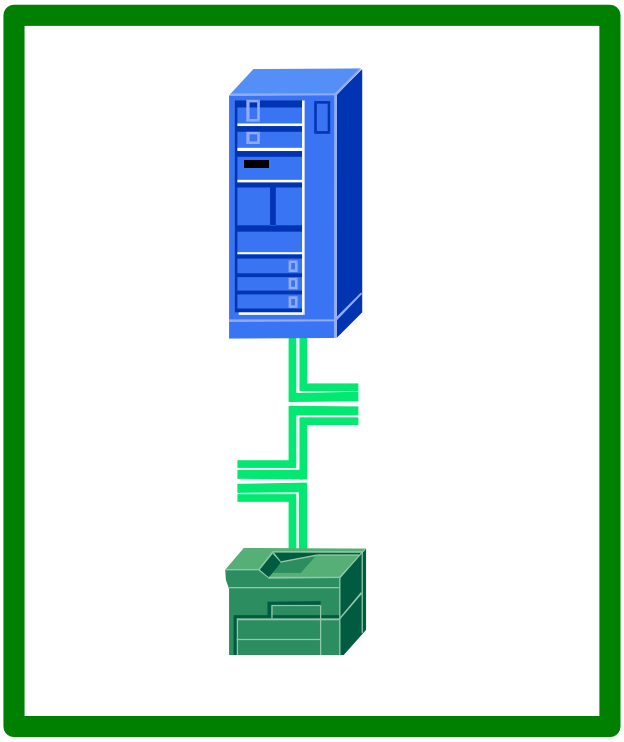

ida 812-1x MIO

Operator's Guide

Doc. no D60222 Revision 01

WARNING:
This equipment generates, uses, and can radiate radio frequency energy and if not installed and used in accordance with the instruction manual, may cause interference to radio communications. It has been tested and found to comply with the limits for a Class B computing device pursuant to Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference when operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference in which case the user at his own expense will be required to take whatever measures may be required to correct the interference.

EMC directive:
Only if installed in a printer with metal casing will this product observe the rules and regulations of the EMC directive. If so required, a declaration of conformity in local language stipulating the applied rules and regulations can be obtained.

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Preface

September 1997
This manual applies to the *ida 812-1x MIO*, i.e. the following printers equipped with an *i-data* plug-in interface with firmware release no: S21 112.070 or higher.

- *HP LaserJet IIISi*
- *HP LaserJet 4*
- *HP LaserJet 4Si*
- *HP LaserJet 4 Plus*
- *HP LaserJet 4V*
- *HP LaserJet 5*
- *HP LaserJet 5Si*
- *HP PaintJet* XL300
- *HP DeskJet 1200C*
- *HP DeskJet 1600 C*
- *HP Color LaserJet*

and to any subsequent releases until otherwise specified.

It is assumed that the reader has a basic knowledge and understanding of IBM computer systems, especially the */36*, */38* and *AS/400* systems.

Prerequisite Manuals

The original HP LaserJet User's manuals.

Related Manuals

"ida 812-1x PCL Platform, Programmer's Guide"
Document No. D62026.

As the *ida 812-1x MIO* emulates the IBM *5219* printer, useful information may be obtained from:

"IBM 5219 Printer, Models DO1/DO2, Programmer's Reference Guide", IBM Order No. GA 23-1025.

"Using the IBM Pageprinter 3812 with an IBM System /36 or System /38", IBM Order No. S544-3343.

"Device Configuration Guide (AS/400)", IBM Order No. SC21-8106.

Table of Contents

1. Introduction to the ida 812-1x MIO

1.1. What is the ida 812-1x MIO

The *ida 812-1x MIO* is a printer with an interface de signed for use with the *DisplayWrite/36*, *Office/38*, *Office/400*, *TMS* and similar programs.

The *ida 812-1x MIO* emulates the IBM *5219/3812-1* printers and supports the facilities offered by the IBM *5219* printer. Furthermore, simple emulations of the IBM *5224-1*, IBM *5225-2*, IBM *5256-120* and IBM *4234-2* are possible.

Front Panel Support

For the following printers, the *ida 812-1x MIO* can be set up via the front panel:

- *HP LaserJet IIISi*
- *HP LaserJet 4*
- *HP LaserJet 4Si*
- *HP LaserJet 4 Plus*
- *HP LaserJet 4V*
- *HP LaserJet 5*
- *HP LaserJet 5Si*
- *HP Color LaserJet*

For further details please see Chapter 5.

Flash Prom Support

The ida 812-1x MIO supports downloading of new firmware from twinax or from shareport. For further details please see Section 8.1.

1.2. ida 812-1x MIO Features

The *ida 812-1x MIO* printer gives you the following fea tures:

- Front panel support for *HP LaserJet IIISi, 4, 4Si, 4 Plus*, *4V, 5*, *5Siand HP Color LaserJet*
- Flash prom for downloading of new firmware

- Up to 24 pages per minute
- Laser quality printout
- Printer sharing with automatic switching and setup
- Automatic font change
- Scalable fonts
- Proportional spacing
- Internally generated bar codes which can be accessed via GFID or via Escape sequence
- Easy operation with few operator interventions
- User-string definition
- Permanent Escape Character
- FSL function simulating font change via Escape sequence
- Support of the ida PSS software package (vs.4.2).

1.3. ida 812-1x MIO Compatibility

The *ida 812-1x MIO* is designed for the following HP printers:

- *HP LaserJet IIISi*
- *HP LaserJet 4*
- *HP LaserJet 4Si*
- *HP LaserJet 4 Plus*
- *HP LaserJet 4V*
- *HP LaserJet 5*
- *HP LaserJet 5Si*
- *HP PaintJet* XL300
- *HP DeskJet 1200C*
- *HP DeskJet 1600 C*
- *HP Color LaserJet*

plus all HP MIO printers and gives access to many of the functions and facilities of those printers.

Please note that certain front panel settings and Escape Sequences should be used with great care, as they may overwrite the system

settings (the HP MIO printer's) or be over written from the system and cause formatting problems (see *Chapter 5 Front Panel Setup*).

1.4. How the ida 812-1x MIO Works

The *ida 812-1x MIO* works using 26 internal Setup Functions. These setup functions are downloaded as special commands from your IBM system. The *ida 812-1x MIO* interface intercepts these commands and uses them for its own internal setup.

Chapter 6, Function Selection via the Line is a brief description of these commands and is mainly intended for users already familiar with *i-data* products. For more detailed information on the settings used in the *ida 812-1x MIO*, please refer to the "ida 812-1x PCL Platform, Programmer's Guide" (Document No. D62026).

2. Installing the ida 812-1x MIO Interface

Before you start the installation, make sure that the kit is complete. It should contain the following items:

- ida 812-1x MIO interface
- Auto-terminating T-cable
- "ida 812-1x MIO, Operator's Guide"; Document No. D60222 (electronic format)
- "ida 812-1x MIO, Quick Guide"; Document No. D10222 (hardcopy format)

CAUTION:

The interface can be damaged by static discharge. To prevent this damage, the interface comes wrapped in an antistatic bag.

When you remove the interface from the bag and when you install it, hold the interface by the edges only. Do not touch the components or connections.

Do not throw away the antistatic bag. If the interface is removed from the printer later, it should be kept in the antistatic bag.

2.1. DIP Switch Language Selection

The *ida 812-1x MIO* interface holds a DIP switch bank for language selection. The DIP switches must be set *before* the interface is installed and the setting *must* match the setting used by the system.

The possible values are:

- International
- United States
- Austria/Germany
- Belgium
- Brazil
- Canada/France
- Denmark/Norway
- Finland/Sweden
- France
- Italy
- Iceland
- Japan (English)
- Portugal
- Spain
- Spanish speaking
- United Kingdom
- Multinational

The factory default language is **Multinational** (except for the US where the default language is United States, i.e. US English).

If you wish to change the factory default, please see *Appendix B, DIP Switch Settings* and FSL Y8 in *Appendix A* for further details.

Note:
Sending a restore command to factory default (i.e. X3) will reset language settings to the DIP switch settings.

2.2. European or US Defaults

The *ida 812-1x MIO* default setup for Europe and for the US differ in two respects:

1. Paper size: **A4** for Europe and **Letter** for US.

2. Language: **Multinational** in Europe and **United States** in the US.

From the factory the interface comes with either the European or the US default setup.

If you wish to change the factory default, please see *Appendix B. DIP Switch Settings* and FSL Y8 in *Appendix A.* for further details.

2.3. Installation Procedure

The installation of the *ida 812-1x MIO* interface varies slightly depending on the printer in which it is installed. This is decribed in more detail below.

NOTE:
Irrespective of printer, you should first make sure that power to the printer is turned OFF, and that the correct language has been selected on the interface DIP switch bank as described in *Section 2.1, DIP Switch Language Selection* and illustrated in *Appendix B, DIP Switch Settings*.

2.3.1. HP LaserJet IIISi and 4Si

1. Remove the HP MIO (Modular Input/Output) card from the **bottom** slot on the rear of the printer by loosening the screws and pulling the card out of the printer.

2. Insert the *ida 812-1x MIO* interface (twinax connector **at the bottom**) in place of the card you just removed and tighten screws.

2.3.2. HP LaserJet 4, HP LaserJet 4 Plus and HP LaserJet 5

1. Loosen the screws on the cover plate positioned to the **left** of the parallel and serial connection (on the rear panel) and remove the plate.

2. Insert the *ida 812-1x MIO* interface (twinax connector **at the top**) in the slot and tighten screws.

2.3.3. HP LaserJet 4V

1. Loosen the screws and remove the plate positioned on the rear of the printer.

2. Insert the *ida 812-1x MIO* interface (twinax connector **to the right**) in the slot and tighten screws.

2.3.4. HP LaserJet 5Si

1. Loosen the screws and remove the plate **of the top slot** positioned on the rear of the printer.

2. Insert the *ida 812-1x MIO* interface in the slot and tighten screws.

2.3.5. HP PaintJet XL300

1. Loosen the screws on the cover plate positioned **at the centre** of the rear panel and remove the plate.

2. Insert the *ida 812-1x MIO* interface (twinax connector **at the left**) in the slot and tighten screws.

2.3.6. HP DeskJet 1200 C

1. Loosen the screws and remove the plate positioned on the rear of the printer.

2. Insert the *ida 812-1x MIO* interface (twinax connector **at the left**) in the slot and tighten screws.

2.3.7. HP DeskJet 1600 C

1. Remove the HP JetDirect card from the slot on the rear of the printer by loosening the screws and pulling the card out of the printer.

2. Insert the *ida 812-1x MIO* interface (twinax connector **to the left**) in place of the card you just removed and tighten screws.

2.3.8. HP Color LaserJet

1. Remove the HP MIO (Modular Input/Output) card from the slot on the rear of the printer by loosening the screws and pulling the card out of the printer.

2. Insert the *ida 812-1x MIO* interface (twinax connector **at the bottom**) in place of the card you just removed and tighten screws.

For all printers: Complete the installation by attaching the label to the front of the printer.

3. Installing the ida 812-1x MIO Printer

The installation of the *ida 812-1x MIO* printer is similar to the installation described in the original HP manuals, except for the twinax cable connection of the *ida 812-1x MIO* to the host system (see *Section 3.3, Twinax Connection*).

All functions and features of the original printers are available on the *ida 812-1x MIO.* However, certain front panel settings and *LaserJet* escape sequences should be used with great care, as they may overwrite the system settings or be overwritten from the system, and this may cause formatting problems.

3.1. Power Connection

When you connect the power, make sure that the mains lead has a correctly wired plug with a ground connection, and insert the plug into a power socket.

WARNING:

The equipment must be grounded. Operation without a ground may cause exposed metal parts to carry mains voltage. This can lead to malfunction and personal injury.

3.2. Printer Configuration Procedure

1. Set the device address on the switch located on the rear panel next to the twinax connector. Possible values are 0 to 6.

   Make sure that the device address is set before the twinax cable is connected.

2. Select **PCL** from the front panel.

3. Turn the printer power off before you connect the twinax cable(s) according to *Section 3.3, Twinax Connection*.

4. The configuration must comply with the requirements of your installation and the relevant print jobs.

To check the configuration of the print er, press the test key on the rear panel once and the setup of the printer will be printed out.

NOTE:
When the *ida 812-1x MIO* is connected to an IBM System *AS/400*, it must be defined as an IBM *3812* Model 1 printer from the host system in accordance with the appropriate IBM documentation.

3.3. Twinax Connection

Before the twinax cable is connected, be sure to turn the printer power **OFF**.

With power turned off, connect the auto-terminating T-cable to the twinax socket at the rear of the *ida 812-1x MIO*, and turn the ring clockwise to lock.

Connect the twinax cable(s) to the T-cable and turn the ring(s) clockwise to lock.

Send data from the system and check the printout.

WARNING!

The twinax cable must *never* be connected directly to the twinax socket of the printer. It must *always* be connected to the T-cable.

3.4. Printer Emulations

On the *ida 812-1x MIO* it is possible to emulate the following IBM printers once the interface card has been installed:

- 3812-1/5219
- 5224-2
- 5225-2
- 5256 -120
- 4234-2

Factory default is 3812-1/5219 emulation. You change this emulation in the following way (provided that the printer has been configured as described in *Section 3.2, Printer Configuration Procedure*)

1. Turn printer power **OFF** and disconnect the twinax cable.

2. Press and hold the **[TEST]** key on the interface and turn printer power **ON**.

3. When the printer is ready the following will be printed:

   "Current emulation is xxxx"

4. Turn the **Device Address** switch on the rear panel to the required value according to the following table:

VALUE	*EMULATION*
0	3812-1/5219
1	5224-2
2	5225-2
3	5256-120
4	4234-2

5. Press the **[TEST]** key again and the selected emulation will be printed.

6. Turn printer power **OFF** and set the **Device Address** switch as described in *Section 3.2, Printer Configuration Procedure* and according to the new emulation.

7. Connect the twinax cable and turn printer power **ON**.

3.5. System Configuration

To obtain access to all the features of the *ida 812-1x MIO* on the *AS/400* and System */38* the printer should be configured as a *3812* Model 1 printer.

On System */36* the printer should be configured as a *5219 DO1* or *DO2* printer.

4. ida 812-1x MIO Operation

The *ida 812-1x MIO* is controlled entirely from the host system by IBM commands and requires very little operator intervention.

The configuration of the printer may be changed from the system with Function Selection via the Line (FSL) sequences as de scribed in *Chapter 7, Function Selection via the Line and* the "ida 812-1x PCL Platform, Programmer's Guide", doc. no. D62026.

The printer can be tested via the line as described in the Programmer's Guide referred to above. The **[TEST]** key found on the rear panel may also be used for the test procedure, see *Section 4.2, The Test Key*.

4.1. The Rear Panel

The rear panel consists of:

- The **SYNC** indicator LED which indicates twinax connection to the host system
- The **[TEST]** control key
- The **Device Address** switch
- The **PAR.DATA** indicator LED
- The twinax socket
- The parallel input port for optional connection to a PC

The **SYNC** indicator LED has 3 states which indicate the following:

State	***Indication***
OFF	No communication with the host system, or communication has been interrupted for more than 1 minute.
ON	Communication with the host system.
BLINKING	The **[TEST]** key has been activated.

The **PAR.DATA** indicator LED has 2 states which indicate the following:

State	***Indication***
OFF	Parallel interface inactive.
ON	Parallel interface active.

4.2. The TEST Key

As previously mentioned, tests are primarily selected via the line. However, the **[TEST]** key may be used to activate the following:

- Test 4, Setup printout

followed by

- Test 1, ONLINE HEX dump.

An examples of the Setup printout obtained by activating the tests can be found in *Chapter 10, Test Settings Printout*.

4.3. Printer Sharing

On the *ida 812-1x MIO* it is possible to use parallel output from an IBM PC, as the printer interface contains a printer sharing module. For both the twinax port and the parallel port, you can program a user string to be used for initialisation in a share situation. This string is defined via FSL Function 100 "Port Sharing Option", where a timeout is specified (See *Chapter 7.* and *Appendix A*. for further details on FSL functions). [1]

The printer sharing module may be in one of two states:

- Twinax session mode
- Parallel session mode

When none of the modes are active, the twinax line will answer **READY** and the twinax and parallel lines are polled in turn.

If data is sent on the parallel line, the module will enter Parallel Session mode. The twinax line will answer that the unit is **HOLD**.

[1] Y100 for the parallel port is defined via Y246 (See Chapter 7. for further details).

If data is sent on the twinax line, the module will enter Twinax Session mode. If no data is sent via the twinax line within the specified timeout period, parallel data may be printed. This also applies if the module is in Twinax Session mode.

NOTE:
Because the printer is being shared between the parallel port and the host, careful attention should be paid to the setting up of the PC, so that jobs are not automatically terminated because the printer is busy.

This problem may be helped by setting the PC timer "off" by writing "MODE LPT1:,,P" (in case of an LPT1 printer) in DOS.

Use of the DOS PRINT command is recommended.

5. Front Panel Setup

This chapter describes the setting up of the *ida 812-1x MIO interface* via the printer's front panel. Setting up via the front panel provides an alternative to setting up FSL functions. But please note that the front panel only offers a few *basic* setup options. If you need to make further adjustments, you can use FSL (for non-IPDS) in addition to front panel setup.

- HP LaserJet III Si
- HP LaserJet 4, HP LaserJet 4 Plus,
- HP LaserJet 4 Si series of printers, HP LaserJet 4V
- HP LaserJet 5 and 5Si
- HP Color LaserJet

On the next page, you will find a **navigation chart** showing the setup options for the ida 812-1x MIO via the Front Panel.

5.1. Main menu

All front panel communication between the user and the *ida 812-1x MIO* NON-IPDS Menu is done as follows:

- For *HP LaserJet IIISi*: **PCL CONFIG MENU**
  Access to PCL CONFIG MENU:
  1. Go OFF Line
  2. Hold MENU key down for approx. 10 seconds until the PCL CONFIG MENU appears.
  3. Toggle MENU key till the NON-IPDS MENU appears.

- For *HP LaserJet 4, 4 Plus and HP LaserJet 5*: **MIO MENU**
  Access to MIO MENU:
  1. Go OFF Line
  2. Toggle MENU key until the MIO MENU appears.
  3. Press ITEM key and the NON-IPDS MENU appears.

- For *HP LaserJet 4/5Si and HP LaserJet 4V:* **MIO MENU 1**
  1. Go OFF Line
  2. Toggle MENU key until the MIO MENU 1 appears.

- For *HP Color LaserJet*: **MIO CONFIG MENU**
  Access to MIO CONFIG MENU:
  1. Go OFF Line
  2. Toggle MENU key until the MIO CONFIG MENU appears.
  3. Press ITEM key and the NON-IPDS MENU appears.

Front Panel Setup for the ida 812-1x MIO

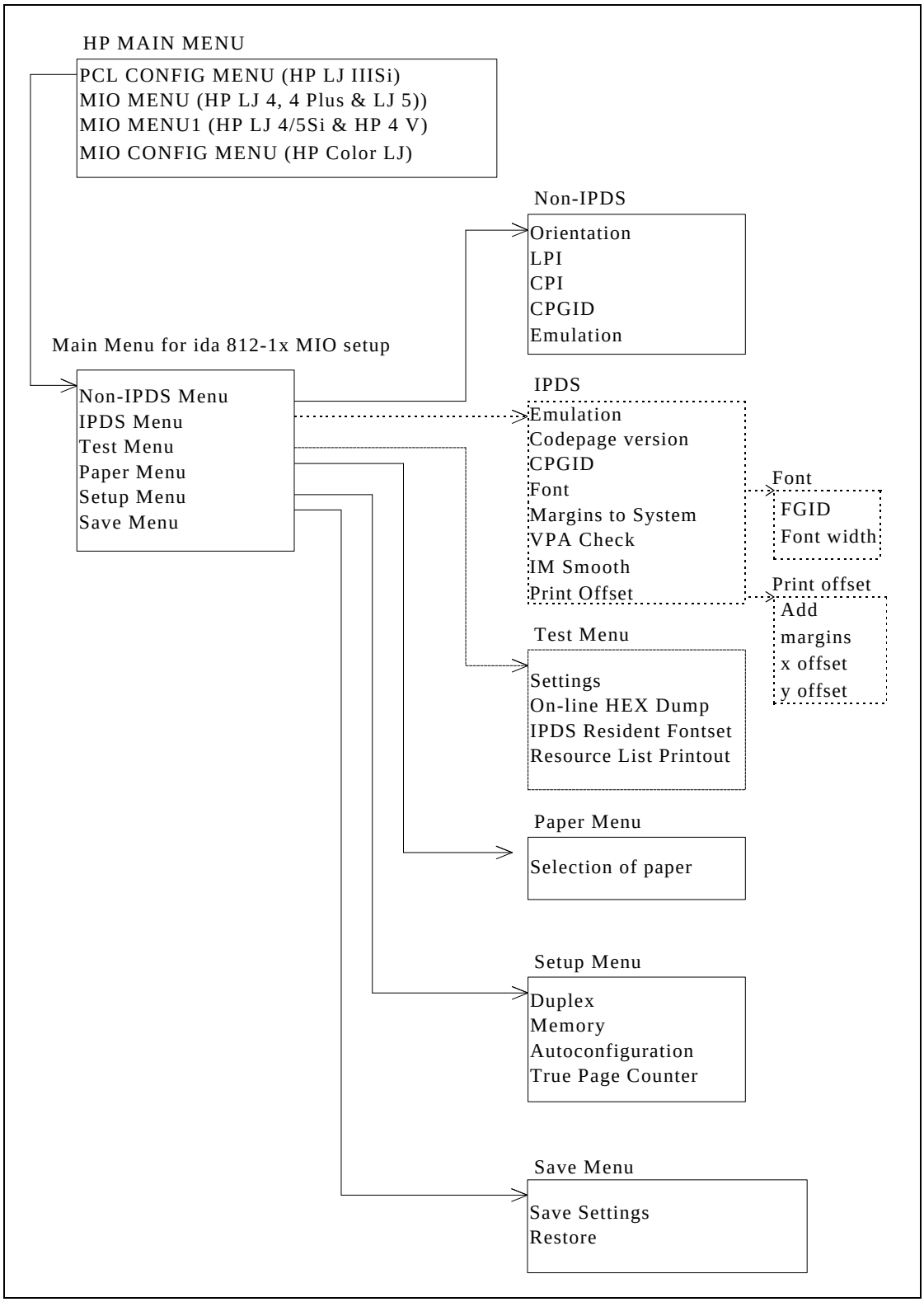


Fig. 5-1 Front Panel Setup for the ida 812-1x MIO

[2] The "IPDS" box and the "Setup Menu" box show the extra functions obtained when upgrading the non-IPDS module with an IPDS module (contact your i-data distributor for further details).

5.1.1. Navigation Keys

The following guidelines apply after you have entered the Main Menu for ida 812-1x setup (See navigation chart above). The keys you use to navigate vary slightly depending on the printer; e.g.:

To go to next Menu on *HP LaserJet IIISi*, you press MENU key, whereas you use ITEM key to do the same on the *HP LaserJet 4, 4 Plus, 4Si, 5, 5Si, 4V* and *HP Color LaserJet*.

HP LaserJet IIISi:

Go from ida 812-1x Setup Menu to Non-IPDS Menu:
Press ENTER key

Go to next Menu (IPDS Menu):
Press MENU key

Change settings:
Use + and - keys

Mark with an asterisk *:
Press ENTER

Go to next setting:
Press MENU

Save settings:
After change of settings, you toggle to SAVE MENU using MENU key and press ENTER.
SAVE SETT.= NO* will appear in the display. To select YES, you press + or - key. When YES appears, you press ENTER to mark YES with an *.

Press ONLINE (se **NOTE** above).

HP LaserJet 4, 4 Plus, 4V, 4Si, 5, 5Si and HP Color LaserJet:

To go from ida 812-1x Setup Menu to Non-IPDS Menu:
Press ENTER key

Go to next Menu (IPDS Menu):
Press ITEM key

Change settings:
Use + and - keys

Mark with an asterisk *:
Press ENTER

Go to next setting:
Press ITEM

Save settings:
After change of settings, you toggle to SAVE MENU using ITEM key and press ENTER.
SAVE SETT.= NO* will appear in the display. To select YES, you press + or - key. When YES appears, you press ENTER to mark YES with an *.

Press ONLINE (se **NOTE** above).

5.1.2. General Description of Menus

Below is a short description of what the different menus are used for. All these front panel menus provide an alternative/supplement to setting up the interface via FSL:

NON-IPDS MENU
Can be used as an alternative/supplement to non-IPDS configuration using FSL functions.

TEST MENU
Used for generating settings printout and HEX dumps.

PAPER MENU
Used to set up the number of installed trays and tray features. By definition, a tray is always present in the FSL environment, consequently this setting has no effect in the non-IPDS emulations.

SETUP MENU
This menu is currently only vailable in IPDS mode.

SAVE MENU
Each time changes have been made to the non-IPDS menu settings, these must be saved in the permanent memory in order to take effect at the next power-on cycle. You can also restore factory default or just user settings via this menu.

5.2. Sub-Menus

Below is a more detailed description of the individual sub-menus.

The factory default settings are marked with an asterisk (***)**.
In the front panel display, the asterisk will mark the currently selected value.

5.2.1. Non-IPDS Menu

Each of the following functions correspond to an FSL function (the corresponding FSL function number is indicated in brackets after the function name).

Unless otherwise specified, changes take effect immediately after they have been saved via the SAVE/RESTORE menu.

ORIENTATION(corresponds to FSL Y10)

Possible selections are

P	:	**P**ortrait.
L	:	**L**andscape.
*COR	:	COR (Compter Output Reduction) as IBM 3812
C82	:	COR as IBM 3812 but independent o f PPM print quality.

LINES PER INCH (LPI)

Corresponds to FSL-function Y2. Possible selections are:

0
3LPI
4LPI
*6LPI
8LPI

CHARACTERS PER INCH (CPI)

Corresponds to FSL function Y3. Possible selections are:

5 CPI
*10 CPI
12 CPI
15 CPI
16 CPI

CODEPAGE

Corresponds to FSL function Y8. Possible selections are:

37	English (US)
256	International
273	Austrian/German
274	Belgium
275	Brazil
277	Danish/Norwegian
278	Finnish/Swedish
276	Canadian French
280	Italy
281	Japanese (Latin)
282	Portugal
283	Spanish
284	Spanish Speaking
285	English (UK)
297	French
*500	Multinational
871	Iceland

EMULATION

Possible selections for emulation are:

*3812 includes 3816
5224
5225
5256
4234
IPDS[3]
IP1K 1K IPDS data buffer support

NOTE:

After making changes to EMULATION via the Front Panel (remember to save via the SAVE menu), you must switch off the printer, wait for 10 seconds - and then switch it back on again.

[3] IPDS can only be selected if the ida 812-1x MIO is fitted with an IPDS top

5.2.2. TEST Menu

The "TEST MENU" contains all test print functions and dump mode functions. Selected test functions are executed when the printer is ready for printing. Several tests can be selected at the same time.

SETTINGS PRINTOUT (NO/YES)
"SETTINGS=" generates a Non-IPDS settings printout.

Default selection is "NO".

ONLINE HEX DUMP (NO/YES)
"ONLINE HEX=" is the same as activating the FSL function T2.

Default selecton is “NO”.

You will return to the TEST menu and may proceed to PAPER menu.

5.2.3. PAPER Menu

The "PAPER MENU" contains setup of paper trays.

Possible selections are:

UPPER
LOWER
OPTIONAL
ENV. FEEDER
MANUAL
MANUAL ENV

These selections are used for the setup of installed trays/feeders. The following submenus apply to each tray selection.

TRAY PRESENT
"PRESENT=" indicates whether this tray is present ("YES") or ("NO").

PAPER SIZE
"SIZE=" defines the size/type of paper in the present tray and the extents and margins that will be reported back to the host system. Possible values are:

"LETTER"
"LEGAL"
"A4"
"EXECUTIVE"
“LEDGER”
“A3” (*HP LaserJet 4V* only)
"MONARCH"
"COM10"
"DL"
"C5"
"B5"

5.2.4. SETUP Menu

This menu is only available in IPDS mode [4].

5.2.5. SAVE/RESTORE Menu

SAVE SETTINGS
"SAVE SETT." has the same effect as the FSL function X1. This function saves current non-IPDS (FSL) settings in the non-volatile memory.
Possible value selections are "NO" and "YES".

Default selection is "NO".

RESTORE
This menu has the following options:

All RESTORE options have "NO" as default.

RESTORE=SET.	has the same effect as the FSL function X4. This function restores last saved non-IPDS settings into current settings.
RESTORE=DEF.	has the same effect as the FSL function X3 and. It restores the factory default non-IPDS into current settings.

[4] Contact your i-data distributor for further details.

6. Errors and Recovery

6.1. Error Messages in MIO front panel

The 80_service (01XX) error message will be displayed in the MIO front panel if the following error situations occur:

Recovery attempt can be made as follows:

- Turn power off for 10 seconds and then on again. If the problem persists, contact technical assistance.

DESCRIPTION	XX	CAUSED BY	RECOVERY
Firmware check sum error	61	Comes at power on after interrupted download of firmware	Download firmware again
Flash prom error	71	Flash prom used by firmware damaged	Install new flash prom
Flash prom error	72	Flash prom used by firmware damaged	Install new flash prom
Line interface RAM ERROR	81	Hardware error	
Wrong data in self test	82	Hardware error	
Wrong word in self test	83	Hardware error	
Response missing from Twinax interface	84	Hardware error	
Wrong interrupt from Twinax interface	85	Hardware error	
No test response from Twinax interface	86	Hardware error	
Invalid test response	87	Hardware error	
Nothing received in self test	8A	Hardware error	
Forced download	8B	Hardware error	
End of flash program	8C	Download of firmware finished successfully	
Error in HEX data	8D	An error has occurred when firmware was	Power OFF and ON and download

		downloaded	firmware again
No invalid boot ID in HEX data	8E	You have tried to download a firmware not meant for this product	
Attempt to write to boot area	90	Firmware code error. A correction to the firmware code is needed	Get correction to firmware code
Attempt to write to boot area	91	Firmware code error. A correction to the firmware code is needed	Get correction to firmware code.
Unable to read back Twinax code	AO	Hardw0are error	

Fig. 6-1 Error Messages in MIO Front Panel

6.2. Error Messages on Paper

Other than the error messages in the MIO front panel the following error codes print on paper:

ERROR	DESCRIPTION
Error 8011	Communication error/Hardware error
Error 4510	Invalid SCS Control received
Error 5004	Initializing NVRAM
Error 5005	NVRAM failed/Hardware error
Error 5006	NVRAM initialized
Error 50??	CP error

Fig. 6-2: Error Messages which are printed, if possible

6.3. Two Devices with Same Address

If two devices on the same twinax line have the same address, the printer will print an error message.

Recovery:

1. Check each device on the same line against the system configuration.

2. Change the device address accordingly as described in *Chapter 3. Installing the ida 812-1x MIO printer.*

7. Function Selection via the Line

NOTE:
This section is a brief description of how to set up the interface from the line with FSL Functions. The section is primarily intended for users who are already familiar with*i-data* products.

The guidelines in this section are very basic. For further details on the supported FSL functions, please see "ida 812-1x PCL Platform, Programmer's Guide", Document No. D62026. In the Programmer's Guide you will find an extensive description of the FSL Functions with notes, comments and examples.

FSL Functions are special commands in the data stream that set up the interface card and consequently the printer to function in a specific way.

The *ida 812-1x MIO* interface card is pre-programmed and ready to operate. The factory default setup will meet the demands of most host systems and users, and special programming is therefore normally not required.

However, special circumstances may require changes in the programming of the interface. This is done in accordance with the guidelines in this section.

For a full list of supported FSL Functions, please see Appendix A.

7.1. The Escape Character

When you send FSL Functions via the data stream, these functions must be "separated" from the data stream, so that they will not be printed. For this you need to define an Escape (ESC) Character.

The ESC Character tells the interface that the characters following the ESC Character in the data stream are to be regarded as a command. The end of the command is signalled with the ESC Character again.

An ESC Character can be any character you wish, but before you define it you should consider the following:

- Once the ESC character has been defined, it cannot be printed. For this reason it is advisable to select a character you know will not normally appear in the data stream. If the character defined appears elsewhere in the data stream (i.e. outside an FSL Function), the interface will regard it as an ESC character and you will get a syntax error.

- However, you do not need to have an ESC Character defined all the time. When it has served its purpose you can remove it again (see *Figure 7-2* below).

7.2. Defining a Temporary Escape Character

The ESC Character may be defined as a *temporary* as well as a *permanent* ESC Character.

Figure 7-1 shows how to define "%" as a temporary ESC Character.

```
&&??%
```

Fig. 7-1: Defining "%" as a temporary ESC Character.

Since the temporary ESC Character is defined in the temporary memory (RAM) alone, it is only in effect as long as there is power on the printer, or until you remove it again. To remove it you define it as "space" (illustrated in *Figure 7-2*).

```
&&??<space>
```

Fig. 7-2: Removing the temporary ESC Character

NOTE:
For information on how to define a permanent ESC Character, please refer to the "ida 812-1x PCL Platform, Programmer's Guide", Doc. No. D62026.

7.3. Syntax of an FSL Function

The special sequence that the interface will interpret as an FSL Function is shown in *Figure 7-3*.

%Y<function number>,<parameters>%

Fig. 7-3: Syntax of an FSL Function. "%" is the defined ESC Character

7.4. Supported FSL Functions

In Appendix A, you will find a full list of the supported FSL Functions with a description of their *syntax and parameters.* For a more detailed description with notes, comments and examples you are referred to the "*ida 812-1x PCL Platform, Programmer's Guide*", Doc. No. D62026.

The notations below are used in the FSL summary description given in Appendix A.:

%	is the defined ESC Character
*	indicates the factory default
**	indicates USA factory default, where if differs from standard factory default
< >	indicates mandatory parameter which *must* be defined
[ ]	indicates optional parameter which *can* be defined, if required

7.5. Invalid Escape Sequence

The error message "Invalid Escape Sequence" will be printed on paper if an invalid escape sequence has been sent to the printer.

Recovery:

Locate and correct the error in your setup file.

8. FSL Setup via PC's parallel port

In order to ease customization of the *ida 812-1x*, FSL parameters for twinax input can be programmed directly via the interface's Centronics port using the Engineering Function Y249.

The Engineering Function enables the system to detect whether FSL sequences on shareport are intended for twinax FSL input or for shareport setup and will direct the sequences received to the twinax FSL interpreter.

The sequence works as a switch for FSL sequences. The defined Escape Character will also be translated and defined as Escape Character for the twinax FSL module. Function Y249 is automatically deactivated after timeout on the shareport (i.e. settings defined in Y249 cannot be saved in the NVRAM[5]).

The setup sequence must only contain ASCII characters. Apostrophe notation can be used if characters are included in the US ASCII 7 bit character set. All other data must be in HEX notation.

Activating the Y249 Engineering Function

Before the Engineering Function can be activated, an Escape character must be defined:

&&??<character>

The sequence "&&??%" will define "%" as the ESC Character.

If you have defined % as Escape Character, you activate the engineering function by typing:

%Y249,n%

n = password. As this is sensitive information, system operators can contact their i-data distributor for password details.

[5]NVRAM = Non-volatile RAM (permanent memory)

Deactivating the Y249 Engineering Function

The function will be deactivated automatically after timeout on the share port (timeout is defined in Y100 Port Sharing Option).

Limitations when Y249 is active

1. Escape sequences must be in HEX

Unprintable characters (i.e. Escape characters) must be defined in HEX notation if they are to be part of the setup print job.

2. FSL Functions (limited/not supported)

All twinax FSL functions (except Y96 Font Change Simulation) are available. For Y2 (LPI) and Y3 (CPI), only the default values will be updated: i.e. LPI 6 (for Y2) and CPI 10 (for Y3).

4. Non-operative Test FSL functions

T1 On-line HEX dump
T3 ASCII dump

T1 (online HEX dump) will produce on-line HEX dumps of data from the twinax line. T3 will produce ASCII dumps from the twinax line.

8.1. Updating firmware

The *ida 812-1x MIO* firmware (complete firmware) may be updated via share port. Firmware is downloaded from the share port using the **ESC P2** command (only available in Engineering Mode - Y249).

If errors are detected, the downloading will be terminated and an error message will be printed if possible. If serious errors occur during programming, the firmware has to be downloaded again via the share port.

The downloading of firmware is considered complete if no data from the host is received within 30 seconds. The interface will then make a soft reset.

9. Font Selection

The factory default GFID Table below lists all the predefined fonts which are supplied with the interface GFIDs (GFIDs 1 - 399) [6].

Fonts with GFIDs above 400 (i.e. scalable fonts) are described in the section ***Scalable Fonts*** below.

For further details on defining fonts, please see *Appendix A. FSL Functions,* Function Y91 and Y96.
If more details on these FSL functions are required , you are referred to the Programmer's Guide (D62026).

In the following Default GFID Table, the Attribute, Symbol Set and Translate Table figures will refer to the following:

ATTRIBUTE

0 = No attributes
1 = Bold
2 = Italic
3 = Bold and italic
4 = Proportional
5 = Proportional bold
6 = Proportional italic
7 = Proportional bold and italic

SYMBOL SET and TRANSLATE TABLE

0 = Default table
1 = Roman 8
2 = IBM PC-8
3 = ECMA Latin 1
4 = Roman 8
5 = US ASCII
6 = OCR A
7 = OCR B
8 = PC 850

[6] If, for reasons of backward compatibility, you wish to reestablish the fonts > 400 in the default GFID table, please contact you i-data supplier.

In the table below, an asterisk (*) after the GFID number denotes a simulated IBM GFID.

GFID	Font	Type-face	Attri-bute	Symbol Set	Point Size	Translate Table
3*	OCR B	0	0	7	12	7
11*	Courier	3	0	1	12	1
12*	Prestige	8	0	1	10	1
18*	Courier Italic	3	2	1	12	1
19*	OCR A	0	0	6	12	6
38*	Presentation Bold	11	1	5	14	5
39*	Letter Gothic Bold	6	1	1	14	1
40*	Letter Gothic	6	0	1	14	1
46*	Courier Bold	3	1	1	12	1
51	Courier	3	0	5	12	5
52	Courier Bold	3	1	5	12	5
53	Courier Italic	3	2	5	12	5
60	Letter Gothic	6	0	5	14	5
66*	Letter Gothic	6	0	1	12	1
68*	Letter Gothic Italic	6	2	1	12	1
69*	Letter Gothic Bold	6	1	1	12	1
80	Prestige	8	0	1	10	1
85	Courier	3	0	1	10	1
86*	Prestige	8	0	1	10	1
87*	Letter Gothic	6	0	1	12	1
91*	Letter Gothic Italic	6	2	1	12	1
95*	Courier Italic	3	2	1	10	1
109*	Letter Gothic Italic	6	2	1	12	1
110*	Letter Gothic Bold	6	1	1	12	1
111*	Prestige Bold	8	1	1	10	1
112*	Prestige Italic	8	2	1	10	1
115	Courier Bold	3	1	1	10	1
116	Courier Italic	3	2	1	10	1
117	Prestige	8	0	5	10	5
118	Prestige Bold	8	1	5	10	5
119	Prestige Italic	8	2	5	10	5
204*	Letter Gothic	6	0	1	12	1
221*	Prestige	8	0	1	7	1
223*	Courier	3	0	1	8	1
230*	Letter Gothic	6	0	1	9	1
252*	Line Printer	0	0	1	8	1
253	Line Printer	0	0	1	8.5	1
255	Letter Gothic	6	0	1	9.5	1
256	Prestige Elite	8	0	5	7	5

Default GFID Table for GFIDs 1 - 399

Scalable Fonts

NOTE:
***Only* applies to printers running PCL Level 5**

The ida 812-1x MIO allows GFID access to all the scalable fonts found in the printer. These GFIDs are in the range 400 - 65535.

Typeface, typeface attributes and point size have been linked together using the system described below.

GFID Number = XXXYY

where XXX = point size

and YY = typeface + attribute

Possible *typeface* values are:

Typeface ID	***PCL No.***	***Name of Typeface***
0	5	CG Times Roman
4	4116	Coronet
10	4	Helvetica
14	36	Helvetica Narrow
20	23	Century Schoolbook
24	4297	Marigold
30	17	Humanist / CG Optima
34	4168	Antique Olive
40	31	ICT Avant Garde
44	4197	Garamond Antique
50	16901	Times New Roman
54	16602	Arial
60	52	Univers

Possible *attribute* values are:

Style	***Strokeweight***
0	Medium upright
1	Bold upright
2	Medium italic
3	Bold italic

%Y96,4815%

This is 48 point, Helvetica Narrow, bold upright

%Y96,1301%

This is 13 point, Times Roman, bold upright

Font examples

Other relationships between IBM GFID and printer typefaces/fonts can be programmed using Function 91 or 97 (See Programmer's Guide for more details on Function 97). GFIDs may be selected with the normal procedure or using Function 96.

10. Test Settings Printout

```
ida 812-1x MIO, Firmware version: S21 112.070/00206062

i-data international a-s
Vadstrupvej 35-43
2880 Bagsvaerd, Denmark
Phone: +45 44 366000   Fax: +45 44 366111

Boot ID: 80003004 HW id:
Current escape code = 00 in hexadecimals as Character = ' '
Dipswitch:     National character set = Multinational
Line Set Up:   Addr. 0 3812 model 1.
Function 2:    Default LPI 6
Function 3:    Default CPI 10
Function 8:    Default codepage Multinational
Function 10:   Default orientation = COR
Function 11:   Default paperpath Drawer 1
               Destination 2
Function 12:   Papersize A4
Function 21:   Horizontal compresssion = Off Line spacing 100%
Function 22:   Print driver: PCL 5
Function 48:   Permanent escape code: None
Function 51:   User strings at power on: None
Function 59:   Barcode definitions : None
Function 61:   User strings : None
Function 62:   Setup strings: None
Function 73:   Translate table : 1 ROMAN 8
Function 74:   Symbol set def:: None
Function 88:   Physical margins:-288,-480 -288,-480 -288,-480
Function 89:   Physical margin comp. = Off
Function 90:   User Esc. strings: None
Function 91:   User-defined font translation table : None
Function 92:   Point size strings: None
Function 93:   Attribute strings: None
Function 94:   Typeface strings: None
Function 97:   User GFID/font selection:
Function 98:   Orientation select = Automatic
Function 100:  IBM mode definition: Timeout 20 sec.
               Centronic input definition: Timeout 20 sec.
Function 119:  Autoconfiguration = 2
Function 120:  Settings Printout at Power up = Off
Free bytes:    1853
Substitute character in hexadecimal = 60
Left margin in 1/1440"   = 0
Indent margin in 1/1440" = 0
Right margin in 1/1440"  = 19008
Paper width in 1/1440"   = 19008
Paper depth in 1/1440"   = 15840
Top margin in 1/1440"    = 174
Line distance in 1/1440" = 240
Maximum print line       = 66
```

List of Abbreviations

The following list is an alphabetical list of the abbreviations used in this publication, together with their definitions.

APL	A Programming Language
ASCII	American Standard Code for Information Interchange
CPI	Characters Per Inch
DIP	Dual Inline Package
EEPROM	Electrically Erasable Programmable Read-Only Memory
FSL	Function Selection via the Line
GFID	Global Font ID
HEX	Hexadecimal
LED	Light-Emitting Diode
RAM	Random-Access Memory
RPQ	Request for Price Quotation
SCS	SNA Character String
SNA	Systems Network Architecture

APPENDIX A - FSL Functions

No.	Function
2	LPI
3	CPI
8	Language
10	Page Format
11	Paper Path
12	Paper Size
19	Duplex printing
21	Horizontal Compression
22	Printer Driver Selection
37	IBM Printer Emulation Selection
48	Permanent ESC Character Selection
51	User-Defined String(s) at Power-Up
59	Bar Code Type Definition
61	Setup for User Strings
62	Setup for IBM-defined Strings
73	Select Translate Table
74	Printer Symbol Set Definition Strings
75	Overwrite Translate Table
88	Physical Margins
89	Physical Margin Compensation
90	User ESC String Definition
91	Font Definition
92	Font Point Size Definition String
93	Font Attribute Definition string
94	Font Typeface Definition String
96	Font Change Simulation
97	User GFID/Font Selection
98	Automatic Page Orientation
100	Port Share Option
119	Auto-configuration Select
120	Settings Printout at Power-up
249	Enter Engineering Mode

T(est) Functions:

T1 =	Online Hex Dump
T4 =	Setup Printout

Z Function:

Zn =	Send user-defined string

S Function:

Sn =	Send user-defined string

W Function:

Wn =	Print Barcode

X Functions:

X1 =	Store settings in the permanent memory
X3 =	Restore the settings to factory default settings and reset printer
X4 =	Restore the settings to Power Up defaults (read the permanent memory)

No.	*Name*	*Syntax*	*Parameters*
2	LPI	%Y2,<n1>%	3 = 3 LPI 4 = 4 LPI *6 = 6 LPI 8 = 8 LPI
3	CPI	%Y3,<n1>%	5 = 5 CPI *10 = 10 CPI 12 = 12 CPI 15 = 15 CPI 16 = 16.7 CPI
8	Language	%Y8,<n1>%	**37 = Engl. US EBCDIC 38 = EBCDIC 256 = International 273 = Austrian/ German 274 = Belgian 275 = Brazilian 276 = Canadian French 277 = Danish/ Norwegian 278 = Finnish/ Swedish 280 = Italian 281 = Japanese (English) 282 = Portuguese 283 = Spanish 284 = Spanish Speaking 285 = English (UK) 297 = French *500 = Multinational
10	Page Format	%Y10,<n1>[,n2]%	**n1** 0 = Portrait 1 = Landscape *2 = COR 82 = COR (Y10,82) then COR is independent of print quality **n2** 1 = Tractor (Upper) 2 = Drawer 1 (Upper) 3 = Drawer 2 (Lower) 4 = Manual feeder 5 = Envelope feeder 6 = Drawer 3 (Lower)
11	Paper Path	%Y11,<n1>%	1 = Tractor (Upper) *2 = Drawer 1 (Upper) 3 = Drawer 2 (Lower) 4 = Manual feeder 5 = Envelope feeder 6 = Drawer 3 (Lower) 7 = Tray 1, right side tray 8 = Drawer 4 (HP 5)

No.	*Name*	*Syntax*	*Parameters*
12	Paper Size	%Y12,<n1>[,n2,n3]%	**n1 (Physical paper size)** *1 = A4 2 = Legal **3 = Letter 4 = Executive 5 = Letter (Monarch) 6 = Business 7 = Intl DL 8 = Intl C5 9 = B5 10 = A3 11 = Ledger 15 = Comm 9 Envelope 16 = B5 Envelope 17 = US Legal 13" 18 = 215mm x 315mm 99 = Use system SPPS or SHF / SVF values **n2 (Tray)** 1 = Tractor (Upper) 2 = Drawer 1 (Upper) 3 = Drawer 2 (Lower) 4 = Manual feeder 5 = Envelope feeder 6 = Drawer 3 (Lower) 7-255 = Reserved for optional feeder (20)=(Reserved for DOD) **n3 (Validation paper size)** *1 = A4 2 = Legal **3 = Letter 4 = Executive 5 = Letter (Monarch) 6 = Business 7 = International DL 8 = International C5 9 = B5 10 = A3 11 = Ledger 15 = Comm 9 Envelope 16 = B5 Envelope 17 = US Legal 13" 18 = 215mm x 315mm 99 = Use system SPPS or SHF / SVF values

No.	*Name*	*Syntax*	*Parameters*
19	Duplex Printing	%Y19,<n1>%	*0 = Simplex 1 = Long-edge duplex 2 = Short-edge duplex
21	Horizontal Compression Extended (Vertical Linefeed Compression)	%Y21,<n1>[,n2]% %Y21,<n1>[,n2,n3]%	**n1** 0 = Compression *1 = No compression **n2** 1 = Tractor (Upper) 2 = Drawer 1 (Upper) 3 = Drawer 2 (Lower) 4 = Manual feeder 5 = Envelope feeder 6 = Drawer 3 (Lower) **n3** 1 to 255 (expressed in 1/100) *100
22	Printer Driver Selection	%Y22,<n1>%	2 = HP PCL 4 *4 = HP PCL 5
37	IBM Printer Emulation Select	%Y37,<n1>%	**n1** Emulation *3812 5224 5225 5256 4234 4245 *IPDS +IPDS **Only with IPDS support** **n2** Secondary Address 0-6
48	Permanent ESC Character Selection	%Y48,<'char.'>% or %Y48,<xx>%	'char.' = character selected from the current IBM character table xx = HEX value of the character selected from the table *00
51	User-Defined String(s) at Power-Up	%Y51,<n1>%	0-99 = One or more strings defined in FSL 61 (max. 8)

No.	*Name*	*Syntax*	*Parameters*
59	Bar Code Type Definition	%Y59,<n1>,<n2>, <n3>,<n4>[,n5]%	**n1** 1-8 = Bar code def. no. **n2** 22-39 = Bar code type **n3** 1-255 = Height **n4** 1-32 = Horizontal expansion **n5** 1-65535 = GFID No.
61	Setup for User Strings	%Y61,<n1>,<n2>%	**n1** 0-7 = User String No. **n2** 00-FF = String contents in HEX
62	Setup for IBM-defined strings (Tray select strings)	%62,<n1>,<string>%	**n1** 120 = Tractor Tray 1 121 = Envelope feed 123 = Manual Cut-sheet Feeder 125 = Tray 1 126 = Tray 2 127 = Tray 3
73	Select Translate Table	%Y73,<n1>[,n2]%	**n1 (Translate Table)** *1 = Roman-8 2 = IBM PC-8 3 = ECMA Latin 1 5 = US ASCII 6 = OCR A 7 = OCR B 8 = PC 850 **n2 (Symbol Set)** *1 = Roman-8 2 = IBM PC-8 3 = ECMA Latin 1 5 = US ASCII 6 = OCR A 7 = OCR B 8 = PC 850
74	Printer Symbol Set Definition Strings	%Y74,<n1>,<n2>%	**n1** 1-8 = Symbol set no. **n2** 00-FF = String contents in HEX

No.	*Name*	*Syntax*	*Parameters*
75	Overwrite Translate Table	%Y75,<n1>[,n2], <n3>%	**n1** 40-FF = Position in HEX of character to be trans-lated **n2** 1-8 = Symbol set defined in FSL 74 **n3** 00-FF = Data in ASCII HEX required to print the character
88	Physical Margins	%Y88,<n1>,<n2> [,n3]%	**n1** -32000 to 32000 = Horizontal margin compensation in 1/1440" *0 **n2** -32000 to 32000 = Vertical margin compensation in 1/1440" *0 **n3** 0-2 = Page format as defined in FSL 10
89	Physical Margin Compensation	%Y89,<n1>[,n2]%	**n1** *0 = No compensation 1 = Compensation as defined in FSL 88 **n2** 1 = Tractor (Upper) 2 = Drawer 1 (Upper) 3 = Drawer 2 (Lower) 4 = Manual feeder 5 = Envelope feeder 6 = Drawer 3 (Lower)

No.	*Name*	*Syntax*	*Parameters*
90	User ESC String Definition	%Y90,<n1>,<n2>%	**n1** 0 = Erase strings 01-FF = String no. in HEX **n2** '<string>' = String contents in apostrophe notation (see "ida 812-1x PCL Platform, Programmer's Guide")
91	Font Definition	%Y91,<n1>,<n2>,<n3>,<n4>,<n5>[,n6]%	**n1 (IBM GFID)** 1-65535 = IBM GFID no. **n2 (Typeface)** 0-255 = Pre-programmed typeface value **n3 (Attribute)** 0 = Remove all current attributes 1 = Bold 2 = Italic 3 = Bold and Italic 4 = Proportional 5 = Prop. Bold 6 = Prop. Italic 7 = Prop. Bold and Italic **n4 (Symbol Set)** *1 = Roman-8 2 = IBM PC-8 3 = ECMA Latin 1 5 = US ASCII 6 = OCR A 7 = OCR B 8 = PC 850 **n5 (Point Size)** 1-255 = Point size **n6 (Translate Table)** *1 = Roman-8 2 = IBM PC-8 3 = ECMA Latin 1 5 = US ASCII 6 = OCR A 7 = OCR B 8 = PC 850

No.	*Name*	*Syntax*	*Parameters*
92	Font Point Size Definition String	%Y92,<n1>,<n2>%	**n1** 1-8 = String no in decimal **n2** 00-FF = String contents in HEX
93	Font Attribute Definition String	%Y93,<n1>,<n2>%	**n1** 1-8 = String no in decimal **n2** 00-FF = String contents in HEX
94	Font Typeface Definition String	%Y93,<n1>,<n2>%	**n1** 1-8 = String no in decimal **n2** 00-FF = String contents in HEX
96	Font Change Simulation For selection of scalable fonts, please see Chapter 9.	%Y96,<n1>%	1-65535 = GFID no.
97	User GFID/Font Selection	%Y97,<n1>,<n2> [:n3]%	**n1** 1-65535 = GFID No. **n2** <string> = String for 0° rotation **n3** <string> = String for 90° rotation
98	Automatic Page Orientation (APO)	%Y98,<n1>[,n2]%	**n1** *0 = Activate APO 1 = Deactivate APO 2 = Validate APO on physical page **n2** 1 = Tractor (Upper) 2 = Drawer 1 (Upper) 3 = Drawer 2 (Lower) 4 = Manual feeder 5 = Envelope feeder 6 = Drawer 3 (Lower)

No.	*Name*	*Syntax*	*Parameters*
100	Port Sharing Option	%Y100,<n1>[,n2]%	**n1** 0 = Resend the settings after share timeout 1-255 = Timeout in no. of seconds *20 **n2** 00-FF = String in HEX to be sent to printer before transmission of data when printer is selected by sharing unit
119	Auto-Configuration Select	%Y119,<n1>%	**n1** 0 = Disable auto-configuration *2 = Enable Auto-configuration
120	Settings printout at power-up	%Y120,<n1>%	**n1** *0 = Disable 1 = Enable

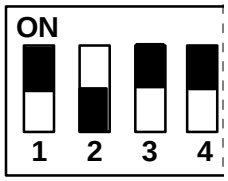
Appendix B. DIP Switch Settings

Language

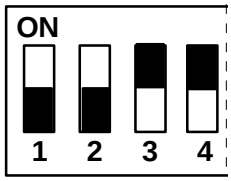
4 of the 8 DIP switches are used to select language **and** paper size (US/European paper size). The United States/Canada and the Canada/France [7] switches select letter paper size (i.e. 8.5" x 11"). All other combinations set default paper size to A4 (i.e. 8.27 x 11.69").

International

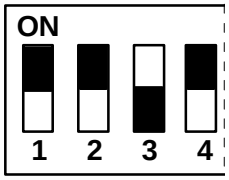
United States/ Canada



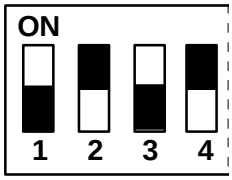
German/ Austria



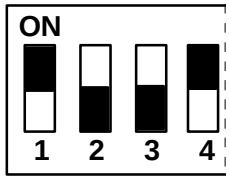
Belgium



Brasil



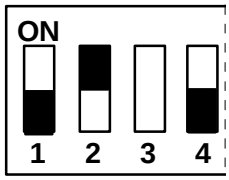
Canada/ France



Denmark/ Norway

Finland/ Sweden

France



Italy

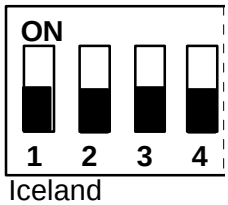
Japan (English)

Portugal

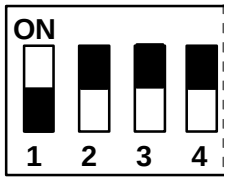
Spain

Spanish Speaking

Great Britain



Iceland



United States/ Canada

Default page size

This dip switch setting and the Canada/France switch set default page size to Letter size (8.5"x11").
All other combinations set default page size to A4 (8.27" x 11.69")

[7] Canada/France DIP switch settings will use French codepage and Letter size paper.

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READER'S COMMENTS

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