



## IPDS Programmer's Guide

Doc. no D60253    Revision 01

### Trademarks:

Company and product names mentioned in this datasheet are trademarks or registered trademarks of their respective owners. i-data international a-s cannot be held responsible for any technical or typographical errors and reserves the right to make changes to products and documentation without prior notification.

# Preface

***April 1997***

This manual describes how to perform advanced IPDS setup of your device using the PC-based program **idaSetup** for Windows - or by use of a command-line configuration via DOS.

The idaSetup is basically a program for *Windows*, using GUI (graphical user interface) panels. The program also contains a command-line version for setting up via *DOS*. It should, however, be noticed that using the DOS version, the user will have to enter new program parameters in the configuration file.

The user is assumed to have working knowledge of Windows and DOS environments.

## Prerequisite Manuals

**For details on the general functionality, please refer to the specific product documentation.**

## Summary of Amendments

***April 1997, revision 01***

With this revision you are provided with a full-scale IPDS programmer's guide. It should also be noticed that the original name of the program - *MakeITDS* - has been changed and the setup program is now referred to as **idaSetup**. The change of name also signifies a change of focus as to setup behaviour. Though you will still be able to carry out the command-line configuration of your device via DOS, the idaSetup via the Windows platform is much more user-friendly and you are recommended to use this setup method.

# Table of Contents

Preface .....	2
Prerequisite Manuals .....	2
Summary of Amendments .....	2
1. Introduction .....	5
1.1 Host printing .....	5
1.2 System requirements.....	5
2. Items Supplied.....	6
3. Installation Procedure .....	7
3.1 Windows installation .....	7
3.2 DOS installation.....	7
4. idaSetup for Windows.....	8
4.1 Step-by-step guide .....	10
4.1.1 Printer Configuration.....	11
4.1.1.1 Pre-defined file .....	12
4.1.1.2 Additional configuration to predefined file.....	13
4.1.1.3 Upon modification / change of pre-defined file .....	14
4.2 Main menu description .....	17
4.2.1 File menu .....	17
4.2.2 Setup menu .....	19
4.2.2.1 Printer Configuration .....	20
4.2.2.2 IPDS Setup.....	28
4.2.2.3 Share Setup .....	35
4.2.2.4 Advanced Setup .....	37
4.2.2.5 Restore Settings.....	38
4.2.2.6 Resource Setup.....	38
4.2.3 Resource Setup.....	39
4.2.4 Action.....	44
4.2.5 Help .....	45
5. Setup Via DOS .....	46
5.1 Downloading factory default font files.....	46
5.2 Printer configuration files .....	47
5.2.1 Changing printer configuration files .....	48
5.2.2 Generate a downloadable configuration file .....	48
5.2.3 Downloading Printer Emulation Files.....	49
5.2.4 Use of Action commands.....	50
5.2.5 Downloading your own ITDS resource file .....	50
5.2.5.1 The Resource Specification Files.....	50
5.2.5.2 Font set files .....	51
5.2.5.3 Changing Font Specification File.....	51
5.2.5.4 Downloading Changed Font File via ITDS .....	54
6. Uploading to Host .....	55
6.1 Uploading to VM / MVS / VSE .....	55
6.1.1 Invocation of HostBlk program .....	56
6.2 Uploading to AS/400.....	57
6.3 Transmit configuration file from Host.....	57

---

7. Troubleshooting .....	58
7.1 Resource timeout expired.....	58
7.2 Out of Memory .....	58
7.3 Printable area .....	59
7.4 Duplex .....	59
7.5 Tray selection .....	59
Appendix A: Error Messages.....	60
Appendix A 1: ITDS error messages.....	60
Appendix A 2: HostBlk.....	68
Appendix A 3: idaSetup .....	69

# 1. Introduction

idaSetup is a GUI based program for easy set up of a wide range of IPDS protocol converters via a PC share port or from a Host. As an alternative, the DOS version can be used for command-line configuration of the device.

When the necessary settings have been made, the idaSetup program transforms ASCII setup files and AFPDS fonts into an ITDS file which will be interpreted and processed by the various IPDS solutions. The ITDS file may be downloaded directly to your interface from a PC via the interface's share port or it may be uploaded to a Host. See below.

ITDS allows remote interface setup from different environments and also allows standard or customised font sets to be downloaded to the IPDS range of products fitted with Flash memory.

*For details on each specific product, you are referred to the relevant product manual.*

## 1.1 Host printing

Before the ITDS file is uploaded to the host it must be converted to a fixed record formatted file. This conversion is done via the i-data program **HostBik**. The output from this program may subsequently be copied to the host. For details on host printing, see the chapter: "Uploading to Host" for details.

## 1.2 System requirements

### **Hardware:**

- IBM PC AT, PS/2 or compatible (preferably 80386 or higher)

### **Windows:**

- DOS Version 5.0 or compatible
- Microsoft Windows

### **DOS:**

- DOS Version 5.0 or compatible
- Minimum 500 Kbytes Free memory

In CONFIG.SYS the maximum number of open files must be more than 10 (e.g. FILES=20)

## 2. Items Supplied...

The idaSetup kit consists of 3 diskettes containing a number of installation and setup files.

***For up-to-date information on the diskette contents and other product issues, refer to the Readme file.***

## 3. Installation Procedure

This chapter provides installation details for Windows and DOS.

### 3.1 Windows installation

1. Start Windows
2. Enter the menu **"File"** and click on **"Run"**
3. Insert diskette labelled "MakeITDS, Windows Installation disk 1" in drive (e.g. a:) and type the following idaSetup installation command:

`a:\setup.exe <group>` ← Remember to enter group specification (see diskette label for details on group)

and click on **"OK"**

4. The system will ask you to specify location and language default. You have the options of European or US defaults. Press **"OK"** when specifications are made. The diskette contents will now be installed.
5. You will then be prompted to insert Windows installation diskette 2.
6. At last you will be prompted to insert the diskette labelled "DOS installation disk / fonts".
7. Start the idaSetup program by double-clicking on the new icon and proceed to the chapter "idaSetup for Windows" for details on the GUI setup.

### 3.2 DOS installation

The installation of the DOS version will only require the disk "DOS installation disk / fonts".

The syntax for installing MakeITDS for DOS is as follows:

```
a:install <group> <default> <makeitds target> <font target> <source>
```

where:

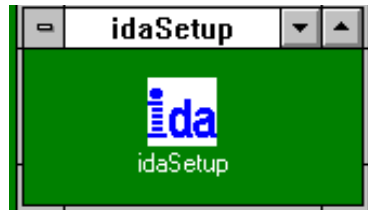
<b>group</b>	product specific. <b>See the label for group information</b>
<b>defaults</b>	selects European or US defaults ( <b>EU</b> or <b>US</b> )
<b>makeitds target</b>	is where MakeITDS is to be installed
<b>font target</b>	is where the fonts are to be installed
<b>source</b>	is the disk drive containing the distribution

For details on the operation of the command-line based program, see the chapter: "Setup via DOS".

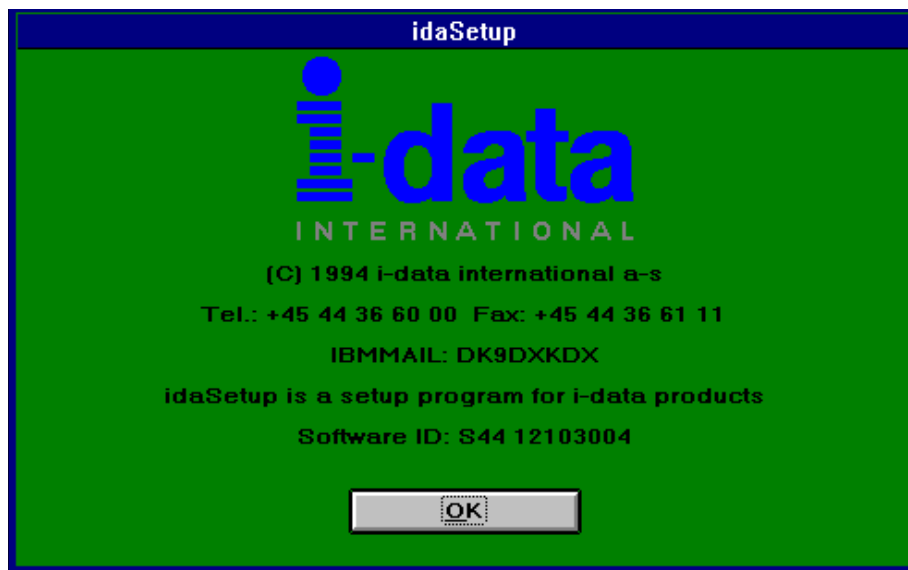
## 4. idaSetup for Windows

The idaSetup for Windows is a GUI setup program for IPDS products enabling you to customise setup files as required. The output from this program is one or more setup files and optionally a downloadable ITDS file. A download utility is provided to download the ITDS file to the attached IPDS interface.

This chapter will give you a step by step instruction of the various menus in the idaSetup program upon clicking the idaSetup icon:



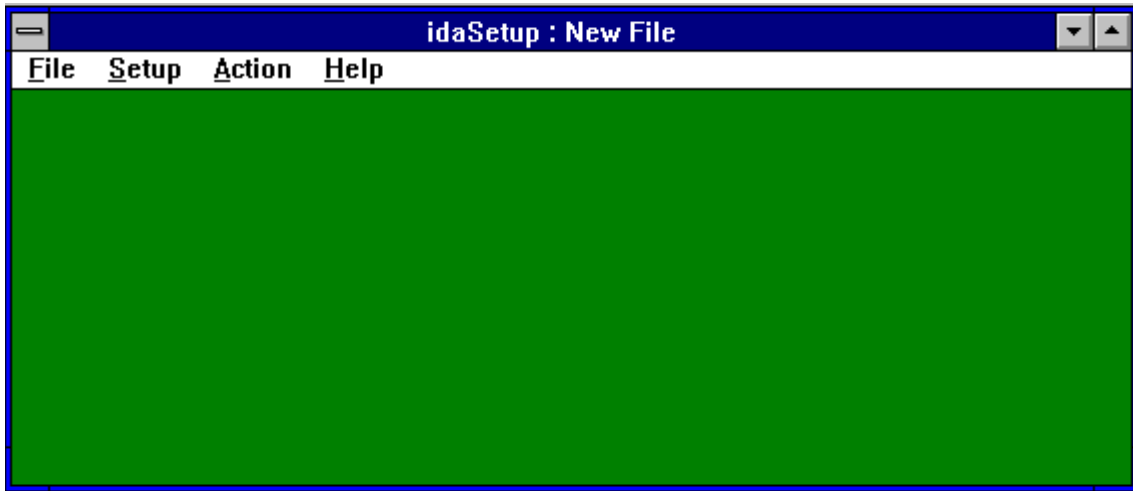
1. When you have activated the icon, you will be presented with this screen:



2. Click on "OK".



You will meet the following screen:



This is the **main window** of the idaSetup program. All configuration activities are launched from here.

The main window consist of the following menus:

**File**

**Setup**           *(use this menu when making a new setup file)*

**Action**

**Help**

### Further setup information

*The above main menu entries with option and additional information are described in the section: "Main Menu Description".*

*If you have just installed the idaSetup program for the first time and wish to create settings for an IPDS interface, you are to follow the guidelines in the next section "Step-by-Step Guide".*

### NOTE:

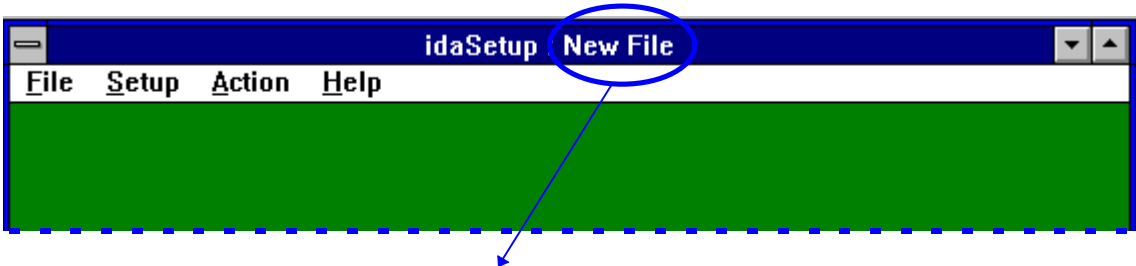
In all the setup menus you will meet the following three buttons:

OK	Cancel	Help
When you click this button, you are confirming the settings just made in the present menu and at the same time you will return to the previous menu.	Clicking this button will disregard the settings made in the present menu and you will return to the previous menu.	A click on the Help menu will provide you with configuration details of the present setup menu.

## 4.1 Step-by-step guide

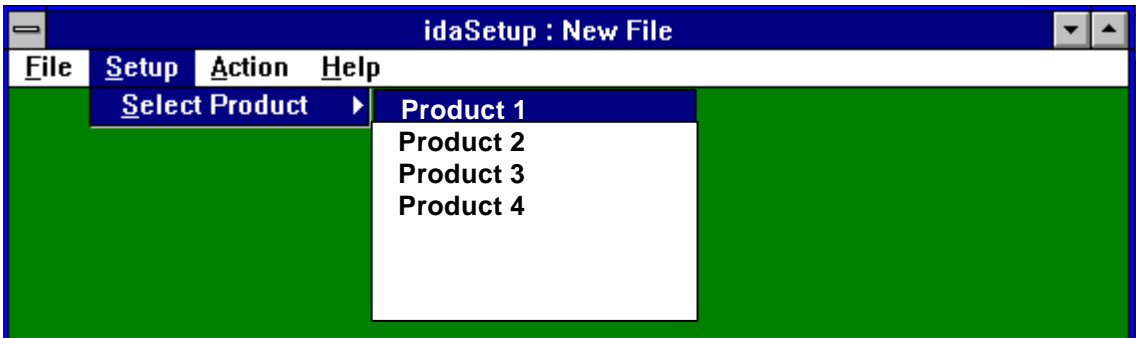
If you wish to make a new printer configuration file, follow the guidelines provided in this section.

1. Click on the "Setup" menu.

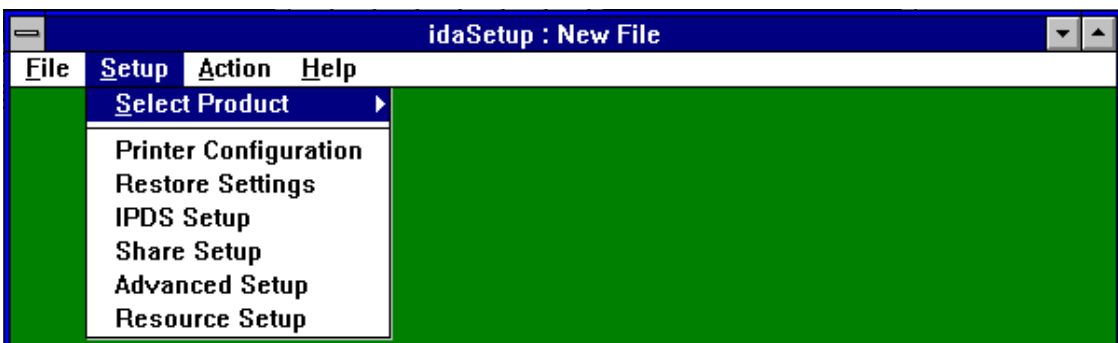


This will automatically create a new file for you.

2. Click "Select Product". When you have selected a product, you will return to the main window.

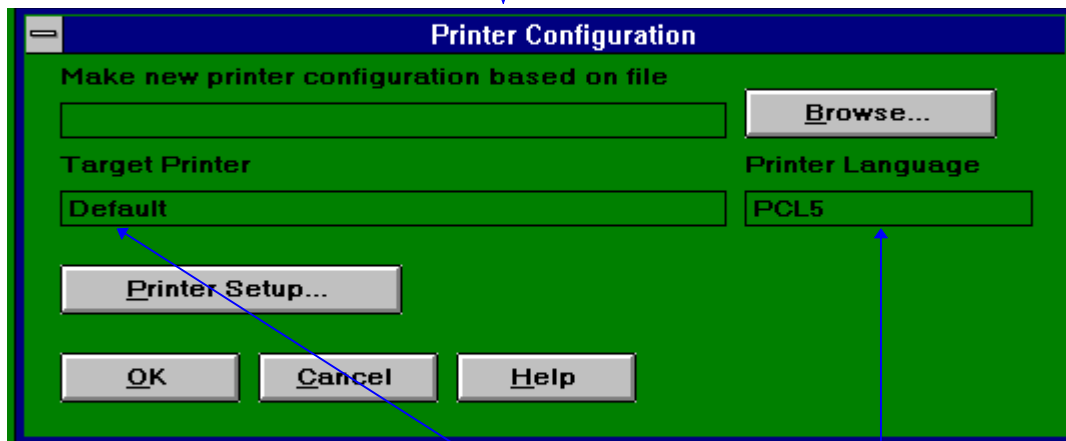
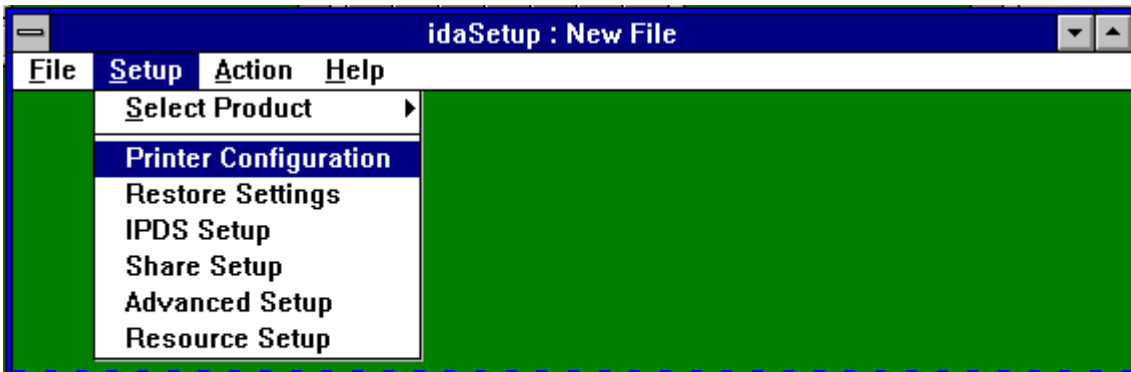


3. Click on the "Setup" menu again. Now you will see a list of configuration menus. These menus are described in the following.



## 4.1.1 Printer Configuration

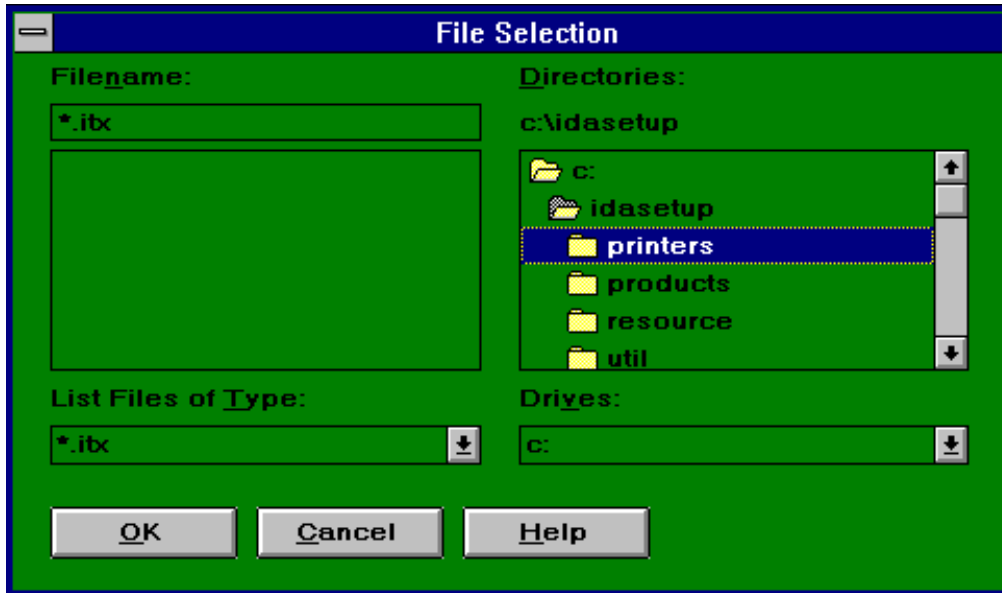
1. Click on the menu "Printer Configuration".



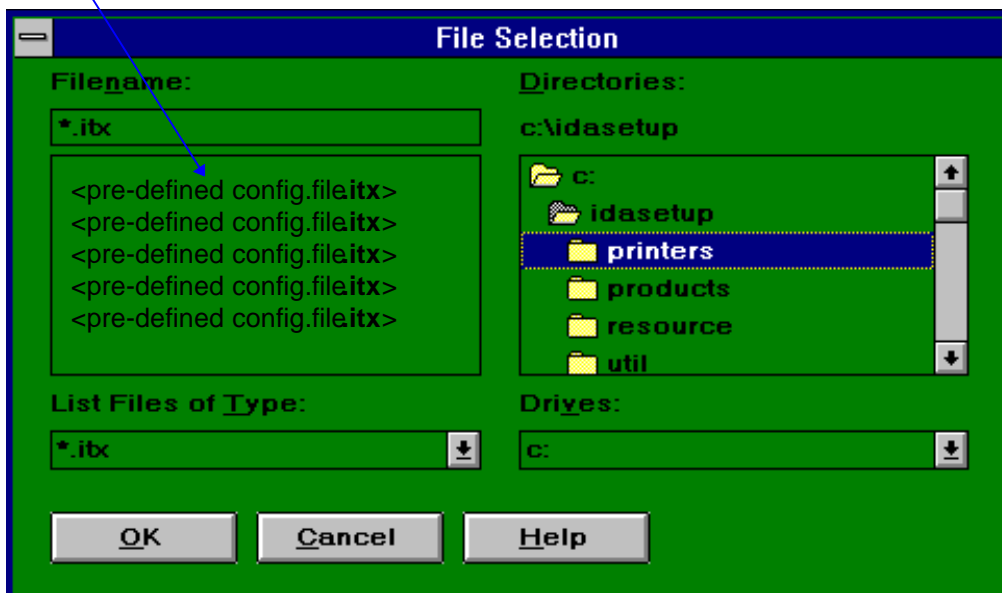
2. You may use the default settings in "Target Printer" and "Printer Language" for definitions of IPDS settings to a PCL5 printer. (Should you wish to use the "Default PCL5" configuration file, proceed to the section "Additional configuration to predefined file").
3. However, you are recommended to select a predefined configuration file matching the printer you wish to configure the interface for. See next section.

#### 4.1.1.1 Pre-defined file

1. To select a pre-defined configuration file matching your printer, click the "Browse" button in the "Printer Configuration" menu to reveal a long list of pre-defined files (see the screen in the following).

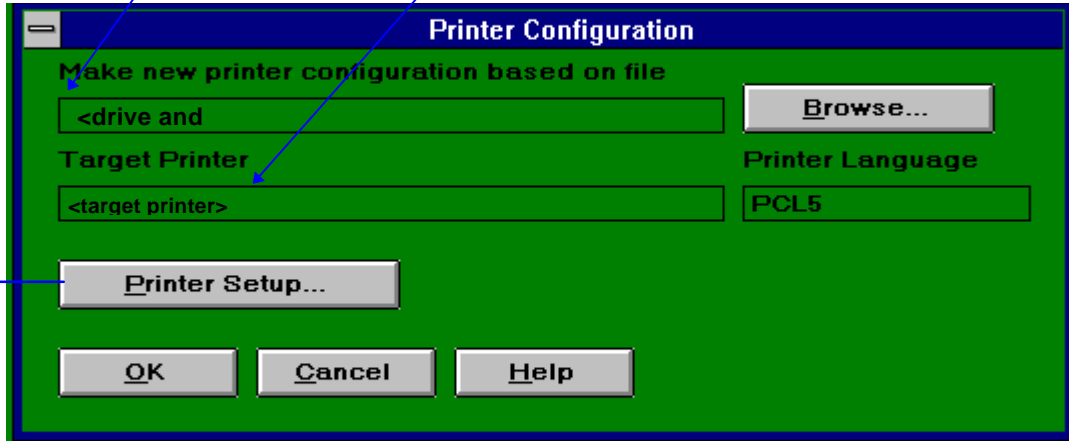


2. Click the menu "Printers". In here you can select from a wide range of pre-defined configuration files.



3. Select the configuration file matching the printer you wish to configure the interface for and click "OK".

4. In the menu "Printer Configuration" menu the selected configuration file will now appear with drive / path and stating the target printer.



#### 4.1.1.2 Additional configuration to predefined file

If you need to make changes in the predefined configuration file (e.g. memory, optional duplex, paper trays, etc) this is done partly via the "Printer Setup" menu and partly via options in the Setup menu (available from the main menu). In-depth descriptions of the Printer Setup menu and the Setup menu follow further below.

When modifications (if any) have been made and they have been confirmed along the way in the various sub-menus clicking "OK", you will eventually return to the Main menu.

Via the "Setup" menu (from the main menu) you can make several modifications/changes. The Setup menu comprises the following sub-configuration menus:

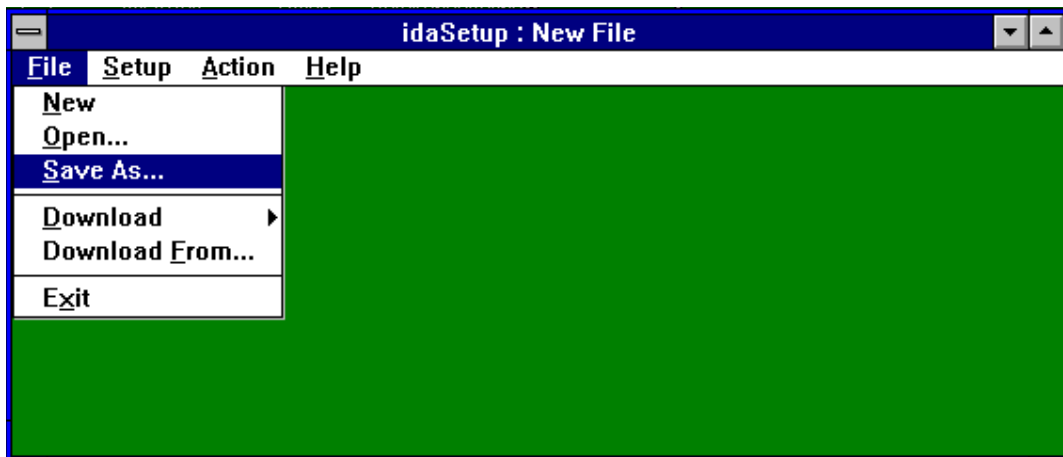
- Printer configuration (general printer configuration)
- Restore settings (restore settings to factory default)
- IPDS setup (set among others emulation and codepage)
- Share setup (set timeout for strings in case of share situation)
- Advanced setup (set auto-configuration and true page counter)
- Resource setup (change resident IPDS font set)

**See the thorough description of the configuration options provided with the section on the "Setup menu".**

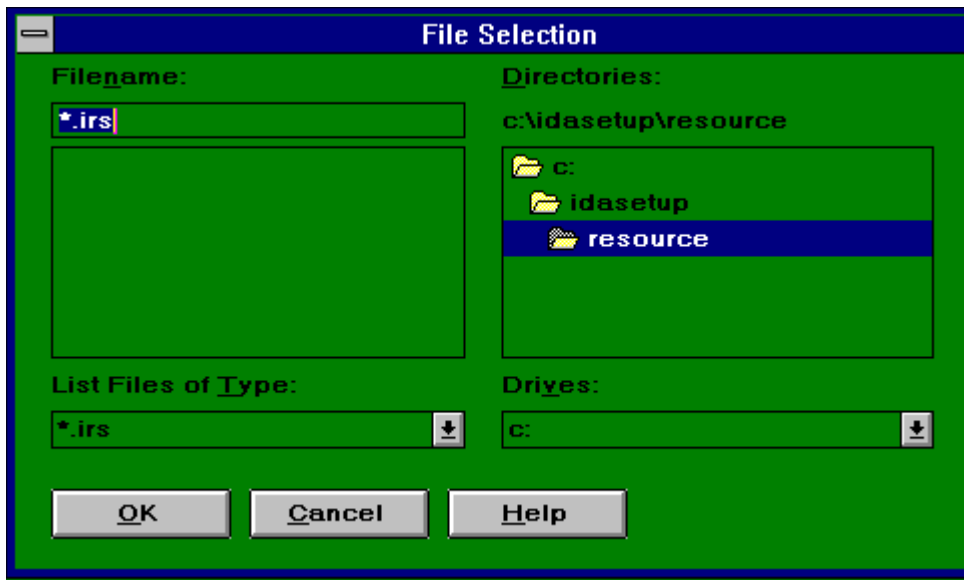
### 4.1.1.3 Upon modification / change of pre-defined file

When you have made all the modifications or changes necessary to suit the attached printer, the file must be saved for subsequent download.

1. From the main menu, select the File menu and then "Save As..".

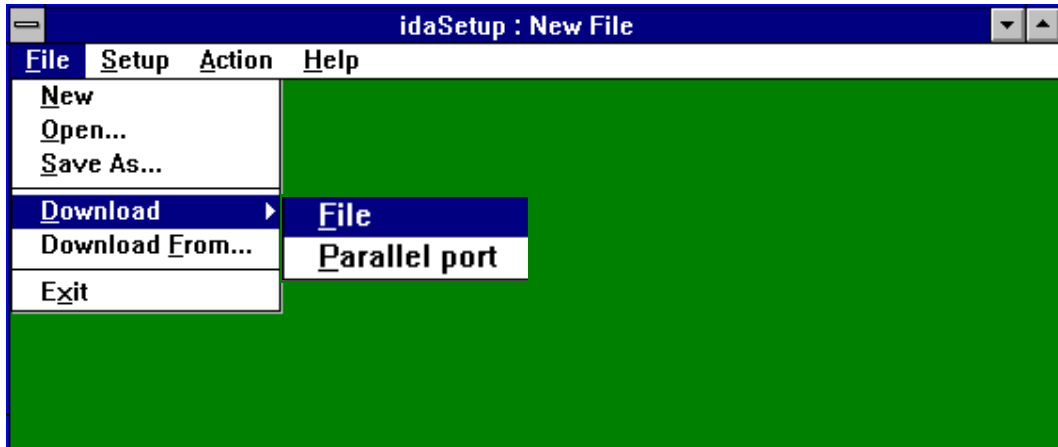


2. Name the file with the extension .irs (you are recommended not to change the extension)



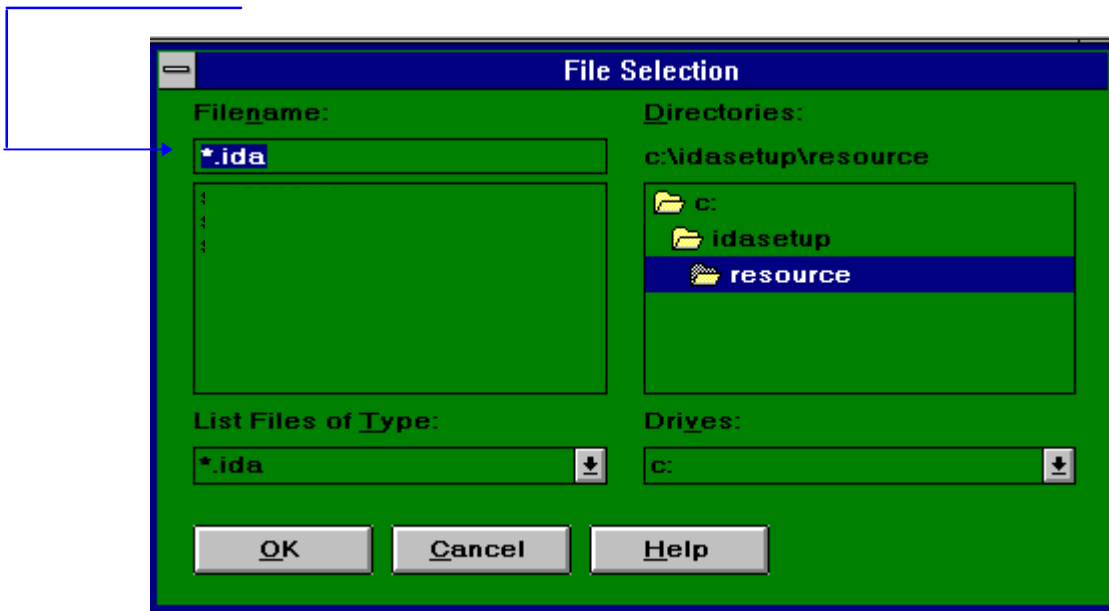
### Generate downloadable configuration file

3. To generate a downloadable configuration file, select "Download" from the File menu.



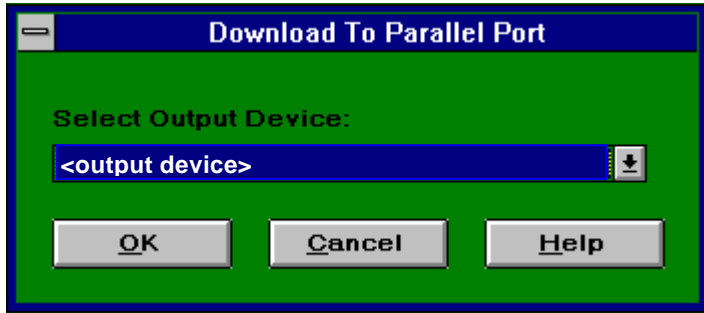
4. **Download to file**

If you want the generated configuration file to be stored in a file for later download, click on the sub-menu "File" in the Download menu and type the a name for the file. This file has the extension .ida (you are recommended not to change the extension).



5. **Download to parallel port**

If you want the generated configuration (ITDS) file sent to the parallel input port on the interface, click the sub-menu "Parallel port". In this way the generated ITDS file can be downloaded via the parallel output port on the PC.



The generated ITDS file can be downloaded as is for as many times as you want, **provided** that no new file is selected and the configuration has not been changed.

**NOTE:**

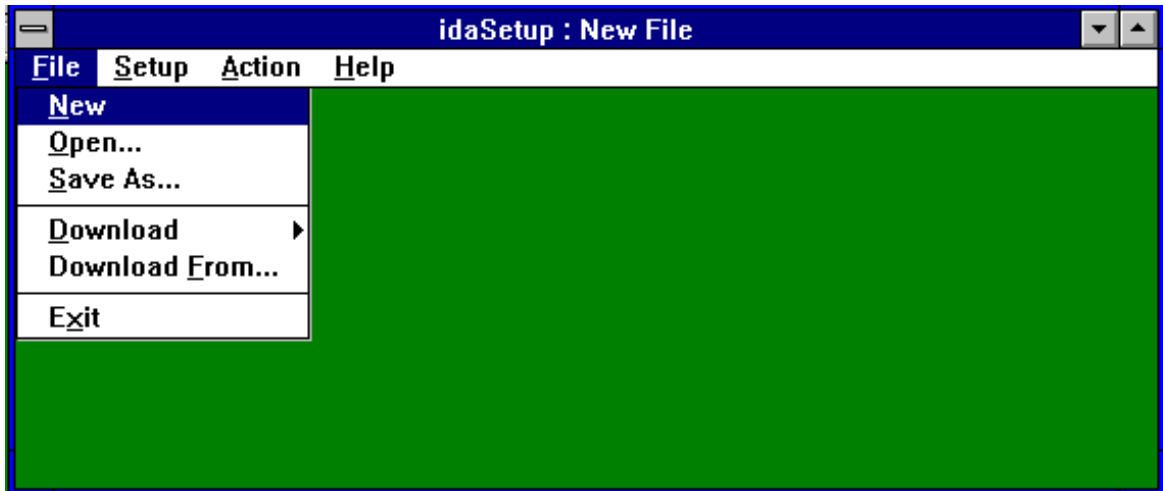
If you need to change the configuration in the file you have created, select the "Setup" menu (from Main menu) and make the necessary changes from here.



## 4.2 Main menu description

This section provides an in-depth description of all the main menu setup options.

### 4.2.1 File menu



From this "File" menu, the user may open or save setups and download generated ITDS file.

This menu has the following sub-menus:

#### New

As default the idaSetup program will appear with a new file. The previously selected configurations will be deleted from the program memory. The user will though be presented with a warning that the setup is about to be deleted from memory.

#### Open...

Here you can open an existing configuration file and make modifications / changes to the setup file.

#### Save as...

When settings have been made, you will have to select this menu to save the file.

#### Download

This menu contains the following sub-menus:

- .... *to file*                      Generates a downloadable configuration output file and allows you to select filename to save the current file for later download.
- .... *to parallel port*        Generates output file and selects port number to where the output is to be sent.

### **PrintServer 1x only**

When you have selected the PrintServer 1x and choose "download to file", a menu will appear in which you can specify to which IPDS session you wish to download.

**NOTE:**

When downloading to a parallel port, make sure that you select a printer driver which does not format the text.

For Windows, you should select the printer driver "Generic text".

If you run Windows on an OS/2 machine, you must also select the printer driver "IBM NULL".

### **Download from**

In this menu, you can select an already generated ITDS output file to be downloaded.

Upon selection the user is returned to the main window.

### **Exit**

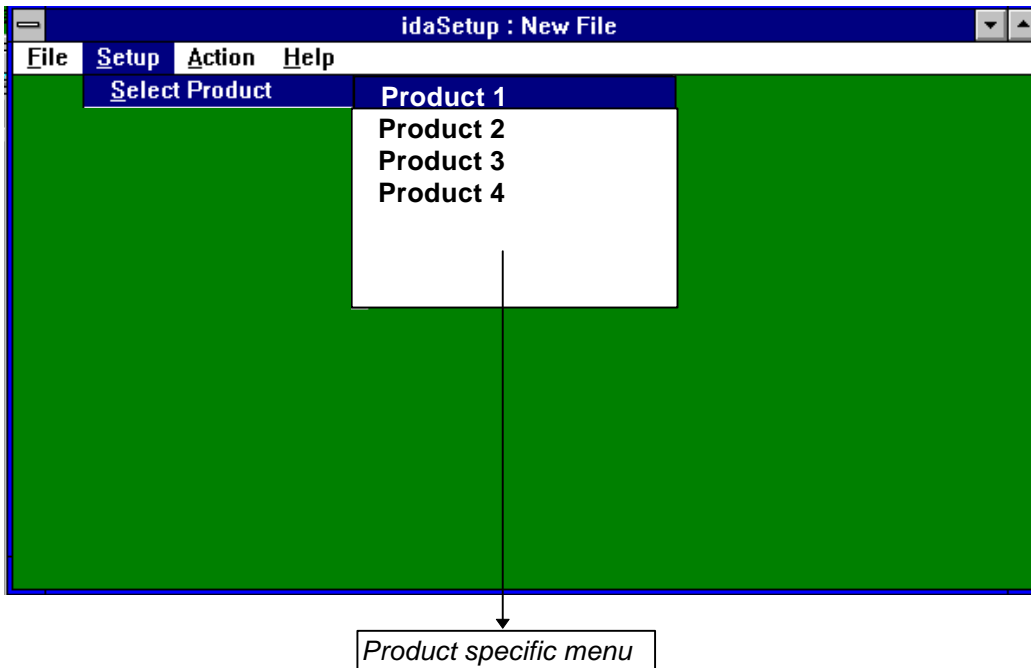
Exits the idaSetup program. You will be asked to confirm the exit.

## 4.2.2 Setup menu

*This menu is product specific*

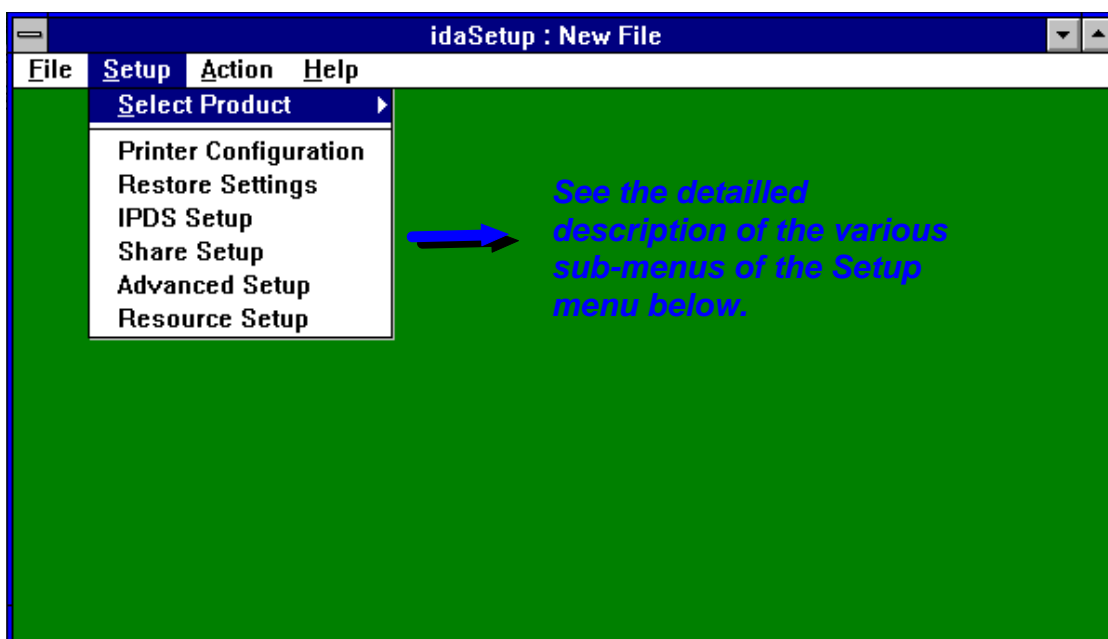
To select product, click on the menu "Select Product" and you will see a number of product options.

The example below shows an imaginative product selection. .



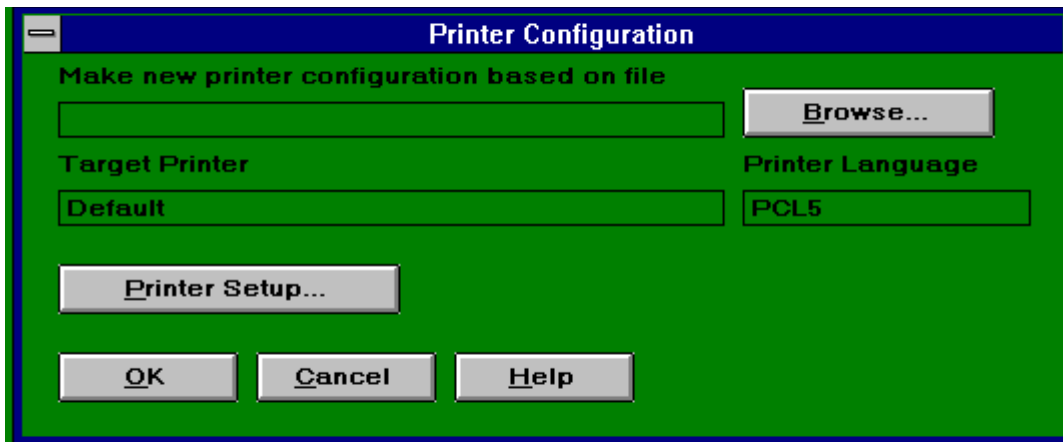
When you have selected a product, the Setup menu will contain a list of configuration menus.

The screen below shows the various configuration menus.

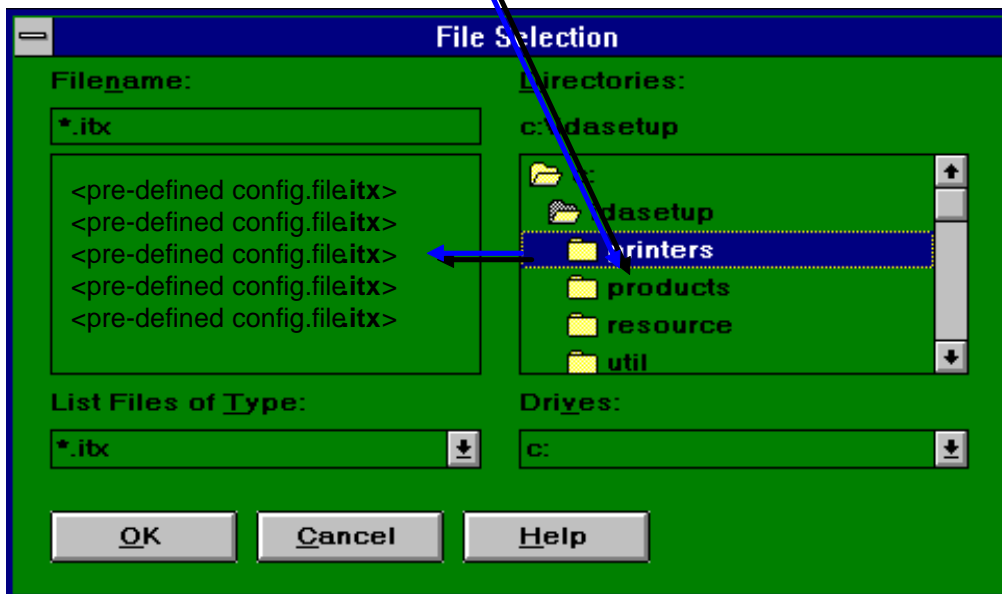


### 4.2.2.1 Printer Configuration

1. Click on the menu "Printer Configuration".



2. Click on the "Browse" button.
3. Select **Target printer** :  
You can select a pre-defined file for a specific printer.  
In "Browse" select the directory "Printers". Here you can select from a wide range of pre-defined configuration files.



For details on download of a predefined file see the step by step guide further above.

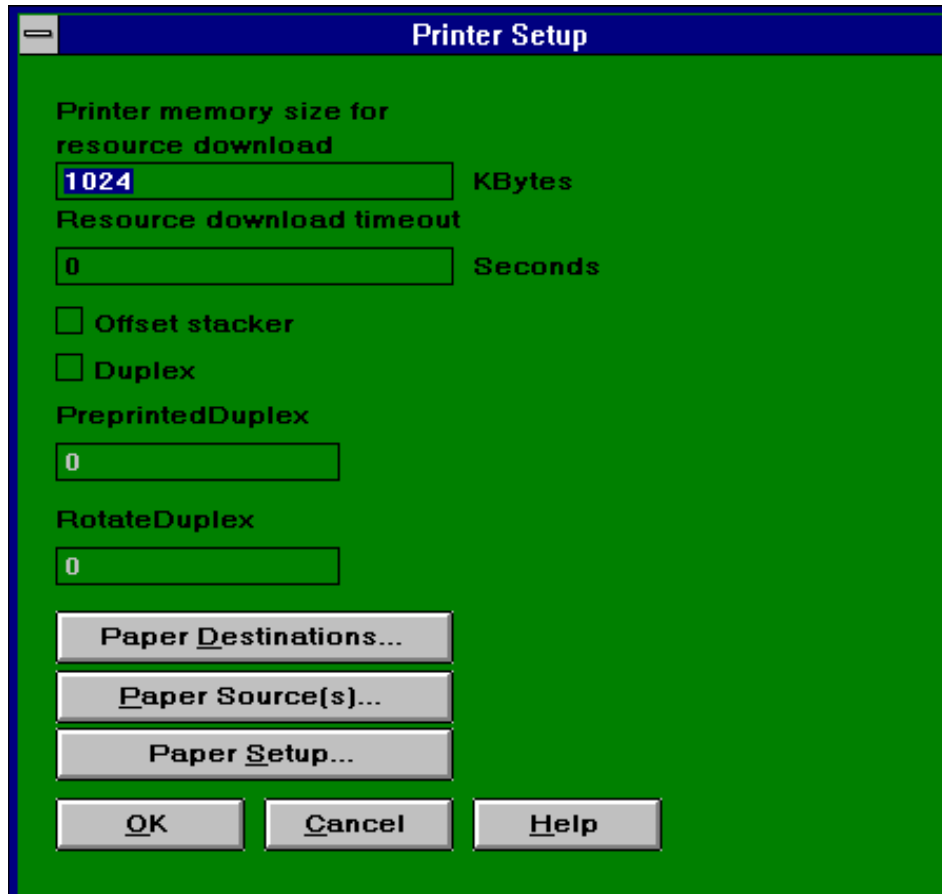
4. **Printer language**

**NOTE:** This entry field cannot be changed by the user.

5. Select 

When you select this menu, you will enter a menu with the following entry fields (see the following):

### Printer Setup



#### **Resource:**

- > Printer memory size for resource download.  
State amount of printer memory in Kbytes for use by fonts and macros.
- > Resource download timeout.  
Specify download timeout in seconds. The value must be in the range 0-255. If the value is set to 0, timeout is disabled.  
To avoid loss of resources, the resource timeout must be set to a value lower than the timeout value defined on the attached printer.

*See also the chapter "Troubleshooting" in case you should be faced with a printing problem.*

#### **Offset stacker:**

- > Offset stacker.  
Tick this check box to indicate that the printer has an offset stacker capability.

## Duplex:

-> Duplex.

Tick this check box to indicate that the attached printer supports duplex printing on all trays (except for envelope paper formats).

When the duplex function is enabled, the following features will be available (see in-depth description below):

- Front and back side of a duplex page can be swapped  
*Control of duplex printing for trays holding preprinted paper and in connection with mixed print jobs (consisting of simplex and duplex print). With the latter feature, simplex pages can be printed as duplex in order to obtain physically and sequentially correct output order.*
- Duplex printing can be rotated 180° on the paper

-> Preprinted Duplex

Defines how to handle duplex printing from trays holding preprinted or prepunched paper. The value to be entered indicates the placing of front and back side in relation to the preprinted paper.

NOTE: You must tick the entry menu for preprinted duplex in the "Paper Source" menu for the settings to take effect.

Valid values to be entered are:

0. No special handling (default value)
1. Force duplex  
Select this option if the preprinted paper is placed upside down in the input tray. Simplex pages are also printed as duplex to allow for correct placement relative to the preprinted paper. Output will be placed in the correct order in the selected output bin.
2. Swap sides to faceup output bins.  
Select this option if the preprinted paper is placed as usual in the input tray to allow for correct and maximum performance simplex printing. The front and back sides are printed in reverse order to obtain correct duplex printing. Simplex output will be placed in correct order in the selected facedown OUTPUT BIN provided no output paper tray has been requested from the system.  
If no facedown OUTPUTBIN is present this option 2 is similar to option 3 (see this in the following).
3. Forces duplex opposite.  
The front side of the duplex page is printed on the same physical side of the paper as a simplex page taken from the same input tray.  
**NOTE:**  
Simplex and duplex pages from the same input paper tray will not be placed in the same direction in the output paper tray. However, the print will be positioned correctly on the paper according to letterhead and prepunched holes.  
This option requires manual handling of the generated output and may also require that the menu "Rotate Duplex" be set.

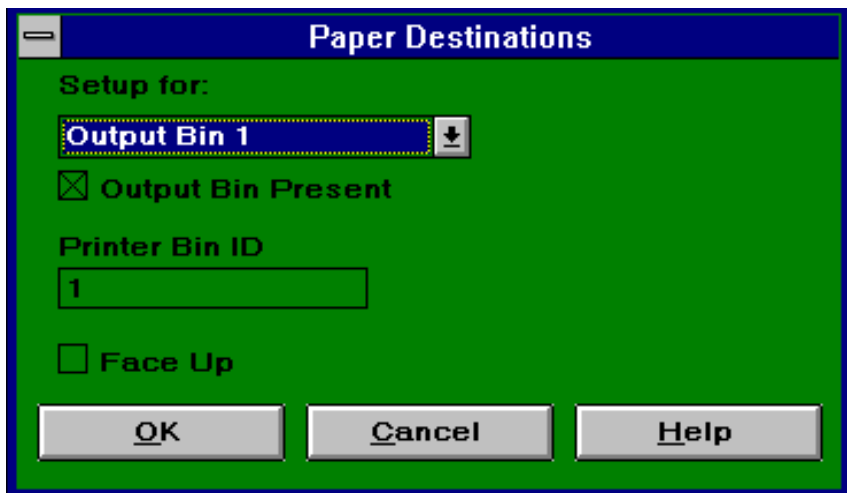
-> Rotate Duplex

Defines whether duplex printing should be rotated 180°. This may be required for some printers in order to obtain the correct orientation or duplex pages in relation to the preprinted or simplex pages.

Valid values are:

- 0: No rotation required (default value)
- 1: Rotation required for preprinted paper. Page contents will be rotated when printing duplex from trays not holding preprinted paper.
- 2: Rotation required for non-preprinted paper. Page contents will be rotated when printing duplex from trays holding preprinted pages.
- 3: Rotation always required. Page contents will be rotated when printing duplex from any tray.

→ 6. Select



-> Setup for...

**Output bin #**

This entry field indicates the currently selected tray. The entry holds several output bin options to select within the range of 1-16 bins. Default output bin is 1.

**NOTE:** If no output bin is requested from the system, Output Bin 1 is used.

-> Output bin present

Defines whether the tray or output bin is present in the attached printer.

Tick entry for Output bin # being present.

-> Printer Bin ID

Defines the PCL printer output bin ID. Select a value within the range 1....255. Default is the output bin value.

-> Face Up

Defines whether the output bin is a faceup bin. Valid only for Preprinted Duplex = 2.

Tick            Faceup, reverse order output bin except for duplex forced opposite

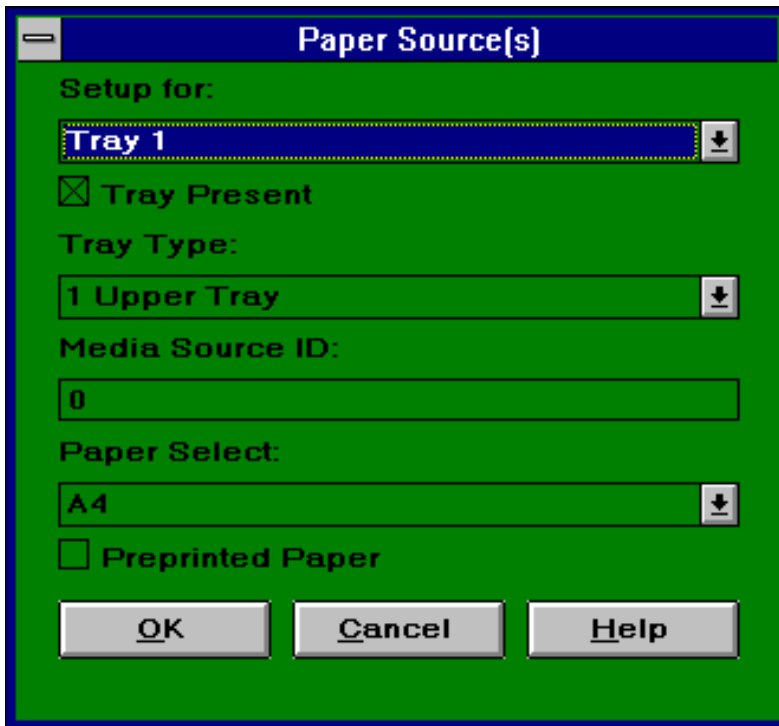
Not ticked    Facedown, correct order output bin for simplex and duplex if no prepunched and letterhead paper is used.

**NOTE:** If the entry "Preprinted Duplex" is set to "2", you are recommended to define output bin 1 as a *facedown* output paper tray to be used for the simplex print and output bin 2 as a *faceup* output paper tray to be used for the duplex print forced opposite.

Press "OK" to confirm the changes, or "Cancel" to ignore the changes and return to the previous menu.

→ 7. Select **Paper Source(s)...**

This menu has a sub-menu for tray definitions.



- > Setup for.....  
State the tray number to be defined in sub-menus.
- > Tray present:  
Tick the check box for Tray present on the attached printer
- > Tray type (This is the number used for the PCL tray select command)  
This is a list of tray IDs from 1-255. The list entails a number of specified trays, all other values are titled: "#Unknown".
  1. Upper Tray
  2. Manual
  3. Manual Envelope
  4. Lower Tray
  5. Paper Deck
  6. Envelope Feeder
  7. Middle Tray
  8. Unknown
  - 9.....255: Unknown



-> Media source ID

This entry field defines the IPDS Bin ID to be used for the tray. The value must be in the range 0-255.

The bin selected will occur when an IPDS Input Media Source ID" matching the Media Source ID for the tray is received from the host system. The PCL tray select command for the tray will then be sent to the printer.

Relation between tray select on host and ID

<i><b>Twinax System</b></i>	<i><b>Coax System</b></i>	<i><b>ID</b></i>
Tray 1	BIN 1	'00'
Tray 2	BIN 2	'01'
Tray 3	BIN 3	'02'
Envelope	BIN65	'40'
Manual	Manual/BIN100	'63'

-> Paper select

This entry field lists all the available physical paper formats installed in the printer.

- \* Letter
- \* Legal
- \* A3
- \* A4
- \* A5
- \* B4
- \* B5
- \* Executive
- \* Ledger
- \* Invoice
- \* Folio
- \* Quarto
- \* Envelope Monarch
- \* Envelope 9
- \* EnvelopeCom10
- \* Envelope DL
- \* EnvelopeC5
- \* Envelope B5
- \* A4 Wide
- \* Envelope

-> Preprinted paper

Check this field if the current tray holds preprinted or prepunched paper.

Press "**OK**" to confirm the changes, or "Cancel" to ignore the changes and return to the previous menu.

→ 8. Select . 

This menu has a sub-menu for all available paper format definitions.



-> Setup for.....  
States the paper format currently defined.

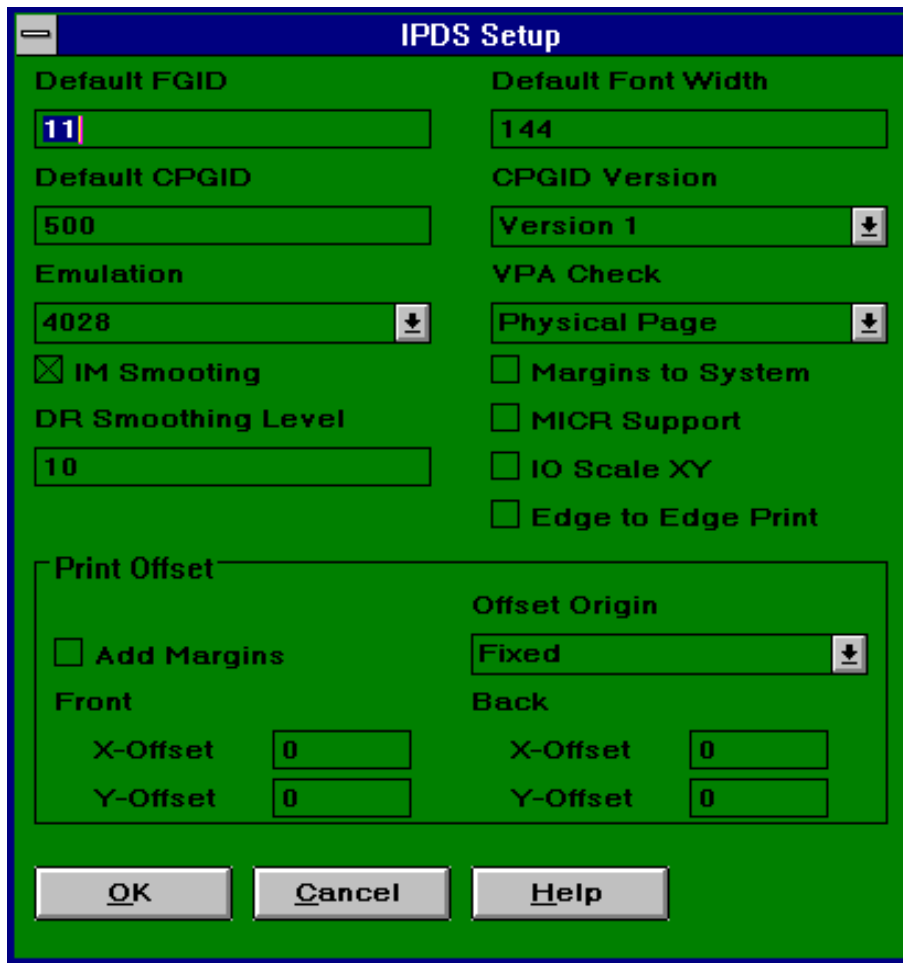
-> Printable area  
Defines the left / top margins and width / height of printable area on the currently selected paper size.  
All values are stated in "pels".  
Left Margin: left margin of the paper. Range 0-9999 pels.  
Top Margin: top margin of the paper. Range 0-9999 pels  
Width: width of the printable area. Range: 0-9999 pels  
Height: height of the printable area. Range: 0-9999 pels  
You should check the VPA in the menu (see IPDS Setup for details)

- > Logical page:  
Defines the left / top offset and width / height of logical page on the currently selected paper size.  
All values are stated in "pels".  
Left Offset:           left margin of the logical area  
                          Range: -999 to 999 pels  
Top Offset:            top margin of the logical area  
                          Range: -999 to 999 pels  
Width:                 Width of the logical area  
                          Range: 0 to 9999 pels  
Height:                Height of the logical area  
                          Range: 0 to 9999 pels
  
- > Pagesize ID (Normally not necessary to change this entry)  
This is the number used for the PCL paper size select command.  
The entry defines an alternative page size ID to be used with current paper format.  
Valid range:  
-32768 to 32767

Press **"OK"** to confirm the changes, or **"Cancel"** to ignore the changes and return to the previous menu.

### 4.2.2.2 IPDS Setup

This menu provides a comprehensive range of IPDS setup entry fields.



-> Default FGID (see description below):

This field states the default FGID value.

-> Default Font Width (see description below)

This field comprises any value in the range 1-32766 (0x7FFF)

#### **Resident fonts:**

Resident fonts are listed with FGID number in HEX value followed by FGID number in decimals in the test printout. The default font will be used when the printer default font is selected in the datastream. If you select a font which exists in several font widths (FGID > 400), you must specify the required font width for the FGID in question.

## Font Substitution

Fonts are substituted according to the following principles:

### Typographic fonts

If a requested FGID cannot be found in the printer, the pitch is assumed to be a 12-pitch font and font substitution continues as non-typographic substitution.

If the requested FGID is contained in the printer but not in the requested width, a different width (but the same font) is substituted for the one requested. If there is a smaller font width, the next smaller width from the requested width is used. If there is no smaller width, the next larger width is used.

### Non-typographic fonts

If there is a font matching the pitch, this font is used. If there is no matching font, the font search is restarted with the next smaller pitch (12 pitch is the next smaller pitch from PS). If there is no smaller pitch, a search for a larger pitch starts.

### *3812 and 3816 fonts:*

The 3812 and 3816 font sets differ slightly. The "closest fit" will therefore be used.

#### -> Default CPGID

This field states the default CPGID. The default code page will be used when the printer default codepage is selected in the datastream. If you generate a Code Page list from the menu "Actions" (in main menu), you will be able to see the selected default code page.

#### -> CPGID Version

This field comprises the CPGID versions for the IBM codepages - Version 0, 1 and 2.

IBM 3812/16 and IBM 4028 will use Version 0.

IBM 4028 will use Version 1.

#### -> Emulation

The entry field for emulation provides the following emulation options:

IBM 3812

IBM 3816

IBM 4028

The selected emulation is used for the following purposes:

*Twina* → If IBM 4028 selected: The interface will convert all vector graphics received from  
*x* .. the system to vector graphics in the printer. The interface will scale all bit-images with a resolution of 240 dpi in the datastream.

If IBM 3812 or 3816 emulations selected: The interface will scale all resources downloaded from the system to 300 dpi. The quality of the scaling quality depends on whether you have selected IM smoothing or not. (see IM smoothing below).

If connected to an AS/400 with OS/400 version 2.11, you must select the 4028 emulation. Otherwise select the 3812/16 emulation.

Coax → If IBM 4028 selected: No scaling will be performed on downloaded resources, unless resources with a resolution of 240 dpi are found in the datastream. This resolution can be found in bit-image datastreams.

If IBM 3812 or 3816 emulations selected: The interface will scale all resources downloaded from the system to 300 dpi. The quality of the scaling quality depends on whether you have selected IM smoothing or not. (see IM smoothing below).

-> IM Smoothing

Tick this check box to select 240 to 300 dpi scaling of images in IBM 3812/16 mode so that these are smoothed in the same way as characters or only scaled from 240 to 300 dpi.

"Intelligent" scaling function is perfect for scaling IM characters. However, it may be less suited for scaling symmetrical patterns as interference patterns may occur.

-> DR Smoothing level

Defines the lower level limit from which DR uses vector smoothing of scaled characters. The level is \*10 which means that graphics scaled from 1 and upwards will be printed as vector smoothing (using the HPGL in HP PCL5 compatible printers). Graphics scaled below level 1 will be printed as bit images.

Range: 0-1000.

0 = no smoothing (i.e. smoothing is off)

10 = smoothing with a factor larger than 1 (1:1)

1000 = smoothing is on

**NOTE:** The more vectorization, the slower the performance

-> VPA Check

This entry comprises the following options:

- \* Printable area (VPA check margins - see below)
- \* Physical Page
- \* IPDS Logical Page
- \* No VPA (OFF)

VPA Check - Printable area

**NOTE:** VPA check = "Margins".

(can only be selected if you select "Margins to System" see next entry)

VPA checking is performed by comparing the logical page coming from the system and the printable area defined for the printer selected.

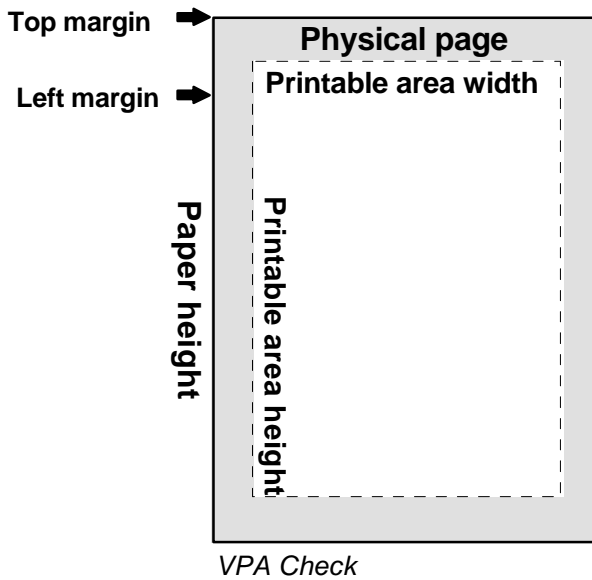
Example:

Paper

Size:	A4
Width (pels)	2480
Height (pels)	3507

Printable Area

Left Margin	50
Top Margin	50
Width (pels)	2380
Height	3407



Explanation:

**Right margin = Paper width - (left margin + printable area width)**

Right margin = 2480 pels - (50 + 2380)

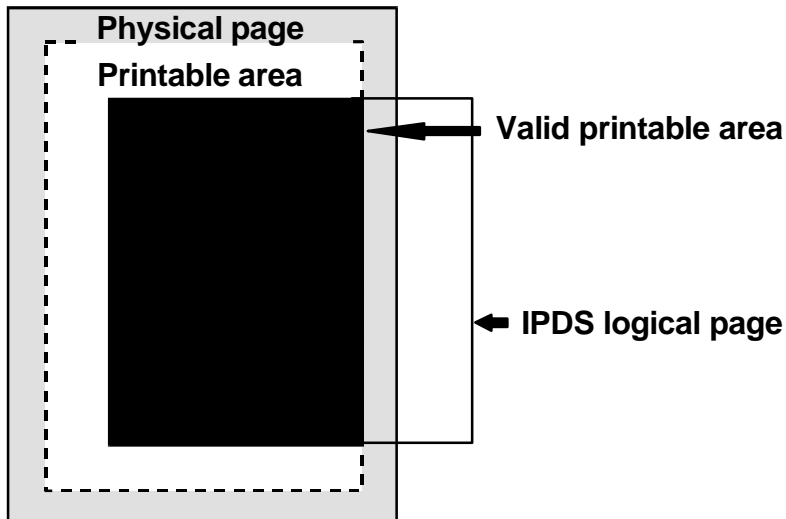
Right margin = 50 pels

**Bottom margin = Paper height - (top margin + printable area height)**

Bottom margin = 3507 - (50 + 3407)

Bottom margin = 50 pels

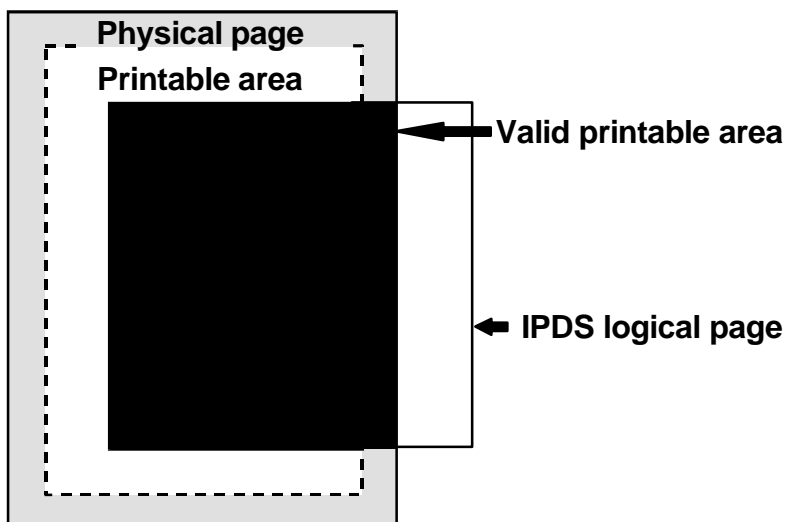
Position error is reported back to the system if the print position lies outside the area where the IPDS logical page (i.e. the page size defined from the system) and the printer's printable area overlap. See figure below.



*VPA Check - Margins*

VPA Check - Physical Page (default)

Position error is reported if the print position lies beyond the area where the IPDS logical page (defined by system) and the physical page overlap.

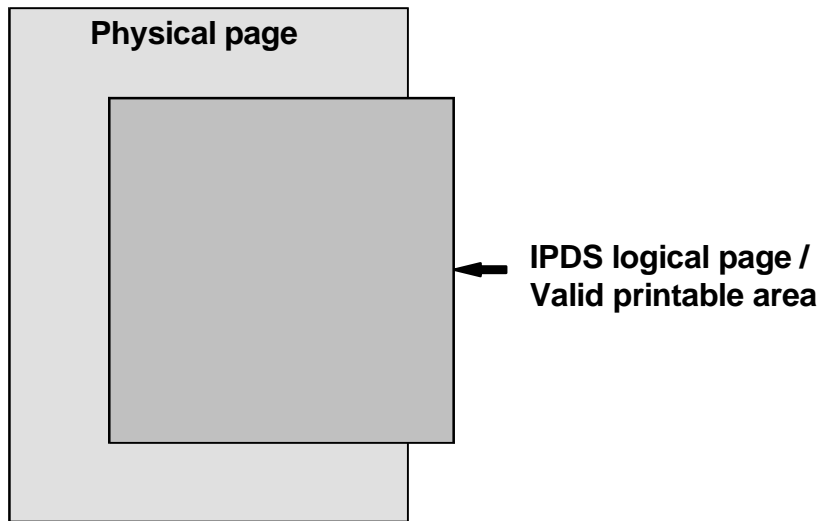


*VPA Check - Physical page*



### VPA Check - IPDS Logical Page

Position check is only made in the IPDS logical page area (defined by the system).



*VPA Check - IPDS Logical Page*

### No VPA

No position check is made. This means that no error message stating that print is beyond the printable area will be sent to system.

#### -> Margins to System

Tick this check box to report margins to the system.

If left un-ticked, the printable area of the emulated printer is reported.

#### -> MICR Support

If you tick this check box, the attached printer must be capable of printing toned pels that are impregnated with a magnetic material.

#### -> IO Scale XY

Tick this field to activate IO scaling.

Defines whether IO scaleToFit should keep the image aspect ratio as to X/Y resolution or scale equally in both directions

#### -> Edge to Edge print

If you tick this entry box, it is assumed that the printable area and the printer logical page equals the physical page.

## -> Print Offset

### -> Add margins

Tick this box to add margins to the LPP print position.

### -> Front:

X-offset: Makes offset from the left edge of the paper to the printer's logical page.  
Value: -999 to 999 pels

Y-offset: Makes offset from the top edge of the paper to the printer's logical page.  
Value: -999 to 999 pels.

### -> Back

#### **NOTE:**

The settings of the back page will always be executed relatively to the settings of the front page. To verify the relationship between front and back page, you are recommended to generate a settings printout. This will state the front and back page settings.

X-offset: Makes offset from the left edge of the paper to the printer's logical page.  
Value: -999 to 999 pels

Y-offset: Makes offset from the top edge of the paper to the printer's logical page.  
Value: -999 to 999 pels.

**CAUTION: Front and back offset should only be subject to changes and modifications with utmost care as wrong settings may lead to unpredictable printing results.**

### -> Offset origin

Defines whether the margins (ADDMARGIN) and offsets (PRINTX and PRINTY) are added to the upper right corner of the physical portrait page (Fixed Origin) or these are added to the active origin selected with XOH-SMO (rotate with text) so that the first character is always within the printable area.

This menu provides two options:

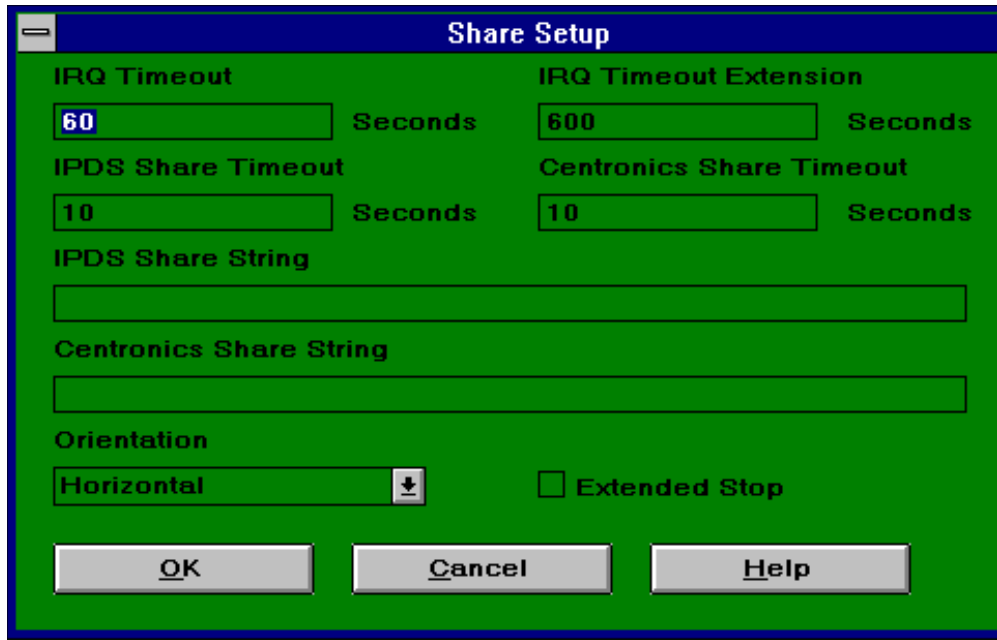
Fixed: Margins and offsets area added to the upper right corner of the physical portrait page.

Rotate with Text: Margins and offsets are added to the active origin selected with XOH-SMO so that the first character is always within the printable area. (Only text can be moved, **not** graphics)

Press "**OK**" to confirm the changes (or "**Cancel**" if you wish to ignore changes).

### 4.2.2.3 Share Setup

This menu has the following sub-menus available for setup.



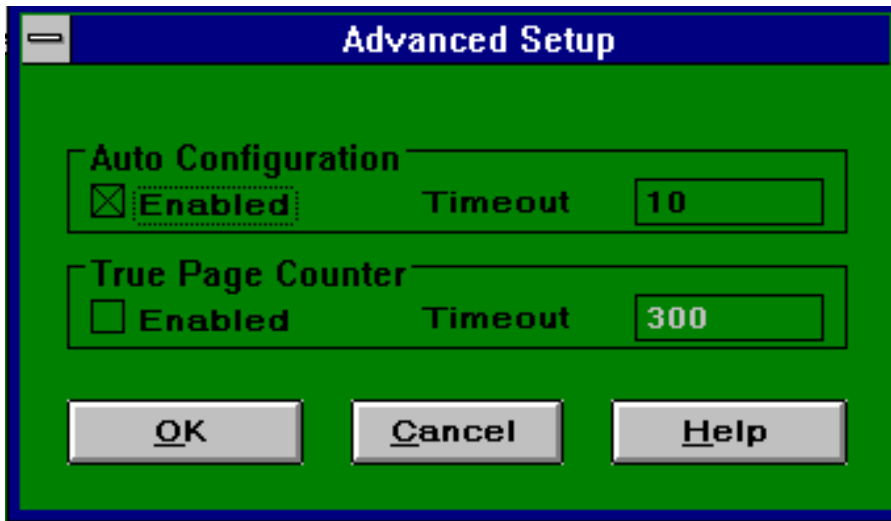
- > **IRQ Timeout**  
Defines the timeout from IRQ error occurs to error is reported to the system.  
Range: 0-1300 seconds.
- > **IRQ Timeout Extension**  
Defines the time to add to "IRQ Timeout" when the Stop key on the IPDS converter is activated.  
Range: 0-1300 seconds
- > **IPDS Share Timeout**  
Defines timeout for interface share data.  
Range: 1-255 seconds
- > **Centronics Share Timeout**  
Defines the timeout for centronics share data.  
Range: 1-255 seconds.
- > **IPDS Share String / Centronics Share String**  
These entry fields hold the strings sent to the printer when a share situation has occurred and IPDS or Centronics share data is received.  
Syntax: {<two digits>} | '<a number of printable characters>' | , | {<space>}\*  
where:
  - { } is an optional entry (hexdigit values between 0...9 or A...F or a...f)
  - | means OR
  - \* means that the entry may be repeated
  - ' means "followed by"
  - <space> "followed by"**Example** 1B,25,'-12345x',40,'Enter Language = PCL',0A,0D  
This will select PCL language in the defined IPDS share string.

- > Orientation  
Defines whether the box is placed in horizontal or vertical position.
- > Extended Stop (*only applies to converters with touch-screen front panel - LCD display*).  
This menu can be enabled to avoid and accidental stop of print jobs to the printer.  
If this check box is ticked, you must press the Stop key on the IPDS converter for approx. 5 seconds before the key press is accepted.

Press **“OK”** to confirm the changes (or **“Cancel”** if you wish to ignore changes).

#### 4.2.2.4 Advanced Setup

This menu has the following sub-menus available for setup.



-> Auto-configuration

If the check box for "Enabled" is ticked, the printer settings are loaded from the attached printer.

When Auto-configuration is enabled, the printer will receive queries for various configuration parameters leading to the following implications:

- > *Printer Memory* (i.e. Usable Memory)  
A requirement on the amount of usable memory in the printer is that the single largest IPDS resource used must be storable in the printer's Available System Memory
- > *ASCII printer*  
This parameter will be read from the printer's ID.
- > *Installed trays*  
For every existing tray on the printer, the following will be initialized
  - Tray # is initialized from the number of trays on the printer.
  - Printer id (tray type) is read from the printer
  - ID (Input Media Source ID) is initialized from the number used for the same tray by the emulation selected.
  - Paper size installed in each paper tray
- > *Duplex capability*  
These are read from the printer.

-> True Page Counter

When the True Page Counter facility is enabled and the check points have been set on the system, the read-back from the printer will report the status of the printjob. If the printer is accidentally powered OFF in the middle of a printjob, the recovery of the printjob will start from the last check point.

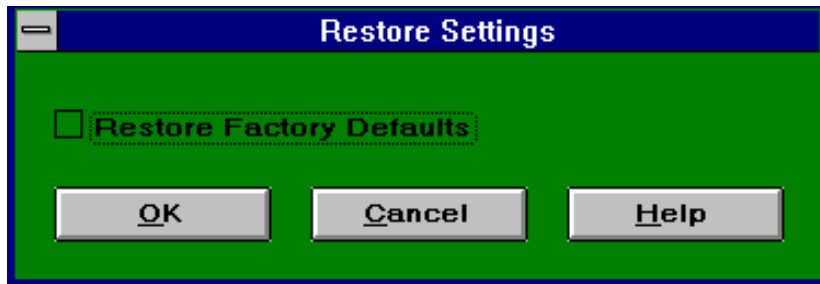
If the true page counter is not enabled, and the printer is accidentally turned OFF, all print jobs received but not printed will be lost.

-> Timeout

A timeout interval may be set for both Auto-configuration and True Page Counter Timeout is defined as the maximum time to wait for a configuration message from the printer.

Press **“OK”** to confirm the changes (or **“Cancel”** if you wish to ignore changes).

#### 4.2.2.5 Restore Settings



This menu has the following option

- Restore defaults  
If this check box is ticked, an action command to restore factory defaults will be inserted prior to any other settings defined in the current setup file.

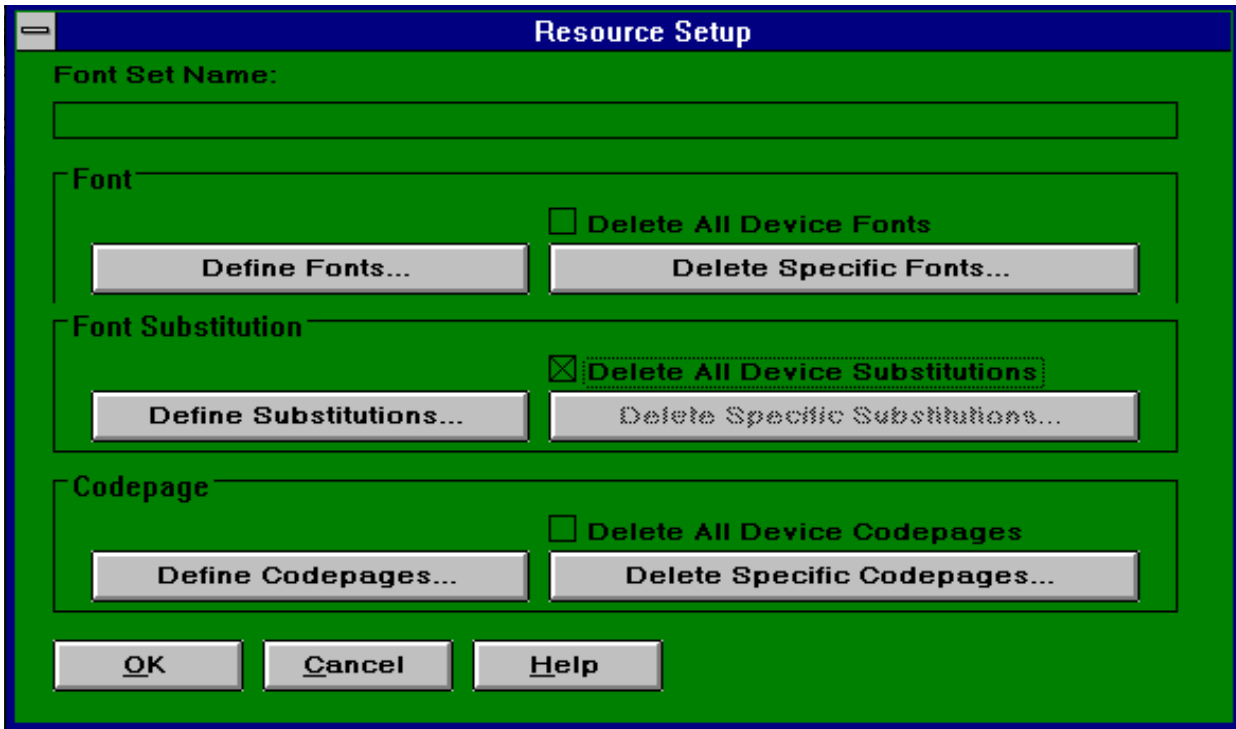
When selected, this menu will always be placed at the top of the setup file.

#### 4.2.2.6 Resource Setup

Though this menu is part of the Setup menu it is nevertheless so comprehensive that the details will be described in a separate section. So, for details on resource configuration, see section the following section “Resource Setup”.

## 4.2.3 Resource Setup

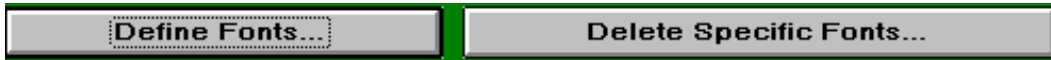
To make changes in the , you select the menu "Resource Setup". You will then see the following screen:



This menu has the following menu setups.

- Font Set Name:  
You will have to enter a name for the currently selected resource. This field can hold up to 32 characters.
- Fonts (*see description in the following*)
- Font Substitutions (*see description in the following*)
- Codepages (*see description in the following*)
- Delete All Device Fonts / Codepages / Substitutions

If you tick these check mark boxes, all resources of the selected type are deleted from the printer device prior to any new definitions made.



→ **Fonts**

-> **Define Fonts**

When you select the “Define Fonts” menu, you will be presented with the following options for font definition:

Current Font Path

This entry field states the current font path. Only valid font paths are indicated in the list box: “Fonts in Font Path”.

Fonts in Font Path

Lists all the font file names in the current font path. View or modify font properties by double-clicking on a particular font.

Browse

When activating this field, you are allowed to browse through directories.

Add

The user may add one or more font resources and will when selected appear in the box: “Selected Font Resources”.

Add All

When selecting this entry field, all available font resources are added to the current font path.

Delete

When activating this button, the highlighted font resources will be deleted.

Delete All

All font resources will be deleted from the resource path.

Selected Font Resources

Displays the currently selected font resource file names.

Press “**OK**” to confirm the changes (or “**Cancel**” if you wish to ignore changes).

-> **Delete Specific Fonts**

(This menu is greyed (i.e. cannot be selected) if you have ticked the check box “Define All Device Fonts”.)

When you select the “Delete Fonts” menu, you will be presented with the following options for font deletion:

FGID

This entry field states the font global identifier for the font to delete in the printer. Range: 0-FFFE (Hex) and \*.

Font Width

States the width of the font to delete. If blank or contains a “ \* ”, all width values are selected.

Add

Adds a font to the delete list.



Remove

Removes a font from the delete list.

FGID - Font Width

Constitutes the delete list which reflects the files to be deleted. The list is updated via the menus "Add" and "Remove".

Press "OK" to confirm the changes (or "Cancel" if you wish to ignore changes).



→ Font  
Substitution

-> **Define Substitutions**

Current Font Substitution Path

States the current font substitution path. Only matching font substitution file paths are shown in the "Font Substitution in Path".

Font Substitution in Path

Lists all the files in the current font substitution path. View or modify the font properties by double-clicking on a particular font.

Browse

When activating this field, you are allowed to browse through directories.

Create New

If you activate this field, you will see a new sub-menu "Font Substitution Properties".

Specifications are made for FGID and Font Width for both the substitution and the resident font.

Add

The user may add one or more files and will when selected appear in the box: "Selected Font Substitutions".

Add All

When activating this field, all available and selected substitution files will be added the "Selected Font Substitutions".

Delete

When activating this button, the highlighted substitution files will be deleted.

Delete All

All font substitution file names will be deleted from the "Selected Font Substitutions".

Selected Font Substitutions

Displays the currently selected font substitution file names.

Press "OK" to confirm the changes (or "Cancel" if you wish to ignore changes).

-> **Delete Specific Substitutions**

(This menu is greyed (i.e. cannot be selected) if you have ticked the check box "Define All Device Substitutions".)

FGID

This entry field states the font global identifier for the font substitution to delete.

Range: 0-FFFE (Hex) and \*.

Font Width

States the width of the font substitution to delete. If blank or contains a " \* ", all width values are selected.

Add

Adds a font to the delete list.

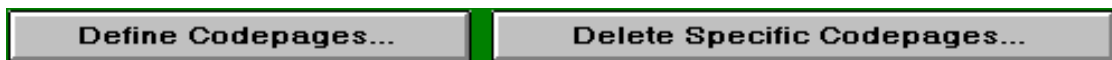
Remove

Removes a font from the delete list.

FGID - Font Width

Constitutes the delete list which reflects the font substitutions to be deleted. The list is updated via the menus "Add" and "Remove".

Press "OK" to confirm the changes (or "Cancel" if you wish to ignore changes).



→ Codepage

-> **Define Codepages...**

Current codepage path

This entry field states the current codepage path. Only valid codepage paths are indicated in the list box: "Codepages in CP Path".

Codepages in CP Path

Lists all the codepage file names in the current codepage path. View or modify font properties by double-clicking on a particular codepage.

Browse

When activating this field, you are allowed to browse through directories.

Add

The user may add one or more codepages and will when selected appear in the box: "Selected CP Resources".

Add All

When selecting this entry field, all available codepages are added to the current codepage path.

Delete

When activating this button, the highlighted codepage resources will be deleted.

Delete All

All codepage resources will be deleted from the codepage path.

Selected CP Resources

Displays the currently selected codepage resources.

Press **“OK”** to confirm the changes (or **“Cancel”** if you wish to ignore changes).

-> **Delete Specific Codepages...**

(This menu is greyed (i.e. cannot be selected) if you have ticked the check box “Define All Device Codepages”.)

CPGID

States the codepage global identifier for the codepage to delete.

Codepage Version

States the version of the codepage to delete.

Add

Adds a codepage to the delete list.

Remove

Removes a codepage from the delete list.

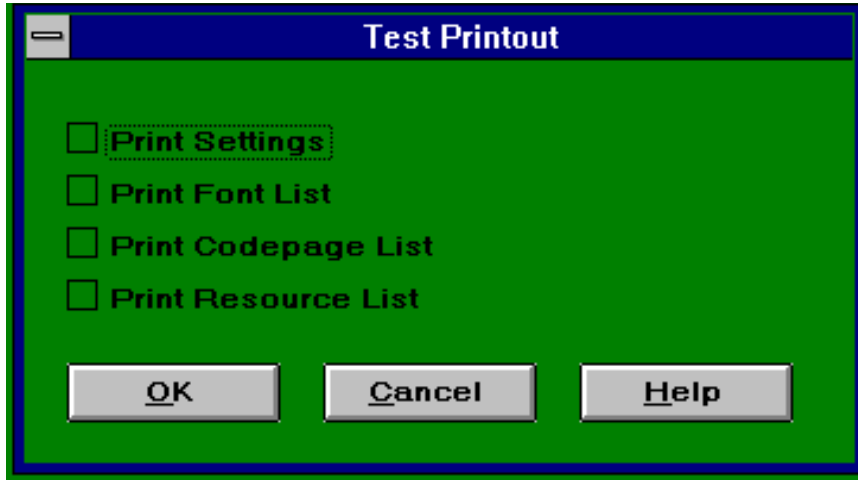
CPGID - CP Version

Reflects the selection of codepages to be deleted. This list is updated via the menus “Add” and “Remove”.

Press **“OK”** to confirm the changes (or **“Cancel”** if you wish to ignore changes).

## 4.2.4 Action

From this menu you can request and generate a number of test printouts from an interface connected to the PC via the parallel port.



Select one or more of these test printout options and press "OK".

### Print Settings

Generates a settings printout from the interface connected via the parallel port.

### Print Font List

Generates a font list printout of the resident font available on the interface connected via the parallel port.

### Print Codepage List

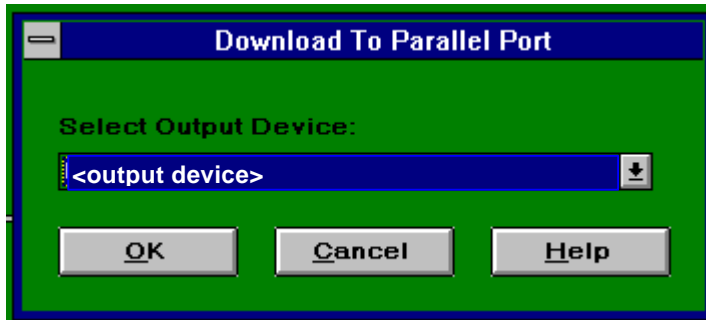
Generates a codepage list printout of the resident font available on the interface connected via the parallel port.

### Print Resource List

Generates a printout of all resources resident in the interface connected via the parallel port.

When you press the "OK" button you are prompted to specify output device.

When you have specified the output device, the program will download an ITDS file to the device and return to the main window.



**NOTE:**

When printing data, make sure that you select a printer driver which does not format the text.

For Windows, you should select the printer driver "Generic text".

If you run Windows on an OS/2 machine, you must also select the printer driver "IBM NULL".

## 4.2.5 Help

This menu contains two sub-menus:

"**General Help**" and "**Product Information**".

The menu **General Help** is very basic information on the main window structure.

The **Product Information** provides among others the software ID of your product. If you need to contact your point of purchase concerning this product, you are asked to state this ID.



**On-line Help is available throughout the menus when pressing F1 or clicking on the Help button. No context sensitive help is available. The Help menu will provide basic help on the type of data required in the individual fields.**

## 5. Setup Via DOS

An alternative (*however of limited use*) to using the idaSetup for Windows is to create the configuration files using an edition and generate downloadable configuration (ITDS) files by the use of MakeITDS.exe.

The generated configuration files can subsequently be sent to the parallel input port on the interface using the command "**COPY LPT1 /B**".

### 5.1 Downloading factory default font files

The standard i-data font sets (e.g. ida 028 and ida 812/16 font sets) allow you to restore the font set in your printer to the original setup.

If no changes are made to a font set, the font set (which is in a compressed format) can be copied to the printer's share port after unpacking.

**NOTE:**

**For downloading to the Centronics port, an i-data share cable is required. Please refer to ITDS section in the appropriate product manual for further details.**

The **font sets** located in the "Resource" library) only need to be unpacked and downloaded via the printer's centronics port (see downloading procedure below).

**NOTE:**

**Downloading the factory default font set requires minimum 1 MB free disk space.**

The Flash prompts can only hold 1 font set at the time. The font set is downloaded in the following way:

1. Go to the directory where you wish to install the fonts; i.e.:

***c:\pdsfonts\***

2. Type

***copy <diskdrive>:\fonts\\*.\****

to copy font files to hard disk

3. Type

**812FONT or 028FONT**

at the command prompt to generate the font file on your harddisk ; i.e. 1020xx.B92 (where the first x = release no. and the second x stands for 1 = ida 028 font set or 2 = ida 812 font set).

4. Make sure that the printer is READY and ONLINE. For the IPDS touch screen converter both printer and converter must be switched on.
5. Copy the font file to the Centronics port with the command:

**copy 1020xx.B92 <Printer port> /b**

**NOTE**

- **This file must be the first data received on the IPDS Centronics port after power on.**
- **If ITDS is run under OS/2, only the "IBMNULL" driver may be assigned to the port.**

6. An ITDS Log Printout will now be generated.
7. Switch printer (or converter) OFF and back on again for changes to take effect.
8. Finally you should generate a Resource Printout to check that all the fonts are there.

## 5.2 Printer configuration files

The Printer Configuration Files supplied contain the factory default printer settings as well as default IPDS settings relating to emulation, fonts, codepages etc.

The **emulation files** SET4028.ida, SET3812.ida and SET3816.ida which just contain the command relating to selection of emulation can be downloaded directly via the Centronics port in the same way as the unpacked font files. You only need to download the emulation file if you wish to change the factory default printer emulation.

The printer default configuration files can be used as they are or if you do not wish to use the factory default, you can change the files to suit your system requirements.

To use the default printer configuration file supplied **as is** merely copy the configuration file (XXX.ITX) to SETPRN.ITX. Generate the ITDS file as described further below.

## 5.2.1 Changing printer configuration files

1. Copy a printer configuration file to SETPRN.ITX. The filename may include drive, name and extension. Default extension is ".ITX", which is recommended for use of recognition
2. In the SETPRN.ITX file you now make any changes required to match your printer and needs.  
You may for example wish to change paper to "Legal" or add a paper deck option
3. Save the file. The file is now ready to be processed via the MAKEITDS program.

## 5.2.2 Generate a downloadable configuration file

If no "setprn.ida" file is available, you must create one as follows:

```
DEFINE_FILEOPTS
    PATH      .                ; DOS/Windows path
    EXT       itx              ; DOS/Windows extension
    DDNAME    irs              ; MVS/VM DDNAME
END

CONFIGURATION_START
    FILE      setprn           ; Configuration file name
END

ACTION_START
    SAVE_SETTINGS              ; Save loaded configuration
    RESTORE_SETTINGS           ; Install configuration
    PRINT_SETTINGS             ; Print out configuration
END
```

1. Make sure that the printer is READY and ONLINE.
2. Type

***makeitds /r setprn***

at the command prompt to convert the configuration file to an IPDS file.

The configuration file (with the suffix .ida) and a log file will now be generated. Display the logfile to check for error messages or warnings.



3. Copy the output file **setprn.ida** to the Centronics port with the following command:

***copy setprn.ida <printer-port> /b***

#### **NOTE**

- **This file must be the first data received on the IPDS Centronics port after power on.**
  - **If ITDS is run under OS/2, only the "IBMNULL" driver may be assigned to the port.**
4. An ITDS Log printout will now be generated on the printer.
  5. Switch printer (or converter) OFF and back on again for changes to take effect (do not switch off until after the log printout has been printed).
  6. Generate a Resource printout and check that everything is in order.

### **5.2.3 Downloading Printer Emulation Files**

The factory default emulation is IBM 4028. You only need to download a printer emulation file (i.e. SET3812.ida or SET3816.ida) if you want to use a different emulation.

The printer emulation file is copied straight to the centronics port of the IPDS interface with the following command:

1. ***copy SETxxxx.ida <Printer port> /b***
2. Switch printer (or converter) OFF and back on again for changes to take effect.

#### **NOTE**

- **This file must be the first data received on the Centronics port after power on.**
- **If ITDS is run under OS/2, only the "IBMNULL" driver may be assigned to the port.**

## 5.2.4 Use of Action commands

The provided setup file (SETPRN.IRS file) contains a number of action commands.

- To print settings, font lists and codepage lists

```
ACTION_START
    PRINT_SETTINGS
    PRINT_FONT_LIST
    PRINT_CODEPAGE_LIST
END
```

- To Restore to factory default (US/EUROPE paper size)

```
ACTION_START
    RESTORE_FACTORY_SETTINGS
    SAVE_SETTINGS
END
```

This will cause the EU/US strap to be reset to factory default.

## 5.2.5 Downloading your own ITDS resource file

The resource specification files supplied (i.e. font specification files and printer configuration files) can either be used as they are or you may need to make certain changes to the files because of special printing requirements.

This section describes the ITDS and the supplied resource files in more detail and explains how you can adjust the files to suit your printing requirements.

### 5.2.5.1 The Resource Specification Files

There are three different types of resource specification files:

- Font files (e.g. 028FONT.EXE)
- Printer specific configuration files
- Emulation files (e.g. SET4028.ida)

The font file is used for redefining fonts and codepages, whereas the printer configuration files are used for redefining printer settings. The emulation files are used for changing the factory default printer emulation. For all products the default printer emulation is IBM 4028.

### 5.2.5.2 Font set files

i-data provides a number of different font sets (e.g. ida 028 font set, ida 812 font set) which can be downloaded **as they are** via the printer's share port or in a changed format.

If you make changes to an i-data font file, the file must be generated via the MakeITDS program before it can be used.

You should always check what resources you already have by generating a resource printout before you start making any changes.

The font specification files contain fonts, codepages and substitutions. Fonts are identified by their FGID and FW (font width) and codepages by their CPGID. FW provides unique identification for fonts with same FGID. If a new resource has the same identification as an existing resource, the existing resource will simply be overwritten without any warning.

#### **ida 812 font set (3812 compatible)**

All FGIDs can be used with all codepages

#### **ida 028 font set (4028 compatible)**

Some FGIDs are not specified for all codepage groups - but only for certain groups.

To improve IBM compatibility, a Fontscale parameter has been included in the font specification files. It is not present in the font file, the font scale information will be taken direct from the font resources.

### 5.2.5.3 Changing Font Specification File

If you plan to make major changes to the font set file, you must start by deleting fonts, codepages and substitutions to ensure that you have sufficient space for the new fonts. A total of 1 MB is available for resources. If you only wish to make a few changes, there is no need for you to delete all font resources first. Just make any changes necessary by substituting or adding the required fonts/ codepages to the FONTSET.IRS file and run it through ITDS to see how much space they take up.

When changing the provided font set file, you should refer to a resource printout to see what is currently defined. Follow the steps outlined below:

#### **1. Defining font version**

Change the font name in the DEFINE\_FONTVERSION parameter line at the top of the font set file to be able to identify the downloaded font set.

#### **2. Fontscale parameters**

Do not change these parameters.

### 3. Delete all/specific fonts, font substitutions and codepages

In the delete option, \* can be used to indicate that all resources of a given type will be deleted.

```
DELETE_FONT
    FGID      *
    WIDTH     *
END
DELETE_CODEPAGE
    CPGID     *
    CODEPAGE_VERSION *
END
DELETE_SUBSTITUTION
    FGID      *
    WIDTH     *
END
```

**Please notice the following limitation to the \* wildcard.**

#### FONTS:

It is possible to use the \* in the following way:

```
DELETE_FONT
    FGID      4407
    WIDTH     *
END
```

But you cannot have an \* wildcard in the FGID field and a Width value in the WIDTH field.

#### CODEPAGES

For Codepages you can have:

```
DELETE_CODEPAGE
    CPGID          37
    CODEPAGE_VERSION *
or
DELETE_CODEPAGE
    CPGID          *
    CODEPAGE_VERSION 1
```

### 3. Define the new fonts and codepages

**NOTE: The specified default font <sup>1</sup> must always be available in the font set.**

Each font (AFP font in 300 DPI format) is defined as follows:

```
DEFINE_FONT
  FGID      18
  WIDTH     144
  FILE      C0E0CIR10.300
  STYLE     Italic
  NAME      "Courier italic      10"
  CODEPAGE_GROUPS A,B,G
END
```

```
DEFINE_CODEPAGE
  CPGID     259
  FILE      T1GDP256.300
  NAME      "International#1    "
  CODEPAGE_GROUP B
  CODEPAGE_VERSION 0
END
```

and so on...

For FGIDs below 300 (i.e. non-typographic fonts), Width can be determined directly and need not be specified.

**NOTE:**

Two fonts cannot have the same FGID and FW. If you load a font which has the same FGID and FW as another font, the new font will prevail (i.e. the old font will be overwritten).

**Possible (→ 2 fonts):**

FGID	FW
5687	40
5687	53

**Not possible (→ 1 font)**

FGID	FW
5687	40
5687	40

---

<sup>1</sup>The default font is FGID11 FW 144.

## 4. Substituting Fonts

```
DEFINE_SUBSTITUTION
  FGID          20
  WIDTH         144
  NAME          "Pica10"
  SUBST_FGID    11
  SUBST_WIDTH   144
END
```

### ***Algorithmic Bold***

To define an algorithmic bold you must specify Weight = BOLD in the substitution.

If the substitution font is already BOLD, no algorithmic bold is performed.

*This only applies for Substitutions.*

## 5. Defining Codepages

All codepage groups must be defined. If you do not specify codepage group, the codepage can use all fonts and fonts can use all codepages (the fonts in the ida 812 font set can be used with all codepages. If you leave out version number, the system will default to version 0.

### ***5.2.5.4 Downloading Changed Font File via ITDS***

1. Make sure that the printer is READY and ONLINE (for converter: both printer and the box must be ON).

2. Type

***makeitds /r <name of .irs file>***

at the command prompt to generate the ITDS output file.

The resource file (with the suffix .ida) and a log file will now be generated. Display the logfile to check for error messages or warnings.

3. Copy the output file to the Centronics port with the following command:

```
copy <filename.ida> <printer port> /b
```

### **NOTE**

- **This file must be the first data received on the Centronics port after power on.**
- **If ITDS is run under OS/2, only the "IBMNU LL" driver may be assigned to the port.**

4. Switch printer (or converter) OFF and back on again for changes to take effect.

## 6. Uploading to Host

This chapter describes how the generated configuration (ITDS) files can be uploaded to host systems. The output files can be uploaded to either mainframe (VM/MVS/VSE) or midrange (AS/400) host systems.

**NOTE:**

- The generated ITDS file can be uploaded to AS/400 as is.
- When uploading to VM/MVS/VSE, the ITDS file must be prepared.

### 6.1 Uploading to VM / MVS / VSE

The generated ITDS is a standard formatted file. To make the generated ITDS file take effect from a host when sent as IPDS print, the ITDS file will have to be converted to a *record formatted file*.

The i-data HostBlk program (*see the installation diskettes*) is used to perform this conversion. The HostBlk program converts the generated ITDS to an ITDS output file for the host of a *fixed* record length. The output file will have the extension **.idh**.

When the HostBlk program has converted the ITDS file, it may be copied to the host from where it can be printed as described in the section "Transmit ITDS file from host".

## 6.1.1 Invocation of HostBlk program

The HostBlk utility program is invoked using the following syntax:

HOSTBLK *in\_file* /out *out\_file* /lrecl *bytes*

where the bolded parameters are to be filled in as described:

<i>in_file</i> parameter	is the mandatory name of the AFP input file. The user may specify any valid file name. If the file name contains no extension, the program appends <b>.ida</b> to the filename.
/out <i>out_file</i> parameter	specifies the name for the output file. It will default to the value of <i>in_file</i> and substitute the extension with <b>.idh</b> .
/lrecl <i>bytes</i> parameter	sets a specific record length in bytes of the output file. It will default to 2000 bytes. Range: 20 - 32768 bytes

### NOTE:

Additional help is provided when invoking the /h parameter.

Below are examples of how a file is converted via the HostBlk utility program and subsequently uploaded to the host system.  
(The example is from an OS/2 machine running under Windows).

### Example:

#### Converting file

```
hostblk myfile.ida /out myfile.idh /lrecl 8205
```



#### Uploading file to VM / MVS / VSE host systems:

The fixed block formatted file **myfile.idh** is uploaded to the host using the following command:

```
VM → SEND MYFILE.IDH MYFILE ITDS A /LRECL 8205 REFM F  
MVS → SEND MYFILE.IDH USER .ITDS.IPDS(MYFILE) /LRECL 8205 REFM F
```

### NOTE:

It is important that the ITDS file is uploaded to host as a binary file with a logical record length = HostBlk lrecl and the record format must be fixed.



## 6.2 Uploading to AS/400

The resource file generated via idaSetup (e.g. setprn.ida) can also be uploaded to the midrange host (AS/400) and sent to the interface.

The prerequisite for uploading the file to an AS/400 host is PC support. The resource file is transferred from OS/2 to AS/400 through "shared folders".

1. Open the PC Support/400 main menu.
2. Select "Use Printers on host system"
3. Select "Assign or change virtual printers".  
On the "Choose a Virtual Printer" screen you must specify the following information:
4. Select "PC printer" and type name of required LPT port.  
(i.e. LPT2).  
*"System name" field will be filled in automatically.*
5. In the "Printer device" field you type the name of the AS/400 printer.
6. In the "Printer file library" field you specify the appropriate library (specific for your system).
7. In the "Printer file" field you specify printer file (which is also specific for your system).
8. In the "Printer data type" field you select 5. AFPDS data.  
*The screen will now display details of which LPT port the printer is being assigned to.*
9. Exit to main menu.
10. From the OS/2 prompt line type the pathname of the library where the setup file is located.
11. Copy the setup file to the assigned LPT port;  
***copy /b setprn.ida <printer port>***

The process of generating resource files must be carried out each time the resource specifications are changed, but as far as uploading to the host is concerned, you only need to follow the above procedure once. The next time you want to upload an IPDS file to the host, you just copy the file to the assigned LPT port.

## 6.3 Transmit configuration file from Host

The configuration (ITDS) file uploaded to the host must be sent to the IPDS interface as IPDS print in order to make the ITDS file take effect on the interface.

**NOTE:** Sent to a non i-data interface the ITDS file will have no effect.

## 7. Troubleshooting

This chapter provides a brief description of some common error situations with diagnostics and hints to recover from the situation.

### 7.1 Resource timeout expired

(NACK 01 10..00)

You may receive this message if the value for Resource timeout is set too low. The error situation may be one of the following:

- print job will terminate
- blank pages will be printed
- pages will be missing

#### **Lost resources**

If the print job is printed as “rubbish” or there are missing characters, the cause is very likely lost resources during download. If no print job has been received on the PJI printer during the period “10 x Job timeout” (e.g. 10 x 15 seconds = 150 seconds), the downloaded resources are lost.

To recover from this situation, you should set a value in the Resource Timeout (see the menu for “Printer Setup”)

### 7.2 Out of Memory

(NACK 02AF..01)

#### *Problem:*

Print jobs printed on several pages of paper but not “Out of Memory” messages on the host:

#### *Action:*

##### **On printer:**

Set page protect = ON  
Set Autocontinue = OFF

##### **On converter**

Set usable memory to 512 Kb

Now, send the print job which was printed on several pages. If the printer sends the following error message: “38 MEMORY FULL”, additional memory has to be added (installed) in the very printer.

If the print job comes out successfully, then set usable memory to the highest value possible without receiving the message “38 MEMORY FULL”.

## 7.3 Printable area

(NACK 08C1..00)

*Problem:*

The print job is printed outside the valid printable area.

*Action:*

Set the VPA check to "Off" (i.e. No VPA) in the menu "iPDS Setting".

## 7.4 Duplex

*Problem:*

Print jobs defined as duplex is printed as simplex.

*Action:*

Check that Duplex is activated in the menu "Printer Setup".

Check that the printer is a duplex printer? If so, turn power to the interface off and then back on. Send the print job again.

Check that the AS/400 printing with AFP = YES.

## 7.5 Tray selection

*Problem:*

The wrong paper tray is selected.

*Action:*

Check that the tray has been defined correctly in the menu "Paper Source" - a sub-menu in the "Printer Setup". See the section 4.1.1 Printer Configuration.

Should the error situation still occur upon checking the settings, you may contact your point of purchase. You should have the following information available:

- > error description
- > settings printout
- > printer configuration sheet
- > an example of the error situation

# Appendix A: Error Messages

## Appendix A 1: ITDS error messages

Below is a list of error messages, which the MakeITDS Program will write to the logfile. A brief summary and additional information will be written to the logfile. The summary will account for the different resources to be defined or deleted and the number of errors and warnings detected during the ITDS generation.

The error messages, which are listed in numerical order, are organized in groups with a brief description/suggested action.

The messages ends on E (Error), W (Warning), F (Fatal) or I (Status information).

- \* Line numbers refer to the resource specification (.IRS) file.  
e.g. ITDS4909W Line 5: Unknown command
- \* Line numbers referring to a line containing an END command, concerns the resource specification terminated by this command; e.g. if a parameter is invalid or incomplete.

### LIST OF ERROR MESSAGES

ITDS4700E - ITDS4713F  
Out of memory.

**Description:**

**The program ran out of memory. Increase the memory size or reduce less resources.**

ITDS4800E & ITDS4801W  
Cannot open init file <filename>

ITDS4802E & ITDS4803E  
Cannot open resource file <filename>

ITDS4804E    Cannot open font scale definition file <filename>  
ITDS4805E    Cannot open configuration file <filename>

ITDS4806E    Cannot open input file <filename>  
ITDS4807F    Cannot open input file <filename>

**Description:**

**Check read access to the file.**

ITDS4808F - ITDS4812  
Cannot open temporary file

**Description:**

**The program either has no read/write access to disk or ran out of memory.**

ITDS4813F - ITDS 4816F  
Cannot open output file <filename>

ITDS4817F    Cannot open UCID log file: <filename>

ITDS4818F    Cannot open SYSPRINT (MV and MVS only)

**Description:**

**The program could not open a file for writing.**

ITDS4820E - ITDS4827E  
Cannot read resource file <filename>

**Description:**

**The program has no read access to the file.**

ITDS4828F - ITDS4831E  
Cannot read temporary file

**Description:**

**The program could not read a temporary file created by itself.**

ITDS4840E    Cannot write to file <filename>  
ITDS4841F    Cannot write to output file <filename>  
ITDS4842E    Cannot write to temporary file  
ITDS4843E    Cannot write ResFont to temporary file.  
ITDS4844E    Cannot write FontEnts to temporary file.  
ITDS4845E    Cannot write BitMaps to temporary file.  
ITDS4846E    Cannot write CodePage to temporary file.

ITDS4847F - ITDS4849F  
Cannot write to output file <filename>

ITDS4850F - ITDS4856F  
Cannot write to temporary file  
ITDS4857F - ITDS4859F  
Cannot write to output file <filename>

ITDS4860E    Unable to close init file <filename>  
ITDS4861F    Cannot write to SYSPRINT (MVS and VM only)  
ITDS4862E    Unable to close SYSPRINT (MVS and VM only)

**Description:**

**The file could not be written to disk. Check if disk is full.**

ITDS4900W Error in font file: No of bitmaps <> No of entries: <number>

**Description:**

**The number of bitmaps in the font file does not correspond to the number of font entries in the font file.**

ITDS4901E Error in font file: Wrong font resolution.

**Description:**

**The resolution is invalid. Error in the font file.**

ITDS4902E All UCID's used, definition aborted

**Description:**

**All resource names are converted to an UCID and stored in an initialization file. There can be up to 65535 different values.**

**Solution: Delete the UCIDs which are not used any more from the initialization file.**

ITDS4903W <Keyword> <Value> out of range:

ITDS0039I Valid range: <Min>..<Max>

ITDS4904W Unknown <Keyword> entry: <Entry>, Valid entries:

ITDS0037I <Entry>

ITDS4905W <Keyword> <Value> out of range:

ITDS0014I Valid range: <Min>..<Max>

ITDS4907W Unknown <Keyword> value: <Value>

ITDS0040I <Value>

ITDS4908W Unknown <Keyword> value: <Value>

ITDS0044I Value

ITDS4909W Unknown or insignificant command: <Keyword>

ITDS0017I Use \"WEIGHT BOLD\" for bold information

ITDS0018I Use \"WEIGHT LIGHT\" for light information

ITDS0019I Use \"STYLE ITALIC\" for italic information

**Description:**

**The value specified for the shown keyword is out of the valid range. The valid range is shown.**

ITDS4906W Unknown parameter: <Keyword> - <Parameter>

ITDS4910W Incorrect keyword!

ITDS4911W Incorrect value!

ITDS4912W Value missing for <Keyword>

ITDS4913W Value missing for <Keyword>

ITDS4914W String missing for <Keyword>

**Description:**

**The value for each keyword must follow the keyword on one line.**

ITDS4915W Number is too large to fit 16 bit - will be truncated);

**Description:**

**A font scale table entry must not exceed a 16 bit value.**

ITDS4916W No Actions requested

**Description:**

**An action statement should also contain action commands.**

ITDS4917W & ITDS4918

Specified WIDTH and FGID does not match

**Description:**

**The WIDTH should follow the valid range for the specified FGID.  
The font is accepted though.**

ITDS4919W Configuration contains no parameters

**Description:**

**The printer configuration contains no parameters.**

ITDS4920W Fontscale file contains no parameters. Ignored.

**Description:**

**The font scale file is empty or corrupted.**

ITDS4921W Multiple definition of parameter: <Keyword>

**Description:**

**The keyword is specified more than once in the current block.**

ITDS4922W No font version defined

**Description:**

**No font version has been defined in the resource specification file.  
This means that there will be no font version on the settings printout.**

ITDS4923E Illegal character in hexadecimal number

**Description**

**A hexadecimal number is on the form: 0xnxxx where n represents  
digits from 0 to 9 or letters from A to F.**

ITDS4924E Illegal character in decimal number

**Description**

**A decimal number may only contain digits from 0 to 9.**

ITDS4926E Share string definition, position <Position>

**Description:**

**The share string definition terminated without an apostrophe "**.

ITDS4927E Too many characters in share string definition

**Description:**

**The share string definition contains too many characters.**

ITDS4928E - 4930E

Name missing.

ITDS4931E Width missing.

ITDS4932E Invalid Codepage Group: <Group>

ITDS4933E Invalid CPG character: <Group>

ITDS4934E Invalid CPG delimiter: <Group>

**Description:**

**Error in resource specification file.**

ITDS4935E Invalid AFP font resource

**Description:**

**The specified font resource file is no a valid AFP font.**

ITDS4936E Delete all fonts of specified Width not allowed.

ITDS4937E & ITDS4938E

Width missing.

ITDS4939E Subst. FGID missing.

ITDS4940E Subst. Width missing.

ITDS4941E - ITDS4943E

FGID missing.

ITDS4944E & ITDS4945E

CPGID missing.

ITDS4946E - ITDS4950E

Filename missing.

ITDS4951E Unknown type: <Keyword>

**Description:**

**Error in resource specification file.**



ITDS4952E Invalid AFP codepage resource

**Description:**

**Error in AFP codepage file. The specified resource is not a valid codepage file.**

ITDS4953E Too many actions, max 126

ITDS4954W Multiple definition of parameter: <Keyword>

ITDS4955W - ITDS4957W

Value missing for <Keyword>

ITDS4959W Conflicting parameter: <Keyword> - <Parameter>

ITDS4960W Missing end of set - <Parameter>

ITDS4961W Non value parameter type!

ITDS4962W Parameter found!

ITDS4963W Nesting to deep!

ITDS4964W Nesting to deep: <Keyword> - <Parameter>

ITDS4965W & ITDS4966W

Configuration contains no parameters

**Description:**

**Error in resource specification file. Correct the file.**

ITDS4969F Invalid Binary input file: <Filename>

**Description:**

**The program detected an error in the input file.**

ITDS4972W Empty or invalid init file.

**Description:**

**The initialization file is either empty or corrupted.**

ITDS4970F Internal error: Error in size of AFP buffer.

ITDS4971E Internal error: Size mismatch in AFP output buffer.

ITDS4973E Error in temporary font structure

ITDS4974E Generated ResFont has wrong Length.

ITDS4975E Error in temporary font structure

ITDS4976E Font in temporary font structure has wrong Length.

ITDS4977E Error in temporary font structure

**Description:**

**Internal errors. Should never occur.**

ITDS0001I Reading font scaling parameter file: <Filename>  
ITDS0002I Delete Configuration name: <Name>.  
ITDS0003I Reading Configuration resource file: <Filename>  
ITDS0004I Delete Codepage Version <Version> resource: "<ID>"  
ITDS0005I "<ID>", Version <Version>  
ITDS0006I CodePage resource converted - <Number> bytes  
ITDS0007I CodePage resource file: <Filename> read - <Number> bytes  
ITDS0008I Substitution resource  
ITDS0009I "<Substitution>"  
ITDS0010I Delete Substitution(s): "<Substitution>"  
ITDS0011I Delete Font Resource(s): "<Font>"  
ITDS0013I Font resource file: <Filename> read - <Number> bytes  
ITDS0014I Valid range: <Min>..<Max>  
ITDS0015I Font version name: "<Name>"  
ITDS0016I Font resource converted - <Number> bytes  
ITDS0017I Use "\"WEIGHT BOLD\" for bold information  
ITDS0018I Use "\"WEIGHT LIGHT\" for light information  
ITDS0019I Use "\"STYLE ITALIC\" for italic information  
ITDS0020I Action Command: <Keyword>  
ITDS0021I Begin configuration from line <Line>  
ITDS0022I The ITDS Output file contains:  
ITDS0023I <Num> Font resource definition(s)  
ITDS0024I <Num> Font substitution definition(s)  
ITDS0025I <Num> Codepage resource definition(s)  
ITDS0026I <Num> Configuration resource definition(s)  
ITDS0027I <Num> font scaling parameter set(s)  
ITDS0028I <Num> Font delete command(s)  
ITDS0029I <Num> Substitution delete command(s)  
ITDS0030I <Num> Codepage delete command(s)  
ITDS0031I <Num> Configuration delete command(s)  
ITDS0032I <Num> Action command(s)  
ITDS0033I <Num> Configuration download(s)  
ITDS0034I Trace on for <Number> modules, mask = <Mask>  
ITDS0035I <Number> Bytes required for resources  
ITDS0036I Font Version: "<Version>" generated.  
ITDS0037I <Entry>  
ITDS0038I AFP file contains <Number> bitmaps.  
ITDS0039I Valid range: <Min>..<Max>  
ITDS0040I <Value>  
ITDS0043I Font left uncompressed, requires less space

**Description:**

**Status and general information**

ITDS0044I Ucid not found: <Name>, table expanded.

**Description:**

**No UCID was defined for the actual resource in the initialization file. The table is expanded with the new resource.**

ITDS0049I <Filename> generated from <Filename>  
ITDS0050I <Num> Error(s) detected!  
ITDS0051I <Num> Warning(s) detected!  
ITDS0052I Log written to <Logfilename>  
ITDS0053I No errors or warnings detected.  
ITDS0054I Resource Manager Program <Version number>  
ITDS0055I File - SWIDDEF not opened.  
ITDS0056I Software package ID: <software ID>  
ITDS0057I <old filename> already exists, renamed to<new filename>  
ITDS0058I <SWIDDEF>  
ITDS0077I AFP file contains <Number> codepoints.

## Appendix A 2: HostBlk

**HSTB0001E    *Could not open output file!!***

**Description:** The program has for some reason been unable to open the output file. E.g. the user specified an invalid DOS file name.

**HSTB0002E    *Unable to close output file!!!***

**Description:** HostBlk was unable to close the output file.

**HSTB0003E    *Invalid file format!***

**Description:** The input file is not an AFP file.

**HSTB0004E    *Input file not found!!***

**Description:** The progra could not open the input file. E.g. the user specified an incorrect or invalid DOS file name.

**HSTB0005E    *Could not delete incorrect output file!***

**Description:** HostBlk tried to delted the output file because the specified record length was insufficient. For some reason it was unable to delete that file.

**HSTB0006E    *Record length was set too short!!***

**Description:** The input file contains a record which is longer than the record length used for the output file. HostBlk must be rerun with a correct record length. The faulty output file has been deleted.

## Appendix A 3: idaSetup

### Warning and Error Messages

```
ISU8325E    Couldn't open file.  
ISU8343E    Couldn't write file.  
ISU8360E    Default compiler not found  
ISU8362W    Support program missing.  
ISU8364W    Product not found.  
ISU8370W    Error in setup file.  
ISU8371W    Error in setup file.
```

```
/*  
/* Memory related messages          */  
/* Range 1000-2999                    */  
*/
```

```
ISU1000E    Out of memory  
ISU1001E    Out of memory  
ISU1002E    Out of memory  
ISU1003E    Out of memory  
ISU1004E    Out of memory  
ISU1005E    Out of memory  
ISU1006E    Out of memory  
ISU1007E    Out of memory
```

```
/*  
/* Non-disk IO related messages      */  
/* Range 3000-3999                    */  
*/
```

```
ISU3000E    Unable to open the printer port.  
ISU3001E    Unable to open the spool file.
```

```
ISU3101E    Unable to write to the spool file.  
ISU3102E    Unable to write to the spool file.
```

```
/*  
/* Disk IO related messages         */  
/* Range 5000-6999                    */  
*/
```

```
ISU5000E    Unable to open output file  
ISU5001E    Unable to open input file  
ISU5002E    Unable to open input file  
ISU5003E    Unable to open input file  
ISU5004E    Unable to open temporary file  
ISU5005E    Unable to open output file  
ISU5006E    Unable to open input file
```

```
ISU5007E  Unable to open input file
ISU5008E  Unable to open temporary file
ISU5009E  Unable to open output file

ISU5200E  Unable to write to output file
ISU5201E  Unable to write to output file
ISU5202E  Unable to write to output file
ISU5203E  Unable to write to output file
ISU5204E  Unable to write to output file
ISU5205E  Unable to write to output file
ISU5206E  Unable to write to output file
ISU5207E  Unable to write to temporary file
ISU5208E  Unable to write to temporary file
ISU5209E  Unable to write to output file
ISU5210E  Unable to write to output file
ISU5211E  Unable to write to output file
ISU5212E  Unable to write to output file
ISU5213E  Unable to write to output file
ISU5214E  Unable to write to output file

ISU5300E  Unable to read from input file
ISU5301E  Unable to read from input file
ISU5302E  Unable to read from input file

ISU5400E  Unable to overwrite the setup file.
ISU5401E  Unable to overwrite the setup file.
```

```
/* **** */
/* Application specific messages */
/* Range 8000-9999 */
/* **** */
```

```
ISU8000E  Unable to find the selected printer driver.
ISU8001E  Cancel download.
ISU8002E  Ctrl-Break - Cancel download.
ISU8003E  The selected printer is not ready.
ISU8004E  Illegal character '"' found at position
          <position>.
ISU8005E  Illegal character '<character>' found at
          position <position>.
ISU8006E  Missing ending '"'
ISU8007E  <IPDS|Centronics> share string is too long
```