character in the decimal range: 33 - 126

A description of each **CSC CHARACTERS** menu option follows.

IDB First Char (IDB Option 8)

This **SCS Options > CSC Characters** option defines the first character in the CSC (Command String Characters) sequence. The CSC is a unique two-character sequence, which opens the internal IDB editor in the SCS/TNe Emulation. It must be used every time IDB commands are sent to the SCS/TNe Emulation. The CSC is also used in front of the Lead-in characters defined with option 171 and 172. Last of all the CSC is also used for passing single hex values to the printer, e.g. &%1B = <esc>.

The IDB option value is an ASCII character in the decimal range 33 - 126. Refer to [“Appendix B - ASCII Character Table” on page 282](#) for a complete list of characters and their values.

Option Value	IDB Value	User IDB parameter
& *	38 [ampersand]	Not supported

User IDB command:

Not supported

Parameter:

Not supported

User IDB language to set factory default:

Not supported

Advanced IDB language to set factory default:

```
&%IDB_EDIT: OPTION 8:38:EXIT
```


IDB Second Char (IDB Option 9)

This **SCS Options > CSC Characters** option defines the second character in the CSC (Command String Characters) sequence. The CSC is a unique two-character sequence, which opens the internal IDB editor in the SCS/TNe Emulation. It must be used every time IDB commands are sent to the SCS/TNe Emulation. The CSC is also used in front of the Lead-in characters defined with option 171 and 172. Last of all the CSC is also used for passing single hex values to the printer, e.g. `&%1B = <esc>`.

The IDB option value is an ASCII character in the decimal range 33 - 126. Refer to [“Appendix B - ASCII Character Table” on page 282](#) for a complete list of characters and their values.

Option Value	IDB Value	User IDB parameter
% *	37 [percent]	Not supported

User IDB command:

Not supported

Parameter:

Not supported

User IDB language to set factory default:

Not supported

Advanced IDB language to set factory default:

```
&%IDB_EDIT: OPTION 9:37:EXIT
```

IDB Delimiter (IDB Option 7)

This **SCS Options > CSC Characters** option defines the delimiter used in the User IDB and Advanced IDB command languages to separate programming commands.

The IDB option value is an ASCII character in the decimal range 33 - 126. Refer to [“Appendix B - ASCII Character Table” on page 282](#) for a complete list of characters and their values.

Option Value	IDB Value	User IDB parameter
: *	58 [colon]	Not supported

User IDB command:

Not supported

Parameter:

Not supported

User IDB language to set factory default:

Not supported

Advanced IDB language to set factory default:

```
&%IDB_EDIT: OPTION 7:58:EXIT
```

SCS OPTIONS > COR/APO SETTINGS Menu: Options Overview

The **COR/APO SETTINGS** menu is a sub-menu directly under the **SCS OPTIONS** menu.

The following table lists menu options found under the **COR/APO SETTINGS** menu.

SCS Options > COR/APO Settings Option name	Values
Def Page Ori 1 (IDB Option 121)	Portrait *, Prtr Setting, Landscape
Def Page Ori 2 (IDB Option 122)	Portrait *, Prtr Setting, Landscape
COR Action 1 (IDB Option 123)	Enable Auto COR *, Disable, Enable APO, Disable STO
COR Action 2 (IDB Option 124)	Enable Auto COR *, Disable, Enable APO, Disable STO
PPM Quality Dis (IDB Opt.126)	Off *, On, Enable APO
COR LSI Reduc (IDB Option 127)	70% *, range: 1 - 100 [%]

A description of each **COR/APO SETTINGS** menu option follows.

Def Page Ori 1 (IDB Option 121)

This **SCS Options > COR/APO Settings** option defines the page orientation for paper tray 1. The option setting is only used when the APO/COR (Automatic Page Orientation / Computer Output Reduction) function is disabled with the [COR Action 1 \(IDB Option 123\)](#) option.

Option Value	IDB Value	User IDB parameter
Prtr Setting	0	DEF
Portrait *	1	POR
Landscape	2	LAN

User IDB command:

```
ORTDRW 1 <parameter>:
```

Parameter:

```
DEF, POR, LAN
```

User IDB language to set factory default:

```
&%IDB_EDIT: ORTDRW 1 POR:EXIT
```

Advanced IDB language to set factory default:

```
&%IDB_EDIT: OPTION 121:1:EXITz
```

Def Page Ori 2 (IDB Option 122)

This **SCS Options > COR/APO Settings** option defines the page orientation for paper tray 2 and above. The option setting is only used when the APO/COR (Automatic Page Orientation / Computer Output Reduction) function is disabled with the [COR Action 2 \(IDB Option 124\)](#) option.

Option Value	IDB Value	User IDB parameter
Prtr Setting	0	DEF
Portrait *	1	POR
Landscape	2	LAN

User IDB command:

```
ORTDRW 2 <parameter>:
```

Parameter:

```
DEF, POR, LAN
```

User IDB language to set factory default:

```
&%IDB_EDIT: ORTDRW 2 POR:EXIT
```

Advanced IDB language to set factory default:

```
&%IDB_EDIT: OPTION 122:1:EXI
```

COR Action 1 (IDB Option 123)

This **SCS Options > COR/APO Settings** option defines how the APO/COR function (Automatic Page Orientation/Computer Output Reduction) works for paper tray 1.

With this option it is possible to disable the APO/COR function so that the page orientation change only can be made manually. It is also possible to select between Landscape and Portrait (APO) only, or it can be stated that automatic reduction (COR) is performed after the APO as well. Refer to “[Appendix D - COR/APO Logic \(TN5250e\)](#)” on page 287.

When **Enable APO** is selected, the SCS/TNe Emulation calculates the print area required for printing the document. If the document does not fit on the page in portrait orientation, the orientation is changed to landscape.

The **Enable Auto COR** function is an extension of the **Enable APO** function. If the page does not fit after the APO has been performed, the COR function is activated. This is done using the CPI compressions specified with the [Compress CPI \(IDB Option 128\)](#) option. If the page cannot be made to fit, the setting of the [Def Page Ori 1 \(IDB Option 121\)](#) option is used together with the compressed CPI.

When the **Disable STO** function is selected, all STO commands in the data stream are ignored, i.e. all text orientation commands.

Option Value	IDB Value	User IDB parameter
Disable	0	OFF
Enable APO	1	APO
Enable Auto COR *	2	COR
Disable STO	3	STODIS

User IDB command:

```
CORDRW 1 <parameter>:
```

Parameter:

```
OFF, APO, COR, STODIS
```

User IDB language to set factory default:

```
&%IDB_EDIT: CORDRW 1 COR:EXIT
```

Advanced IDB language to set factory default:

```
&%IDB_EDIT: OPTION 123:2:EXIT
```


COR Action 2 (IDB Option 124)

This **SCS Options > COR/APO Settings** option defines how the APO/COR function (Automatic Page Orientation/Computer Output Reduction) works for paper tray 2 and above.

With this option it is possible to disable the APO/COR function so that the page orientation change only can be made manually. It is also possible to select between Landscape and Portrait (APO) only, or it can be stated that automatic reduction (COR) is performed after the APO as well. Refer to [“Appendix D - COR/APO Logic \(TN5250e\)” on page 287](#).

When **Enable APO** is selected, the SCS/TNe Emulation calculates the print area required for printing the document. If the document does not fit on the page in portrait orientation, the orientation is changed to landscape.

The **Enable Auto COR** function is an extension of the **Enable APO** function. If the page does not fit after the APO has been performed, the COR function is activated. This is done using the CPI compressions specified with the [Compress CPI \(IDB Option 128\)](#) option. If the page cannot be made to fit, the setting of the [Def Page Ori 2 \(IDB Option 122\)](#) option is used together with the compressed CPI.

When the **Disable STO** function is selected, all STO commands in the data stream are ignored, i.e. all text orientation commands.

Option Value	IDB Value	User IDB parameter
Disable	0	OFF
Enable APO	1	APO
Enable Auto COR *	2	COR
Disable STO	3	STODIS

User IDB command:

```
CORDRW 2 <parameter>:
```

Parameter:

```
OFF, APO, COR, STODIS
```

User IDB language to set factory default:

```
&%IDB_EDIT: CORDRW 2 COR:EXIT
```

Advanced IDB language to set factory default:

```
&%IDB_EDIT: OPTION 124:2:EXIT
```

PPM Quality Dis (IDB Opt.126)

This **SCS Options > COR/APO Settings** option controls the text mode used in the APO/COR function. In the APO/COR function, the print quality parameter is used (text mode on/off) to disable/enable computer output reduction mode.

To print in computer output reduction mode, the print quality must be set to Data Processing (Text mode off). If "Letter Quality" or "Draft" (Text mode on) is selected, the computer output reduction mode will be disabled and the print job will be printed in Portrait orientation (Text mode).

As it will not always be possible to control the print quality of the jobs printed from the host, this option is used to disable text mode. When text mode is disabled, the APO/COR function will ignore the print quality parameter and print all print jobs fulfilling the requirements in computer output reduction mode. Refer to [“Appendix D - COR/APO Logic \(TN5250e\)” on page 287](#)

Option Value	IDB Value	User IDB parameter	Comments
Off *	0	OFF	Normal IBM interpretation
On	1	ON	Ignore the system TEXT parameter
Enable APO	2	APO	Observe TEXT parameter in APO as well

User IDB command:

TXTMOD <parameter>:

Parameter:

OFF, ON, APO

User IDB language to set factory default:

&%IDB_EDIT: TXTMOD OFF:EXIT

Advanced IDB language to set factory default:

&%IDB_EDIT: OPTION 126:0:EXIT

COR LSI Reduc (IDB Option 127)

This **SCS Options > COR/APO Settings** option defines the line spacing in Computer Output Reduction mode. The spacing is normally set to 70% of the normal line spacing (100%).

Option Value	IDB Value	User IDB parameter
70% * [1..100]	70	70

User IDB command:

```
LINSPRED <parameter>:
```

Parameter:

1 - 100 percent of normal line spacing

User IDB language to set factory default:

```
&%IDB_EDIT: LINSPRED 70:EXIT
```

Advanced IDB language to set factory default:

```
&%IDB_EDIT: OPTION 127:70:EXIT
```

SCS OPTIONS > MISC SETTINGS Menu: Options Overview

The **MISC SETTINGS** menu is a sub-menu under the **SCS OPTIONS** menu.

The following table lists menu options and sub-menus found under the **MISC SETTINGS** menu.

SCS OPTIONS>MISC SETTINGS Option name	Values
Country Code (IDB Option 2)	International *, Belgium, Brazil, Can/Fre, Den/Nor, English (UK), Fin/Swe, France, Ger/Aus, Italy, Jap (Latin), Latin America, Portugal, Spain, USA/Can, USA/Can bil.
Codepage (IDB Options 240 and 241)	Multi 500 *, USA/Can 37, Math 259, Ger/Aus 273, Belgium 274, Brazil 275, Den/Nor 277, Fin/Swe 278, Italy 280, Jap/Eng 281, Portugal 282, Spain 284, Eng (UK) 285, France 297, OCR 340, Iceland 871, Turkey 1023, USA/Can 1140, Ger/Aus 1141, Den/Nor 1142, Fin/Swe 1143, Italy 1144, Spain 1145, Eng (UK) 1146, France 1147, Multi. 1148, Iceland 1149
Font (IDB Options 242 and 243)	11 *, 3, 18, 39, 40, 46, 66, 68, 69, 85, 87, 110, 111, 112, 155, 159, 160, 163, 175, 204, 221, 222, 223, 230, 244, 245, 252, 253, 281, 290, 751, 1051, 1053, 1056, 1351, 1653, 2103
CPI (IDB Option 100)	10 CPI *, 5 CPI, 12 CPI, 15 CPI, 16.7 CPI
Max Print Pos (IDB Option 102)	80 *, range: 1 - 254
Left Margin (IDB Option 103)	1 *, range: 1 - 255
Right Margin (IDB Option 104)	1 *, range: 1 - 255
LPI (IDB Option 105)	6 LPI *, 3 LPI, 4 LPI, 8 LPI, 9 LPI

SCS OPTIONS>MISC SETTINGS Option name	Values
Lines Per Page (IDB Option 107)	68 *, range: 1 - 255
Top Margin (IDB Option 108)	1 *, range: 1 - 255
Source Input (IDB Option 113)	Tray 1 *, Tray 2, Tray 3, Tray 4, Tray 5
Forms Media (IDB Option 114)	Prtr Setting *, Paper Media, Envelope Med
Output Bin (IDB Option 115)	Prtr Setting *, Output Bin 1, Output Bin 2, Output Bin 3
Simplex/Duplex (IDB Option 116)	Prtr Setting *, Simplex, Duplex, Duplex (Tumble)
Non-Print Char (IDB Option 3)	ASCII Value 45, any single ASCII character in the decimal range: 0 - 255

A description of each **MISC SETTINGS** menu option follows.

Country Code (IDB Option 2)

This **SCS Options > Misc Settings** option defines the character set. Country definition by Country Code was commonly used on System 36 and 38, and applications migrated from these systems.

The **International** country code forms the basis for all country codes. In country codes other than **International** country specific characters replace selected characters.

Option Value	IDB Value	User IDB parameter
International *	0	0
USA/Can	1	1
Ger/Aus	2	2
Belgium	3	3
Brazil	4	4
Can/Fre	5	5
Den/Nor	6	6
Fin/Swe	7	7
France	8	8
Italy	9	9
Jap (Latin)	10	10
USA/Can bil.	11	11
Portugal	12	12

Option Value	IDB Value	User IDB parameter
Spain	13	13
Latin America	14	14
English (UK)	15	15

User IDB command:

```
DEFCNTCOD <parameter>:
```

Parameter:

0 - 15

User IDB language to set factory default:

```
&%IDB_EDIT: DEFCNTCOD 0:EXIT
```

Advanced IDB language to set factory default:

```
&%IDB_EDIT: OPTION 2:0:EXIT
```

Codepage (IDB Options 240 and 241)

This **SCS Options > Misc Settings** option defines the code page to be used. Country definition by "Code Page" is commonly used by AS/400 and iSeries computers.

If Euro Support has been enabled with the [Euro Support \(IDB Option 139\)](#) option, code pages 37, 273, 277, 278, 280, 284, 285, 297, 500 and 871 are remapped to the code pages 1140 - 1149.

Option Value	IDB Values (Option 240 and 241)	User IDB parameter
USA/Can 37	37 + 0	37
Math 259	3 + 1	259
Ger/Aus 273	17 + 1	273
Belgium 274	18 + 1	274
Brazil 275	19 + 1	275
Den/Nor 277	21 + 1	277
Fin/Swe 278	22 + 1	278
Italy 280	24 + 1	280
Jap/Eng 281	25 + 1	281
Portugal 282	26 + 1	282
Spain 284	28 + 1	284
Eng (UK) 285	29 + 1	285
France 297	41 + 1	297

Option Value	IDB Values (Option 240 and 241)	User IDB parameter
OCR 340	84 + 1	340
Multi 500 *	244 + 1	500
Iceland 871	103 + 3	871
Code pages with Euro support below this line		
Turkey 1023	255 + 3	1023
USA/Can 1140	116 + 4	1140
Ger/Aus 1141	117 + 4	1141
Den/Nor 1142	118 + 4	1142
Fin/Swe 1143	119 + 4	1143
Italy 1144	120 + 4	1144
Spain 1145	121 + 4	1145
Eng (UK) 1146	122 + 4	1146
France 1147	123 + 4	1147
Multi. 1148	124 + 4	1148
Iceland 1149	125 + 4	1149

User IDB command:

DEFCODPAG <parameter>:

Parameter:

37 - 1149 as listed above

User IDB language to set factory default:

```
&%IDB_EDIT: DEFCODPAG 500:EXIT
```

Advanced IDB language to set factory default:

```
&%IDB_EDIT: OPTION 240:244: OPTION 241:1:EXIT
```

Font (IDB Options 242 and 243)

This **SCS Options > Misc Settings** option selects the current font using the Font ID. This option setting is usually overwritten by the first control buffer from the system.

Fonts in shaded rows may be loaded into printer memory. See the [Download Font \(IDB Option 244\)](#) option.

Option Value (Font ID)	Font Name	IDB Value (Option 242 and 243)	User IDB parameter
3	OCR-B	3 + 0	3
11	Courier 10 *	11 + 0	11
18	Courier It. 10	18 + 0	18
39	Got.Text Bld 10	39 + 0	39
40	Got.Text 10	40 + 0	40
46	Courier Bold 10	46 + 0	46
66	Got.Text 12	66 + 0	66
68	Got.Text Italic	68 + 0	68
69	Got.Text Bld 12	69 + 0	69
85	Courier 12	85 + 0	85
87	Let.Got. 12	87 + 0	87
110	Let.Got. Bld 12	110 + 0	110
111	Pres. Bold 12	111 + 0	111
112	Pres. It 12	112 + 0	112

Option Value (Font ID)	Font Name	IDB Value (Option 242 and 243)	User IDB parameter
155	Boldface It	155 + 0	155
159	Boldface	159 + 0	159
160	Essay	160 + 0	160
163	Essay Bold	163 + 0	163
175	Document	175 + 0	175
204	Got.Text 13	204 + 0	204
221	Prestige 15	221 + 0	221
222	Gothic 15	222 + 0	222
223	Courier 15	223 + 0	223
230	Gothic-Text 15	230 + 0	230
244	Courier 5	244 + 0	244
245	Courier Bld 5	245 + 0	245
252	Courier 17	252 + 0	252
253	Courier Bld 17	253 + 0	253
281	Got.Text 20	25 + 1	281
290	Got.Text 27	34 + 1	290
751	Son.Ser. 7	239 + 2	751
1051	Son.Ser. 10	27 + 4	1051
1053	Son.Ser.Bld 10	29 + 4	1053

Option Value (Font ID)	Font Name	IDB Value (Option 242 and 243)	User IDB parameter
1056	Son.Ser.It 10	32 + 4	1056
1351	Son.Ser. 12	71 + 5	1351
1653	Son.Ser.Bld 16	117 + 6	1653
2103	Son.Ser.Bld 24	35 + 8	2103

User IDB command:

DEFFNT <parameter>:

Parameter:

3 - 2103 as listed above

User IDB language to set factory default:

&%IDB_EDIT: DEFFNT 11:EXIT

Advanced IDB language to set factory default:

&%IDB_EDIT: OPTION 242:11: OPTION 243:0:EXIT

CPI (IDB Option 100)

This **SCS Options > Misc Settings** option selects the CPI (characters per inch).

Option Value	IDB Value	User IDB parameter
5 CPI	5	5
10 CPI *	10	10
12 CPI	12	12
15 CPI	15	15
16.7 CPI	16	16

User IDB command:

```
DEFDCPI <parameter>:
```

Parameter:

```
5, 10, 12, 15, 16
```

User IDB language to set factory default:

```
&%IDB_EDIT: DEFDCPI 10:EXIT
```

Advanced IDB language to set factory default:

```
&%IDB_EDIT: OPTION 100:10:EXIT
```


Max Print Pos (IDB Option 102)

This **SCS Options > Misc Settings** option defines the maximum horizontal print position.

Option Value	IDB Value	User IDB parameter
80 * [1..254]	80	80

User IDB command:

```
DEFMPP <parameter>:
```

Parameter:

1 - 254

User IDB language to set factory default:

```
&%IDB_EDIT: DEFMPP 80:EXIT
```

Advanced IDB language to set factory default:

```
&%IDB_EDIT: OPTION 102:80:EXIT
```

Left Margin (IDB Option 103)

This **SCS Options > Misc Settings** option defines the left margin in characters. The character width depends on the setting of the [CPI \(IDB Option 100\)](#) option.

Option Value	IDB Value	User IDB parameter
1 * [1..255]	1	1

User IDB command:

```
DEFLFTMRG <parameter>:
```

Parameter:

```
1 - 255
```

User IDB language to set factory default:

```
&%IDB_EDIT: DEFLFTMRG 1:EXIT
```

Advanced IDB language to set factory default:

```
&%IDB_EDIT: OPTION 103:1:EXIT
```

Right Margin (IDB Option 104)

This **SCS Options > Misc Settings** option defines the right margin in characters. The character width depends on the setting of the **CPI (IDB Option 100)** option.

Option Value	IDB Value	User IDB parameter
1 * [1..255]	1	1

User IDB command:

```
DEFRGTMRG <parameter>:
```

Parameter:

```
1 - 255
```

User IDB language to set factory default:

```
&%IDB_EDIT: DEFRGTMRG 1:EXIT
```

Advanced IDB language to set factory default:

```
&%IDB_EDIT: OPTION 104:1:EXIT
```

LPI (IDB Option 105)

This **SCS Options > Misc Settings** option selects the number of lines per inch (LPI).

Option Value	IDB Value	User IDB parameter
3 LPI	3	3
4 LPI	4	4
6 LPI *	6	6
8 LPI	8	8
9 LPI	9	9

User IDB command:

```
DEFLPI <parameter>:
```

Parameter:

3, 4, 6, 8, 9

User IDB language to set factory default:

```
&%IDB_EDIT: DEFLPI 6:EXIT
```

Advanced IDB language to set factory default:

```
&%IDB_EDIT: OPTION 105:6:EXIT
```

Lines Per Page (IDB Option 107)

This **SCS Options > Misc Settings** option defines the number of lines per page.

Option Value	IDB Value	User IDB parameter
68 * [1..255]	68	68

User IDB command:

```
DEFLPP <parameter>:
```

Parameter:

0 - 255

User IDB language to set factory default:

```
&%IDB_EDIT: DEFLPP 68:EXIT
```

Advanced IDB language to set factory default:

```
&%IDB_EDIT: OPTION 107:68:EXIT
```

Top Margin (IDB Option 108)

This **SCS Options > Misc Settings** option defines the top margin in lines. The line height depends on the setting of the **LPI (IDB Option 105)** option.

Option Value	IDB Value	User IDB parameter
1 * [1..255]	1	1

User IDB command:

```
DEFTOPMRG <parameter>:
```

Parameter:

1 - 255

User IDB language to set factory default:

```
&%IDB_EDIT: DEFTOPMRG 1:EXIT
```

Advanced IDB language to set factory default:

```
&%IDB_EDIT: OPTION 108:1:EXIT
```

Source Input (IDB Option 113)

This **SCS Options > Misc Settings** option selects the paper source input tray. This setting will trigger definitions made by the Source Drawer (SRCDRW) command.

The parameter values 6 - 8 cannot be selected via the operator panel. They can only be chosen via IDB commands. The IDB commands trigger the events 76 - 78, which correspond to the parameter values 6 - 8. The events can be set to point to any string. The string pointed to should contain a string which selects a specific tray in the printer. Refer to the *IDB Technical Reference* guide, available on the internet site with manual updates listed in [“Support” on page 4](#).

User IDB command:

```
DEFSRCDRW <parameter>:
```

Parameter:

```
DEF, 1, 2, 3, 4, 5, 6, 7, 8
```

User IDB language to set factory default:

```
&%IDB_EDIT: DEFSRCDRW 1:EXIT
```

Advanced IDB language to set factory default:

```
&%IDB_EDIT: OPTION 113:1:EXIT
```

Forms Media (IDB Option 114)

This **SCS Options > Misc Settings** option selects the paper tray. The setting will trigger definitions made by the Select Media (SLT-MED) command.

Option Value	IDB Value	User IDB parameter
Prtr Setting *	0	DEF
Paper Media	1	PAP
Envelope Med	2	ENV

User IDB command:

```
DEFFRMSEL <parameter>:
```

Parameter:

```
DEF, PAP, ENV
```

User IDB language to set factory default:

```
&%IDB_EDIT: DEFFRMSEL DEF:EXIT
```

Advanced IDB language to set factory default:

```
&%IDB_EDIT: OPTION 114:0:EXIT
```


Output Bin (IDB Option 115)

This **SCS Options > Misc Settings** option selects the paper output bin. The setting will trigger definitions made by the Destination Drawer (DSTDRW) command.

Option Value	IDB Value	User IDB parameter
Prtr Setting *	0	DEF
Output Bin 1	1	1
Output Bin 2	2	2
Output Bin 3	3	3

User IDB command:

```
DEFDSTDRW <parameter>:
```

Parameter:

```
DEF, 1, 2, 3
```

User IDB language to set factory default:

```
&%IDB_EDIT: DEFDSTDRW DEF:EXIT
```

Advanced IDB language to set factory default:

```
&%IDB_EDIT: OPTION 115:0:EXIT
```

Simplex/Duplex (IDB Option 116)

This **SCS Options > Misc Settings** option selects simplex or duplex as the print setting. The setting will trigger definitions made by the Select Simplex/Duplex Printing (`SLTSIMDUP`) command. The tumble setting is used for pages connected or bound at the top.

NOTE: The Duplex and Duplex (Tumble) settings display only on printers with duplex support.

Option Value	IDB Value	User IDB parameter
Prtr Setting *	0	DEF
Simplex	1	SIM
Duplex	2	DUP
Duplex (Tumble)	3	TUM

User IDB command:

```
DEFSIMDUP <parameter>:
```

Parameter:

```
DEF, SIM, DUP, TUM
```

User IDB language to set factory default:

```
&%IDB_EDIT: DEFSIMDUP DEF:EXIT
```

Advanced IDB language to set factory default:

```
&%IDB_EDIT: OPTION 116:0:EXIT
```

Non-Print Char (IDB Option 3)

This **SCS Options > Misc Settings** option defines the replacement character to substitute for an unprintable character found in the data stream. The character is printed when the host sends an unprintable character or a character not supported by the SCS/TNe Emulation. Refer to “[Appendix B - ASCII Character Table](#)” on page 282 for a complete list of *printable* characters and their values.

Option Value	IDB Value	User IDB parameter
ASCII Value 45 *	45	45
ASCII Value [0..255]	0 - 255	All EBCDIC characters or a printable ASCII hexadecimal value.

User IDB command:

```
UNPCHR <parameter>:
```

Parameter:

All EBCDIC characters or a printable ASCII hex value

User IDB language to set factory default:

```
&%IDB_EDIT: UNPCHR /2D:EXIT
```

Advanced IDB language to set factory default:

```
&%IDB_EDIT: OPTION 3:45:EXIT
```

SCS OPTIONS > PAPER SETTINGS Menu: Options Overview

The **PAPER SETTINGS** menu is a sub-menu under the **SCS OPTIONS** menu.

The following table lists menu options found under the **PAPER SETTINGS** menu.

SCS Options > Paper Settings Option name	Values
Left Margin COR (IDB Opt. 78 & 79)	634 *, range: 0 - 2880
Top Margin COR (IDB Opt. 80 & 81)	0 *, range: 0 - 2880
Left Margin Lan (IDB Opt. 86 & 87)	0 *, range: 0 - 2880
Top Margin Lan (IDB Opt. 88 & 89)	147 *, range: 0 - 2880
Page Length (IDB Opt. 82 & 83)	16848 *, range: 1 - 65535
Page Width (IDB Opt.84 & 85)	11908 *, range: 1 - 65535

A description of each **PAPER SETTINGS** menu option follows.

Left Margin COR (IDB Opt. 78 & 79)

This **SCS options > Paper Settings** option defines the offset to be added to the left margin when printing in Computer Output Reduction mode (COR). COR is a feature that allows data processing reports to fit on A4 size paper. 1 inch = 1440.

Option Value (1/1440 inch)	IDB Values (Option 78 and 79)	User IDB parameter
634 * [0..2880]	122 + 2	0.44

User IDB command:

```
LFTOFFCOR <parameter 1> <parameter 2>:
```

Parameter 1:

I for inches, C for centimeters

Parameter 2:

Value in inches [0.00 .. 2.009 or centimeters [0.00 .. 5.08]
with 2 decimals

User IDB language to set factory default:

```
&%IDB_EDIT: LFTOFFCOR I 0.44:EXIT
```

Advanced IDB language to set factory default:

```
&%IDB_EDIT: OPTION 78:122: OPTION 79:2:EXIT
```

The option values for option 78 and 79 are calculated using the formulas below.

$$79: \frac{\text{Marg. inch} \times 1440}{256} \text{ Reduce to nearest whole number.}$$

$$78: (\text{Marg. inch} \times 1440) - (256 \times \text{Value stored in option 79}) \text{ Round off to nearest whole number.}$$

The values stored in option 78 and 79 for a left margin offset of 0.440 inch are calculated like this:

$$79: \frac{0.440 \times 1440}{256} \approx 2$$

$$78: (0.440 \times 1440) - (256 \times 2) \approx 122$$

NOTE: Inches can be converted to centimeters by multiplying with 0.3937 inch/cm.

Top Margin COR (IDB Opt. 80 & 81)

This **SCS options > Paper Settings** option defines the offset to be added to the top margin when printing in Computer Output Reduction mode (COR). COR is a feature that allows data processing reports to fit on A4 size paper. 1 inch = 1440.

Option Value (1/1440 inch)	IDB Values (Option 80 and 81)	User IDB parameter
0 * [0..2880]	0 + 0	0.00

User IDB command:

```
TOPOFFCOR <parameter 1> <parameter 2>:
```

Parameter 1:

I for inches, C for centimeters

Parameter 2:

Value in inches [0.00 .. 2.00] or centimeters [0.00 .. 5.08]
with 2 decimals

User IDB language to set factory default:

```
&%IDB_EDIT: TOPOFFCOR I 0.00:EXIT
```

Advanced IDB language to set factory default:

```
&%IDB_EDIT: OPTION 80:0: OPTION 81:0:EXIT
```


The option values for option 80 and 81 are calculated using the formulas below.

$$81: \frac{\text{Marg. inch} \times 1440}{256} \quad \textit{Reduce to nearest whole number.}$$

$$80: (\text{Marg. inch} \times 1440) - (256 \times \text{Value stored in option 81}) \quad \textit{Round off to nearest whole number.}$$

The values stored in option 80 and 81 for a top margin offset of 1 inch are calculated like this:

$$81: \frac{1 \times 1440}{256} \approx 5$$

$$80: (1 \times 1440) - (256 \times 5) = 160$$

NOTE: Inches can be converted to centimeters by multiplying with 0.3937 inch/cm.

Left Margin Lan (IDB Opt. 86 & 87)

This **SCS options > Paper Settings** option defines the offset to be added to the left margin when printing in Landscape mode. 1 inch = 1440.

Option Value (1/1440 inch)	IDB Values (Option 86 and 87)	User IDB parameter
0 * [0..2880]	0 + 0	0

User IDB command:

```
LFTOFFLAN <parameter 1> <parameter 2>:
```

Parameter 1:

I for inches, C for centimeters

Parameter 2:

Value in inches [0.00 .. 2.00] or centimeters [0.00 .. 5.08]
with 2 decimals

User IDB language to set factory default:

```
&%IDB_EDIT: LFTOFFLAN I 0.00:EXIT
```

Advanced IDB language to set factory default:

```
&%IDB_EDIT: OPTION 86:0: OPTION 87:0:EXIT
```

The option values for option 86 and 87 are calculated using the formulas below.

$$87: \frac{\text{Marg. inch} \times 1440}{256} \quad \textit{Reduce to nearest whole number.}$$

$$86: (\text{Marg. inch} \times 1440) - (256 \times \text{Value stored in option 87}) \quad \textit{Round off to nearest whole number.}$$

The values stored in option 86 and 87 for a left margin offset in Landscape of 1 inch are calculated like this:

$$87: \frac{1 \times 1440}{256} \approx 5$$

$$86: (1 \times 1440) - (256 \times 5) = 160$$

NOTE: Inches can be converted to centimeters by multiplying with 0.3937 inch/cm.

Top Margin Lan (IDB Opt. 88 & 89)

This **SCS options > Paper Settings** option defines the offset to be added to the top margin when printing in Landscape mode. 1 inch = 1440.

Option Value (1/1440 inch)	IDB Values (Option 88 and 89)	User IDB parameter
147 * [0..2880]	147 + 0	0.10

User IDB command:

```
TOPOFFLAN <parameter 1> <parameter 2>:
```

Parameter 1:

I for inches, C for centimeters

Parameter 2:

Value in inches [0.00 .. 2.00] or centimeters [0.00 .. 5.08]
with 2 decimals

User IDB language to set factory default:

```
&%IDB_EDIT: TOPOFFLAN I 0.10:EXIT
```

Advanced IDB language to set factory default:

```
&%IDB_EDIT: OPTION 88:147: OPTION 89:0:EXIT
```

The option values for option 88 and 89 are calculated using the formulas below.

$$89: \frac{\text{Marg. inch} \times 1440}{256} \quad \textit{Reduce to nearest whole number.}$$

$$88: (\text{Marg. inch} \times 1440) - (256 \times \text{Value stored in option 89}) \quad \textit{Round off to nearest whole number.}$$

The values stored in option 88 and 89 for a top margin offset in Landscape of 0.102 inch are calculated like this:

$$89: \frac{0.102 \times 1440}{256} \approx 0$$

$$88: (0.102 \times 1440) - (256 \times 0) \approx 147$$

NOTE: Inches can be converted to centimeters by multiplying with 0.3937 inch/cm.

Page Length (IDB Opt. 82 & 83)

This **SCS options > Paper Settings** option defines the page length used by the APO/COR (Automatic Page Orientation function/Computer Output Reduction) to calculate page orientation.

Option Value (1/1440 inch)	IDB Values (Option 82 and 83)	User IDB parameter
16848 * [1..65535]	208 + 65	11.70

Values for common page lengths include:

Paper size	Length in cm	Length in inch.	Option value
A4 *	29.70	11.70	16848
Letter	27.94	11.00	15840
Legal	35.56	14.00	20160
Executive	26.67	10.50	15120

User IDB command:

```
PAGLNG <parameter 1> <parameter 2>:
```

Parameter 1:

I for inches, C for centimeters

Parameter 2:

Value in inches [0.00 .. 45.51] or centimeters [0.00 .. 115.60] with 2 decimals

User IDB language to set factory default:

```
&%IDB_EDIT: PAGLNG I 11.70:EXIT
```

Advanced IDB language to set factory default:

```
&%IDB_EDIT: OPTION 82:208: OPTION 83:65:EXIT
```

The option values for option 82 and 83 are calculated using the formulas below.

83: $\frac{\text{Length inch} \times 1440}{256}$ *Reduce* to nearest whole number.

82: $(\text{Length inch} \times 1440) - (256 \times \text{Value stored in option 83})$ *Round off* to nearest whole number.

The values stored in option 82 and 83 for a page length of 11.70 inch are found like this:

83: $\frac{11.70 \times 1440}{256} \approx 65$

82: $(11.70 \times 1440) - (256 \times 65) = 208$

NOTE: Inches can be converted to centimeters by multiplying with 0.3937 inch/cm.

Page Width (IDB Opt.84 & 85)

This **SCS options > Paper Settings** option defines the page width used by the APO/COR (Automatic Page Orientation function/Computer Output Reduction) to calculate page orientation.

Option Value (1/1440 inch)	IDB Values (Option 84 and 85)	User IDB parameter
11908 * [1..65535]	132 + 46	8.27

Values for common page widths include:

Paper size	Width in cm	Width in inch.	Option value
A4 *	21.00	8.27	11908
Letter	21.59	8.50	12240
Legal	21.59	8.50	12240
Executive	18.42	7.25	10440

User IDB command:

```
PAGWDT <parameter 1> <parameter 2>:
```

Parameter 1:

I for inches, C for centimeters

Parameter 2:

Value in inches [0.00 .. 45.51] or centimeters [0.00 .. 115.60] with 2 decimals

User IDB language to set factory default:

```
&%IDB_EDIT: PAGWDT I 8.27:EXIT
```

Advanced IDB language to set factory default:

```
&%IDB_EDIT: OPTION 84:132: OPTION 85:46:EXIT
```

The option values for option 84 and 85 are calculated using the formulas below.

85: $\frac{\text{Width inch} \times 1440}{256}$ *Reduce* to nearest whole number.

84: $(\text{Width inch} \times 1440) - (256 \times \text{Value stored in option 85})$ *Round off* to nearest whole number.

The values stored in option 84 and 85 for a page width of 8.27 inch are found like this:

85: $\frac{8.27 \times 1440}{256} \approx 46$

84: $(8.27 \times 1440) - (256 \times 46) \approx 132$

NOTE: Inches can be converted to centimeters by multiplying with 0.3937 inch/cm.

TEST OPTIONS Menu: Options Overview

The **TEST OPTIONS** menu is a sub-menu directly under the **TN5250E SETUP** menu.

The following table lists menu options found under the **TEST OPTIONS** menu.

Option name	Values
SCS5250 Hex Dump	Normal Mode *, Hex Dump-Mode
Print 5250 IDB	Do Not Print *, Print
SCS5250 Defaults	Do Not Restore *, Restore Defaults

A description of each **TEST OPTIONS** menu option follows.

SCS5250 Hex Dump

This **Test** option enables hex tracing for diagnosing print job problems. When hex dump mode is selected, all data sent to the printer is printed in hexadecimal and character representation. Control codes are not executed.

The [SCS Debug Trace](#) option overrides this option. This means that a hex dump is not produced even though this option is set to **Hex Dump-Mode**.

Option Value	Comments
Normal Mode *	Normal printer operation.
Hex Dump-Mode	Print job as hex characters without executing control codes.

Print 5250 IDB

This **Test** option prints a report listing the current IDB settings. Print this report when asked by technical support representatives.

Option Value	Comments
Do Not Print	Do not print the IDB settings. This performs the same action as if Back had been pressed in the operator panel.
Print	Print the IDB settings.

User IDB language:

```
&%IDB_PRINT_FULL:EXIT
```

SCS5250 Defaults

This **Test** option restores the TN5250E **SCS OPTIONS** settings to their factory default values.

Option Value	Comments
Do Not Restore *	Do not restore any settings. This performs the same action as if Back had been pressed in the operator panel.
Restore Defaults	Restore to factory default TN5250E SCS option menu settings.

IDB Basics

Introduction

On-line programming of the SCS options received through the SCS emulation expands the possibilities for adapting the SCS/TNe Emulation to existing applications.

The SCS options are programmed using the IDB language. IDB is short for *Intermate Data Base* and refers to the SCS/TNe Emulation's storage of all SCS protocol conversion tables.

This chapter reviews how to use IDB commands to change the SCS option settings remotely. **Configuration of the IDB settings should only be carried out by authorized technical personal.**

A complete description is given in the *IDB Technical Reference* guide, available on the internet site with manual updates listed in ["Support" on page 4](#).

The IDB Languages

Both TN3270E and TN5250E users can use the *Advanced IDB Language* to access and configure/customize the SCS options found in the protocol conversion tables.

In addition, the TN5250E users have a second language available. This is the *User IDB Language*, which is somewhat easier to use. However, the *User IDB Language* is only available for working on approximately 20 of the most common IDB options. Working with the other options requires the use of the *Advanced IDB Language*.

The IDB languages are to be used during **initial setup or re-configuration of the SCS/TNe settings**.

The IDB languages should **not** be used to control settings on a job by job basis.

An IDB language is used directly from the AS/400, iSeries or Mainframe host by printing IDB command line sequences on the printer. This is typically done by embedding the unique IDB commands in a normal text document which is printed like any normal job.

Alternatively, you can retrieve the SCS options as an *IDB Configuration File* via FTP, edit the file with a utility program and upload it. Several sections in this chapter discuss the management of such a configuration file (see [“IDB Configuration File Management” on page 254 ff.](#))

Other References

Sample IDB command strings, which set the options to their default settings, are written after each option description in chapter [“Operations Reference - TN3270E SETUP” on page 85](#) and in chapter [“Operations Reference - TN5250E SETUP” on page 155](#).

Detailed references are found in:

[“Understanding the Control Panel” on page 10 ff.](#)

[“Operations Reference - TN3270E SETUP” on page 85](#) and

[“Operations Reference - TN5250E SETUP” on page 155](#).

The descriptions include the available options and their values.

The chapter on [“Additional TN5250e Printer Commands Using IDB” on page 260](#) covers IDB commands which can be embedded in the SCS data stream, including details on syntax.

IDB Languages Usage

The two IDB languages work in similar ways. The differences lie in the syntax. When an option is altered with one of the IDB command languages, the configuration data is sent as text to the SCS/TNe Emulation.

Rules for configuration data

- 1 Send the data to the SCS/TNe Emulation device using a word processing system (eg OfficeVision) or simply by typing at the command prompt and making a "print screen". Sending the programming sequence as ASCII text has no effect.
- 2 IDB command strings are not printed.
- 3 All option settings with syntax or range errors are ignored. If the SCS/TNe Emulation prints out the commands, or prints out error messages, it could be because the characters used for programming (& % E : ...etc) have been corrupted. You must reset the **SCS OPTIONS** to their factory defaults.

Syntax

The commands used for entering and leaving configuration mode are common to the two languages.

Enter configuration mode by sending the command:

```
&%IDB_EDIT:
```

and leave configuration mode, by sending the trailer string:

```
EXIT
```

This causes the changed options to be saved. The new option settings are active on the next SCS job.

All configuration options must be separated by a colon. Line feed, form feed etc. should be avoided, but are accepted in some cases.

Programming examples

	Advanced IDB (TN3270E + TN5250E)	User IDB (TN5250E)
Valid	<pre>&%IDB_EDIT:<lf><ff> OPTION 2:2:<LF> OPTION 100:10:EXIT &%IDB_EDIT:OPTION 2:13: OPTION 103:5:EXIT</pre>	<pre>&%IDB_EDIT:<lf><ff> DEFCODPAG 37:<lf> PRTEMUL 5219:CORDRW 2 COR:EXIT &%IDB_EDIT:DEFCNTCOD 13: DEFLFTMRG 5:EXIT</pre>
Invalid	<pre>&%IDB_EDIT<ff>: OPTION 2:2:EXIT &%IDB_EDIT:OPTION2:2:EXIT &%IDB_EDIT:OPTION 2:2EXIT &%idb_edit:OPTION 2:2:EXIT</pre>	<pre>&%IDB_EDIT<ff>: DEFCODPAG 37:EXIT &%IDB_EDIT:DEFCODPAGE37:EXIT &%IDB_EDIT:DEFCODPAG 37EXIT &%idb_edit:DEFCODPAG 37:EXIT</pre>

Option values

Refer to the option descriptions in chapter [“Operations Reference - TN3270E SETUP”](#) on page 85 and in chapter [“Operations Reference - TN5250E SETUP”](#) on page 155.

The chapter on [“Additional TN5250e Printer Commands Using IDB”](#) on page 260 covers IDB commands which can be embedded in the SCS data stream, including details on syntax.

IDB Configuration File Management

This approach is perhaps the most convenient as the contents of all IDB options and events are viewed and edited on a PC screen. After the editing is done, it is possible to save the settings in a file. The resulting *IDB Configuration File* can then be downloaded to one or more printers containing an SCS/TNe Emulation providing easy, fast, and uniform setups.

Retrieving the IDB Configuration File

The IDB settings controlling how SCS jobs print can be retrieved via FTP. The name of the file is fixed and cannot be changed.

The procedure below uses a Microsoft FTP client.

To retrieve the IDB settings file

- 1 Start a FTP session.

```
ftp 201.1.12.123
```

 (Sample IP address)

User name: <Blank>

- 2 Enter the "/lti" directory.

```
cd /lti
```

- 3 Set the FTP client to binary mode. This is necessary as data is transferred in binary mode.

```
binary
```

- 4 Retrieve the IDB configuration file.

```
get tn3270e.idb c:\tn3270e.idb (TN3270E users)
```

```
get tn5250e.idb c:\tn5250e.idb (TN5250E users)
```

This stores the file on the PC in the root directory `c:.`

5 End the FTP session.

bye

Editing the IDB Configuration File

The utility program used for editing the IDB configuration file is DOS based and is available on the internet site with manual updates listed in [“Support” on page 4](#). Look for the following files.

Protocol	File	Comments
TN3270E	<i>P01-xxxx.zip</i>	This contains the 3270 IDB configuration file editor program, also known as IDB.exe.
TN5250E	<i>P02-xxxx.zip</i>	This contains the 5250 IDB configuration file editor program, also known as IDBT.exe.

IMPORTANT:

Option settings should not be set outside their operator panel ranges. If this is done, then no asterisk appears in the operator panel to indicate the current setting. The **Menu Settings** Page shows the text string "[invalid]" for options set outside their ranges.

The retrieved IDB file contains additional options and events not described in this guide. Only options and events described in this guide should be configured. The IDB configuration file is edited by starting the relevant utility program and loading the retrieved IDB file.

Storing the IDB Configuration File

When the IDB configuration file has been edited it can be downloaded to the SCS/TNe Emulation.

The download file name is fixed. Downloading a file with a different name will result in an unreadable printout. No IDB settings will be changed.

The procedure below uses a Microsoft FTP client.

To store the IDB settings file

- 1 Start a FTP session.

```
ftp 201.1.12.123
```

 (Sample IP address)

User name: <Blank>

- 2 Enter the "/lti" directory.

```
cd /lti
```

- 3 Set the FTP client to binary mode. This is necessary as data is transferred in binary mode.

```
binary
```


4 Store the IDB configuration file.

```
put c:\tn3270e.idb (TN3270E users)
```

```
put c:\tn5250e.idb (TN5250E users)
```

This stores the file from a PC's root directory.

5 End the FTP session.

```
bye
```

The downloaded IDB settings are active on the next SCS job.

Additional TN5250e Printer Commands Using IDB

Introduction

The IDB commands described here provide additional commands for controlling the printer.

This chapter presents the syntax for creating these commands, which must be sent from the AS/400 or iSeries in order to be recognized, i.e. included in the SCS data stream.

The commands you may work with fall into three groups:

- 1 Paper Handling
- 2 Code Page Handling / Code Page 259
- 3 Miscellaneous

See [“IDB Basics” on page 248 ff.](#) for background information on IDB.

Input Data String Syntax

The input data string (<data>) following some printer commands can contain three parts: *Text*, *decimal numbers*, and *hexadecimal numbers*.

Text: Text has to be put in quotation marks.

```
"This is a text"
```

Decimal: Decimal numbers are entered normally. Use commas to separate.

```
12,34,24,67,12,3,45,6,7,90,255
```

Hexadecimal: Hexadecimal numbers have to be entered with a slash in front followed by two hex digits. Use commas to separate.

```
/23,/EE,/E4,/45,/F2,/78,/34,/1F
```

Text, decimal numbers, and hexadecimal numbers can be mixed by separating each element with a comma. *Example:*

```
/0A,/0D, "Text",12,/0D,10,"More text",-  
45,"Last text",/0C
```

Initializing - Power On Initialize

Before working with the additional commands, you need to familiarize yourself with the Power On Initialization. This is used to set up the printer each time it is powered On.

With the Power On events, it is possible to set up four strings of 1024 bytes each which are sent to the printer at power On.

The events can be used to download a small logo or set the printer to a specific emulation.

Power On sequence

- 1** Power On, events 0, 1 and 2 are triggered.
- 2** DEFMPP (Max print positions) is selected.
- 3** DEFCPI (CPI) (option 100) triggers event 31, 32, 33, 34, or 35.
- 4** DEFLPI (LPI) is selected.
- 5** DEFLPP (Form length) is selected.
- 6** DEFPRTQLT (Print quality) is selected.
- 7** DEFSRCDRW (Source drawer) is selected depending on the SCRDRW (source drawer definition).
- 8** Power On event 3 is triggered

The command corresponds to event 0 - 3.

Command:

```
POWON <parameter> <data>:
```

```
POWON DEL <no.>:
```

Delete command

Parameter:

```
1 - 4
```

Definition number

Example:

```
POWON 3 "Power initialize 3":
```

```
POWON DEL 3:
```

The rest of this chapter is devoted to a run-through of the commands you can work with.

Paper Handling > Source Drawer

This is triggered by the AS/400 or iSeries command `PPM` (Page Presentation Media) when a specific input tray is selected. It can also be triggered by the `DEFSRCDRW` command at Power On. See section [“Source Input \(IDB Option 113\)” on page 225](#).

The command corresponds to event 66 - 68 for parameters 1 - 3 and to event 74 - 78 for parameters 4 - 8. The events 74 - 78 require programming before they can be used to select a specific input tray. Refer to the *IDB Technical Reference* guide, available on the internet site with manual updates listed in [“Support” on page 4](#).

Command:

```
SRCDRW <parameter> <data>--:
SRCDRW DEL <drawer>:                Delete command
```

Parameter:

```
1 - 3 , 4 - 8                        Drawer number
```

Example:

```
SRCDRW 1 /1B,"&11H":                Set PCL command string for
                                     drawer 1
SRCDRW DEL 3:                        Delete command string for
                                     drawer 3
```

Paper Handling > Destination Drawer

This is triggered by the **AS/400** or **iSeries** command `PPM` (Page Presentation Media) when a certain output drawer (bin) is selected. It can also be triggered by the `DEFDSTDRW` command at Power On. See section “[Output Bin \(IDB Option 115\)](#)” on page 227.

The command corresponds to event 59 - 61.

Command:

```
DSTDRW <parameter> <data>:
```

```
DSTDRW DEL <drawer>: Delete command
```

Parameter:

```
1 - 3 Drawer number
```

Example:

```
DSTDRW 2 /1B,"&12G": PCL command string for  
setting dest.drawer 2 to bin 1
```

```
DSTDRW DEL 1: Delete command string for  
dest.drawer 1
```

Paper Handling > Select Paper / Envelope Media

This is triggered by the AS/400 or iSeries command `PPM` (Page Presentation Media) when printing on paper or envelopes is selected. It can also be triggered by the `DEFFRMSEL` command at Power On. See section [“Forms Media \(IDB Option 114\)” on page 226](#).

The command corresponds to event 62 - 63.

Command:

```
SLTMED <parameter> <data>:
```

```
SLTMED DEL <media>:
```

Delete command

Parameter:

PAP

Select paper media

ENV

Select envelope media

Example:

```
SLTMED PAP "Paper media":
```

```
SLTMED DEL ENV:
```


Paper Handling > Select Paper Feed

This is triggered by the AS/400 or iSeries command `SPSU` (Set Print Setup) when a certain kind of paper feed is selected.

The command corresponds to event 64 - 65.

Command:

```
SLTPAPFED <parameter> <data>:
```

```
SLTPAPFED DEL <feed>: Delete command
```

Parameter:

```
CON Select continuous paper feed
```

```
CUT Select cutsheet feed
```

```
MAN Select manual feed
```

Example:

```
SLTPAPFED MAN /1B,"&12H":
```

```
SLTPAPFED DEL CUT:
```

Paper Handling > Select Simplex/Duplex Printing

This is used when simplex or duplex printing is selected. The command can only be used if the printer supports duplex printing.

It is triggered by the AS/400 or iSeries command PPM (Page Presentation Media) when simplex or duplex printing is selected. It can also be triggered by the DEFSIMDUP command at Power On. See section [“Simplex/Duplex \(IDB Option 116\)” on page 228](#).

The command corresponds to event 57 - 58.

Command:

```
SLTSIMDUP <parameter> <data>:
SLTSIMDUP DEL <mode>:           Delete command
```

Parameter:

SIM	Select simplex
DUP	Select duplex long edge binding
TUM	Select duplex short edge binding (tumble)

Example:

```
SLTSIMDUP DUP /1B,"&11S":
SLTSIMDUP DEL SIM:
```

Code Page 259 > Before/After

Code page 259 is a character set which only contains symbols and signs. Most of the symbols and signs are not contained in the normal character set of the printer which means that they cannot be used from AS/400 or iSeries.

With this command it is possible to switch to another character set in the printer each time code page 259 is used. This can be used to switch to a symbol character set or a special "symbol font" if it has been downloaded to the printer.

It is also possible to select another font in the printer, e.g. a special mathematical font.

The `COD259 BEF` command is executed each time there is a switch to code page 259 from another code page. It is not executed if code page 259 is selected repeatedly.

The `COD259 AFT` command is executed each time there is a switch from code page 259 to another code page. It is not executed if the previous code page was not code page 259.

The command corresponds to event 140 - 141.

Command:

```
COD259 <parameter> <data>:
```

```
COD259 DEL <parm>:
```

Delete command

Parameter:

BEF

Before code page 259 selection

AFT

After code page 259 selection

Example:

COD259 BEF "Command" :

COD259 DEL AFT :

Miscellaneous > Overlay Command

When overlay call is enabled with the `OVLCAL` command, command 1 or 2 is executed at the top of each page immediately before the first printable character. See section [“Overlay Call \(IDB Option 28\)” on page 179](#). `OVLDRW` command 1 is executed when paper tray 1 is selected and `OVLDRW` command 2 is executed when paper tray 2 is selected.

The command corresponds to event 55 - 56.

Command:

```
OVLDRW <parameter> <data>:
```

```
OVLDRW DEL <parameter>:
```

Delete command

Parameter:

```
1 - 2
```

Drawer number

Example:

```
OVLDRW 1 /1B,"&f3Y",/1B,"&f2X":PCL string for calling  
macro no. 3
```

```
OVLDRW DEL 1:
```

Miscellaneous > Before / After Formfeed

Command:

BEFAFTTFED <parameter> <data>:

BEFAFTTFED DEL <parameter>:

Delete command

Parameter:

BEF

Before formfeed

AFT

After formfeed

Example:

BEFAFTTFED BEF "Command" :

BEDAFTTFED DEF AFT :

Miscellaneous > Before Portrait/ Landscape Selection

This command corresponds to events 147 and 148. Event 147 is triggered after event 69. Event 148 is triggered after event 70.

Event 69 and 70 are always triggered. Events 147 and 148 provide additional triggering capacity if triggering of event 69 or 70 is insufficient.

Command:

```
BEFPORLAN <parameter> <data>:
```

```
BEFPORLAN DEL <parameter>: Delete command
```

Parameter:

```
POR Before portrait selection
```

```
LAN Before landscape selection
```

Example:

```
BEFPORLAN POR /1B,"&l0E",/1B,"&a0V":
```

PCL command for setting top
margin to 0 and moving print
position to line 0

```
BEFPORLAN DEL LAN:
```

Miscellaneous > IDBdump/ Hexdump Subtitle

This is used as an extra headline when printing IDB and hex dumps

The command is executed on the top of the first page. It may be used for stating specific information on the front page. This could be information describing which IDB profile is used, printer type, or company name.

The command corresponds to event 96 - 97.

Command:

```
SUBTIT <parameter> <data>:  
SUBTIT DEL <parameter>: Delete command
```

Parameter:

```
IDB Status printout subtitle  
HEX Hexdump printout subtitle
```

Example:

```
SUBTIT IDB /0A,/0D,"SCS Printer":  
SUBTIT HEX "Setup for test 05-18-99":  
SUBTIT DEL HEX:
```


Miscellaneous > Move to Uppermost Line

This is used if a movement upwards is needed in order to reduce the top margin. The string is only sent if the print position is placed at line 1 and no characters have been printed. The contents of the string could be PCL codes like:

- Top margin setting to uppermost line.
- Disable perforation skip.
- Absolute vertical move to uppermost line

The command corresponds to event 79.

Command:

```
MOVUPRLIN <parameter>:
```

```
MOVUPRLIN DEL:
```

Delete command

Example:

```
MOVUPRLIN /1B, "&l10E", /1B, "&a0V" : PCL command for  
setting top margin to 0  
and moving print position to line 0
```

```
MOVUPRLIN DEL:
```

Warranty

included with the printer

The limited warranty you received with your printer gives warranty terms and conditions. For warranty information, refer to your printer documentation.

Appendix A - Specifications, Requirements, Features

Product Description

The SCS/TNe Emulation is an option which is installed in the printer optional firmware connector; the Card also provides IPDS emulation (see separate documentation).

With the Card and a Standard Network or a MarkNet internal print server (Ethernet), the printer becomes an IBM AS/400, iSeries, or Mainframe host workstation printer capable of printing SCS documents received over a LAN connection.

With the appropriate AS/400, iSeries, or Mainframe host software and this option, the printer can emulate an IBM 3287/3812 in LU1 mode (3270 SCS) or an IBM 3812-01 (5250 SCS) printer.

One TN3270e connection is supported.

Up to four TN5250e connections are supported.

The SCS/TNe Emulation autodetects installed features to set initial settings for options such as duplex support (TN5250e only).

Compatibility

IBM Printer Emulations

- 3270 SCS: IBM 3287/3812 in LU1 mode
- 5250 SCS: IBM 3812-01

Compatible Print Servers

- Standard Network for connection to an Ethernet LAN.
- MarkNet internal print server (Ethernet)

Print Platforms

Mainframe Software

- IBM Communications Server for OS/390 V2R5 or greater
- IBM Communications Server for MVS with TCP/IP for MVS V3R2 or greater
- IBM Communications Server for VM/ESA V2R4, TCP/IP function level 310 or greater
- IBM Communications Server for VTAM V4R4 or greater

AS/400 and iSeries Software

- Application System AS/400 Operating System OS/400 V4R1-R5, or V5R1-R3 or greater.
- Application System AS/400 Operating System OS/400 V3R7 with PTFs installed.

Features List: 3270 SCS

Features supported are dependent upon host software for selection and use.

- SCS (LU1) data stream
- 5 bin paper input
- EBCDIC character conversion
- Text string conversion
- IBM and 3rd party ASCII transparency modes
- EBCDIC hex-dump

Features List: 5250 SCS

Features supported are dependent upon host software for selection and use.

- SCS and SCS/DCA L2 data streams
- 5 bin paper input and duplex
- Computer Output Reduction (COR) / Automatic Page Orientation (APO)
- IBM font selection using FGID or CPI
- IBM ASCII transparency
- Multiple code pages and box drawing
- Full OfficeVision/400 support
- User Configurable SCS Features
- EBCDIC character conversion
- SCS command conversion
- Text string conversion
- IBM and 3rd party ASCII transparent modes
- EBCDIC hex-dump

Appendix B - ASCII Character Table

Printable Characters

The table shows all ASCII printable characters.

Hex	ASCII	Decimal	Hex	ASCII	Decimal	Hex	ASCII	Decimal	Hex	ASCII	Decimal
20	space	32	38	8	56	50	P	80	68	h	104
21	!	33	39	9	57	51	Q	81	69	i	105
22	"	34	3A	:	58	52	R	82	6A	j	106
23	#	35	3B	;	59	53	S	83	6B	k	107
24	\$	36	3C	<	60	54	T	84	6C	l	108
25	%	37	3D	=	61	55	U	85	6D	m	109
26	&	38	3E	>	62	56	V	86	6E	n	110
27	'	39	3F	?	63	57	W	87	6F	o	111
28	(	40	40	@	64	58	X	88	70	p	112
29	)	41	41	A	65	59	Y	89	71	q	113
2A	*	42	42	B	66	5A	Z	90	72	r	114
2B	+	43	43	C	67	5B	[	91	73	s	115
2C	,	44	44	D	68	5C	\	92	74	t	116

Hex	ASCII	Decimal	Hex	ASCII	Decimal	Hex	ASCII	Decimal	Hex	ASCII	Decimal
2D	-	45	45	E	69	5D	]	93	75	u	117
2E	.	46	46	F	70	5E	^	94	76	v	118
2F	/	47	47	G	71	5F	_	95	77	w	119
30	0	48	48	H	72	60	'	96	78	x	120
31	1	49	49	I	73	61	a	97	79	y	121
32	2	50	4A	J	74	62	b	98	7A	z	122
33	3	51	4B	K	75	63	c	99	7B	{	123
34	4	52	4C	L	76	64	d	100	7C	|	124
35	5	53	4D	M	77	65	e	101	7D	}	125
36	6	54	4E	N	78	66	f	102	7E	~	126
37	7	55	4F	O	79	67	g	103			

Appendix C - Special TN3270e IDB Commands

How to Print an IDB Report

- 1 From a **Ready** status in the operator panel press the **MENU** button.
- 2 Use the navigation buttons: **Option Card Menu > SCS/TNe MENU > TN3270E SETUP > TEST OPTIONS > SCS IDB Dump > Print.**

List of Commands

Larger numbers indicate higher precedence.

Precedence	Command	Comments
5	<CSC>HEXDUMP	Enter hex-dump mode (small format)
5	<CSC>HEXDUMP_FULL	Enter hex-dump mode (large format)
5	<CSC>IDB_EDIT	Enter IDB edit mode
5	<CSC>IDB_PRINT	Dump IDB (small format)
5	<CSC>IDB_PRINT_FULL	Dump IDB (large format)
5	<CSC>L{xx}	Reserved, active if option 31 = 0
5	<CSC>W{xx}	Reserved, active if option 31 = 0
5	<CSC>NOHEXDUMP	Exit hex dump mode
5	<CSC>O{xx}	Reserved, active if option 31 = 0
5	<CSC>REG	Dump House Keep information
5	<CSC>/ . . .	Enter Intermate transparent mode
5	<CSC>=	Reserved, active if option 31 = 0
5	<CSC>+M	Suppress format control codes
5	<CSC>-M	Standard handling of format control codes
5	<CSC>{XY}	Enter special transparent mode (X = option 171, Y = option 172)
3	<CSC>{X}YYY [, zzz] <CSC>	Formatted string (X = Option 168, YYY = String #, ZZZ = Parameters)

Precedence	Command	Comments
2	<CSC><CSC>	Double CSC (prints <CSC>)
1	<CSC>{XY}	Single transparent character
<p>Refer to the chapter on Understanding the Control Panel (page 10) if necessary.</p>		

Appendix D - COR/APO Logic (TN5250e)

Introduction

The SCS/TNe Emulation (TN5250e) can rotate the printout from portrait to landscape based on menu option settings.

The distinction is between control of text, orientated according to a set text orientation command (STO) in the data stream (the FCB - format control buffer) and control of the text orientation from the text orientation automatic of the SCS/TNe Emulation. The SCS/TNe Emulation is reacting to the page format stated in the FCB. This is found in fanfold lists which are normally printed on matrix printers with wide platens. The automatic controls can easily be tested by using the "Print Screen" key from the system. The screen dump is usually printed in landscape and compressed if the automatic page orientation (APO) and computer output reduction (COR) in the SCS/TNe Emulation is switched on with the `CORDRW` command.

The focus of this discussion is on how the printer automatic controls operate, as the user does not always have the possibility of defining whether a printout is to be rotated and compressed in the system. It

is assumed that no STO commands are present in the data stream from the system. The STO commands always take priority over the automatic controls of the printer.

Details

The following points refer to the flowchart in the end of this appendix.

- 1 The calculation of the page format is based on information found in the FCB.

$$\text{page width (inches)} = \frac{\text{characters per line}}{\text{characters per inch (pitch)}}$$

$$\text{page length} = \frac{\text{line per page}}{\text{lines per inch (LPI)}}$$

These two measures are compared with values set in the `PAGLNG` and `PAGWDT` option settings. Refer to section “[Page Length \(IDB Opt. 82 & 83\)](#)” on page 240 and to section “[Page Width \(IDB Opt.84 & 85\)](#)” on page 242, which together specify the maximum valid page size.

Example:

Use an A4 page format as valid page.

PAGLNG = A4 and PAGWDT = A4

- 2 If the page format stated in the FCB is within (or equal to) the page size settings of the PAGLNG and PAGWDT option settings, the page size is "valid". In that case the printout will be in landscape provided the page length is smaller than the width, otherwise it will be in portrait. In both cases the font selected by the system is used.
- 3 If either the page width or the page length from the system exceeds the page size stated in the SCS/TNe Emulation the page size is "invalid". The result is a compressed landscape printout by means of the COR algorithm in the SCS/TNe Emulation.
 - "Vertical spacing" is reduced from normal line spacing to a percentage value according to the LINSRPED option setting. Refer to section [“COR LSI Reduc \(IDB Option 127\)”](#) on page 207.
 - Margins (offset) are set according to the LFTOFFCOR and TOPOFFCOR option settings. Refer to section [“Top Margin COR \(IDB Opt. 80 & 81\)”](#) on page 234 and to section [“Left Margin COR \(IDB Opt. 78 & 79\)”](#) on page 232.

- 10 pitch fonts are reduced to 13 pitch (font type stated in font table position no. 51)
- 12 pitch fonts are reduced to 15 pitch (font type stated in font table position no. 52)
- 15 pitch fonts are reduced to 20 pitch (font type stated in font table position no. 53)
- Other pitch sizes are compressed to the nearest smaller font.

4 Most program applications normally have a set of standard values for page length, characters per line etc. The user might have few or no possibilities off changing, e.g., the number of characters per line, which is normally set to 132 characters. Therefore a final control exists, which allows the user to prevent a compressed landscape printout and force it into portrait with a font selected by them.

Portrait can be forced with one of the statements below.

- `PRTQLTY (*STD)` or `(*NLQ)` or `PAGRTT(0)` for AS/400 or iSeries.

NOTE: If only APO is enabled in the `CORDRW 1` and `CORDRW 2` options the statements `TEXT/PRTQLTY` forces the printout into landscape. The `ROTATE/PAGRTT` forces the printout into portrait if only APO is enabled.

The previously mentioned "screen dump" will use the default printer profile on the AS/400 or iSeries for the device. On the AS/400 or iSeries it is possible to affect the system print parameters in the FCB by changing the printer file containing default settings for the device. This is done by either changing the existing system printer file `QSYSPRT (CHGPRTF FILE(QSYSPRT))` or creating your own printer file (`CRTPRTF`). Please consult your AS/400 or iSeries manuals for information on this subject. Defining the printer file to make the COR is normally done in connection with IPDS page printers as these printers do not support the APO/COR function.

If the APO/COR is disabled (`CORDRW 1/2 = OFF`), the `STO` command will control the rotation of the printout. This means that if a landscape print job controlled by the `STO` command is received, and this is followed by a print job without the `STO` command, then the second job is affected by the `STO` command received with the first job. The result is a landscape printout. This is the only way an original IBM 3812 can operate. However, a default page orientation can be set with the `ORTDRW #` option. Refer to section [“Def Page Ori 1 \(IDB Option 121\)” on page 199](#) and to section [“Def Page Ori 2 \(IDB Option 122\)” on page 200](#) for paper tray 1 and 2, respectively.

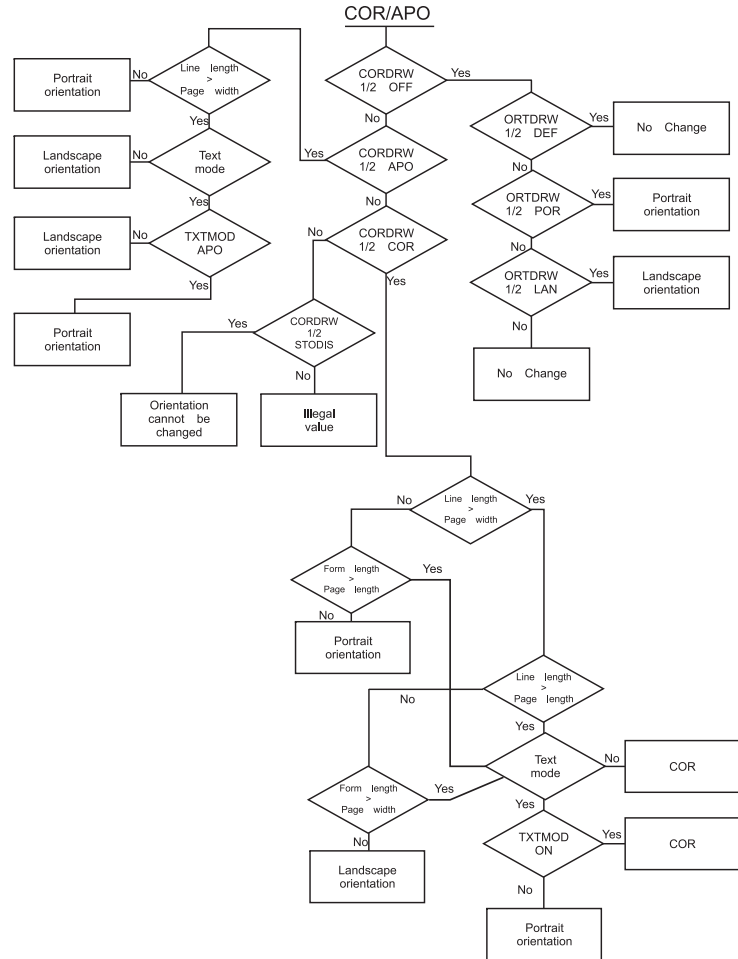
Example:

Disable COR and set Portrait as default orientation for drawer 2 only.

CORDRW 2 = OFF and ORTDRW 2 = POR

Flowchart See next page.

Page Orientation Logic Flowchart



Appendix E - Special TN5250e IDB Commands

How to Print an IDB Report

- 1 From a **Ready** status in the operator panel press the **MENU** button.
- 2 Use the navigation buttons: **Option Card Menu > SCS/TNe MENU > TN5250E SETUP > TEST OPTIONS > Print IDB Dump > Print.**

List of Commands

Larger numbers indicate higher precedence.

Precedence	Command	Comments
5	<CSC>IDB_EDIT	Enter IDB edit mode
5	<CSC>IDB_PRINT	Dump IDB (small format)
5	<CSC>IDB_PRINT_FULL	Dump IDB (large format)
5	<CSC>/ . . .	Enter Intermate transparent mode
5	<CSC>+<CSC>	Suppress format control codes
5	<CSC>-<CSC>	Standard handling of format control
5	<CSC>{XY}	Enter special transparent mode (X = Option 171, Y = Option 172)
2	<CSC><CSC>	Double CSC (prints <CSC>)
1	<CSC>{XY}	Single or Multibyte transparent character
5	<CSC>IDB_STATUS	Print status dump
5	<CSC>IDB_FONT	Print font list
5	<CSC>-X	Trig event no. X
<p>Refer to the chapter on Understanding the Control Panel (page 10) if necessary.</p>		

Appendix F - Managing the SCS TN5250e Font Table

Introduction

The SCS/TNe Emulation has a programmable font table, which contains the conversion between the IBM font IDs (sent from the system) to the internal fonts used in the printer. The font table has a limit of 50 fonts + 3 fonts used for COR (Computer Output Reduction). The SCS/TNe Emulation will detect free font table positions. When attempts to program more than 50 IBM fonts are made, it will print out a message and a font table status sheet. This status sheet has the IBM IDs indicated in the second column. To free font positions the `DEL` parameter in the `PRGFNT` command has to be used. Alternatively, an existing IBM font definition can be overwritten with the `PRGFNT` command.

The `PRGFNT DEL` command deletes an IBM font defined in the font table. This is necessary if more than 50 different IBM font IDs are programmed in the font table. It is not necessary to use the `PRGFNT DEL` command if an existing IBM font ID is used. In that case, the `PRGFNT` command overwrites all information attached to the previous font definition.

The SCS/TNe Emulation has six PCL soft fonts emulating IBM fonts. The font FGIDs are 3 (OCR-B), 155 (Boldface Italic), 159 (Boldface), 163 (Essay Bold), 160 (Essay) and 175 (Document) which may be loaded into printer memory at Power On. The font table is prepared for using these fonts. The fonts are loaded with code page PC-850 (12U) and with font ID D10003, D10155, D10159, D10160, D10163 and D10175. The loading of these fonts can be disabled via the operator panel using the [Download Font \(IDB Option 244\)](#) option. See page 188.

The "Font" Programming Command

This command corresponds to the advanced IDB language FONT command.

Command:

```
PRGFNT <Ibmfont> <Spacing> <String>:  
PRGFNT DEL <IBMfont>:
```

NOTE: Try to avoid deleting the first 7 fonts listed in the status printout (&%IDB_STATUS), as these fonts represent the substitution font IDs set by the SETSUBFNT command.

Parameters:

<lbmfont> 0-65535

This value indicates the IBM font sent from the system. Note that the IBM font numbers are divided into the groups below.

pitch area	IBM fonts
10 pitch:	1-65
12 pitch:	66-153
proportional:	154-200
13 pitch:	201-210
15 pitch:	211-239
5 pitch:	240-249
17 pitch:	250-257
20 pitch:	281-284
27 pitch:	290
typographic:	751-...

<String> This can contain all characters and has a maximum length of 255 characters. It has to be programmed the same way as printer command input data. The <String> parameter is optional. No string definition will delete the definition of an existing font.

NOTE: Please notice that the SCS/TNe Emulation always sends a character spacing command after the entire font command. This means that a spacing command entered in the <String> has no effect. It is overwritten by a character spacing command corresponding to the font areas described under <lbmfont>.

<Spacing> The spacing determines whether the SCS/TNe Emulation or the printer has to control the spacing when using proportional fonts (Fonts with IBM no. 154 - 200). The spacing command should only be used when using downloaded proportional fonts with the correct character spacing.

N This value is used whenever the font is not proportional.

- P Selection of "P" causes the printer to handle the character spacing. If "P" is selected in connection with programming of a font in the IBM proportional spaced area (154-200), the SCS/TNe Emulation prepares itself for support for downloaded IBM PS fonts. This ensures correct spacing of downloaded proportional spaced fonts. If a PCL proportional spaced font is placed in the IBM proportional spaced area (154-200), then this parameter should be used if the PCL font's own character spacing is expected. Please note that this gives no support for justification, bolding and underlining.

When selecting a font, a predefined string (String no. 100) is printed before <String>. The predefined string contains the symbol set and is normally /1B, "(12U".

Examples:

- 1 The Letter Gothic PCL font is selected when IBM font ID 87 (Letter Gothic 12 pitch) is sent from the system.

```
PRGFNT 87 N /1B, "(s0p12h0b4102T" :
```

- 2 The downloaded font 10175 is sent when IBM font ID 160 (Essay) is sent from the system. Font ID 160 is within the "proportional spaced" font area, and font 10175 is expected to be 100% IBM compatible as to the character spacing:

```
PRGFNT 160 P /1B,"(s1p12.72v0s0b202T":
```

- 3 Delete all previous font definitions in order to make room for new font definitions:

```
PRGFNT DEL 71
```

```
PRGFNT DEL 244
```

```
PRGFNT DEL 160
```

```
PRGFNT DEL 1803
```

Set Substituted Font ID

If a font ID sent from the system is not found in the font table, the font is substituted with a similar font defined in a special area of the font table. The first 7 font positions listed in the status printout (&%IDB_STATUS) represent the substitution fonts for the following areas.

Pitch area	IBM font area	Font table position
10 pitch:	1 - 65	1
12 pitch:	66 - 153	3
prop SP :	154 - 200	7
13 pitch:	201 - 210	4
15 pitch:	211 - 239	5
17 pitch:	250 - 257	6
5 pitch:	240 - 249	2

Command:

```
SETSUBFNT <IBM font number>:
```

NOTE: The font number must be a font number already present in the font table.

Parameter:

1 - 249

Example:

```
SETSUBFNT 86
```

NOTE: Font 86 needs to be present in the font table prior to this command. The entire font definition (incl. string before/after etc.) is transferred to font table position 3. For instance, if IBM font 67 was the font previously stated in position 3, this is moved to another position in the font table. It is, however, still available with font ID 67, but all font IDs sent from the system in the range 66-153, which are not present in the SCS/TNe Emulation with a specific font ID, are printed with the definition of font 86.

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SCS/TNe Emulation User's Guide

Fourth Edition July 2009, Rev 004.

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